

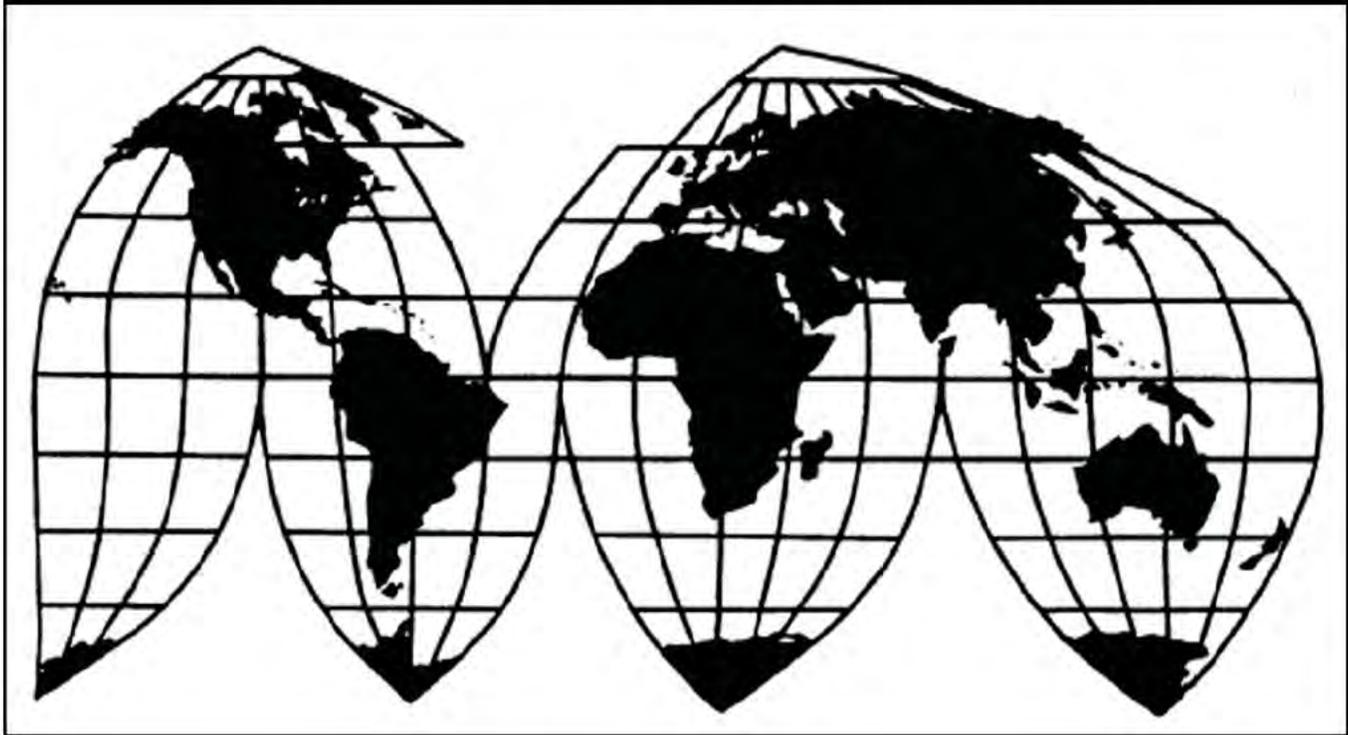
In the Matter of
**Certain Printing and Imaging Devices
and Components Thereof**

Investigation No. 337-TA-690

Publication 4289

November 2011

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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In the Matter of

Certain Printing and Imaging Devices and Components Thereof

Investigation No. 337-TA-690



UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

In the Matter of

**CERTAIN PRINTING AND IMAGING
DEVICES AND COMPONENTS THEREOF**

Investigation No. 337-TA-690

**NOTICE OF COMMISSION FINAL DETERMINATION OF NO VIOLATION OF
SECTION 337; TERMINATION OF THE INVESTIGATION**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined that no violation of section 337 occurred in the above-captioned investigation.

FOR FURTHER INFORMATION CONTACT: Daniel E. Valencia, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-1999. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <http://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on October 26, 2009, based on a complaint filed by Ricoh Company, Ltd. of Tokyo, Japan; Ricoh Americas Corporation of West Caldwell, New Jersey; and Ricoh Electronics, Inc. of Tustin, California (collectively "Rico"). 74 *Fed. Reg.* 55065 (Oct. 26, 2009). The complaint alleged, *inter alia*, violations of section 337 in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain printing and imaging devices and components thereof by reason of infringement of U.S. Patent Nos. 6,209,048 ("the '048 patent"); 6,212,343 ("the '343 patent"); 6,388,771 ("the '771 patent"); 5,764,866 ("the '866 patent"); and 5,863,690 ("the '690 patent"). The complaint named Oki Data Corporation of Tokyo, Japan and Oki Data Americas, Inc. of Mount Laurel, New Jersey (collectively "Oki") as respondents.

On September 23, 2010, the presiding administrative law judge ("ALJ") issued his final initial determination ("ID") finding that Oki violated section 337 in the importation into the United

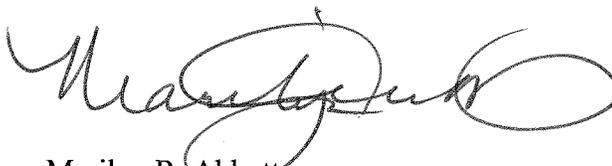
States, the sale for importation, and the sale within the United States after importation of certain printing and imaging devices and components thereof by reason of infringement of several claims in the '690 patent. The ALJ found that Oki has not violated section 337 with respect to the '048, '343, '771, and '866 patents.

On November 22, 2010, the Commission determined to review the ALJ's ID in part as to the '343 and '690 patents. The Commission asked for, and received, briefing on the issues under review as well as on remedy, the public interest, and bonding.

Having examined the record of this investigation, including the ALJ's final ID and all the written submissions, the Commission has determined to affirm the ALJ's finding that no section 337 violation occurred with respect to the '343 patent, but reverse his finding that a violation occurred with respect to the '690 patent. As to both the '343 and '690 patents, the Commission has determined to reverse the ALJ's finding that Ricoh satisfied the economic prong of the domestic industry requirement of section 337(a)(3), 19 U.S.C. § 1337(a)(3). As to the '343 patent, the Commission has determined to modify the ALJ's construction of "a lower edge" and affirm, on modified grounds, his findings that (1) Oki does not infringe the asserted claims of the '343 patent and (2) Ricoh does not meet the technical prong of the domestic industry requirement. As to the '690 patent, the Commission has determined to reverse the ALJ's finding that claims 1, 5, 9, and 13 of the '690 patent are not anticipated by the prior art. The Commission has determined to deny the outstanding request for oral argument, filed on December 23, 2010, as moot. The investigation is terminated.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in sections 210.42-50 of the Commission's Rules of Practice and Procedure (19 C.F.R. §§ 210.42-50).

By order of the Commission.



Marilyn R. Abbott
Secretary to the Commission

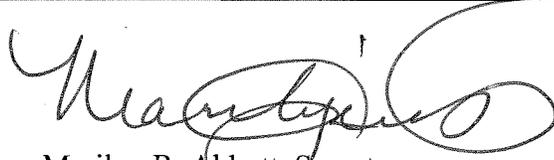
Issued: January 25, 2011

**CERTAIN PRINTING AND IMAGING DEVICES AND
COMPONENTS THEREOF**

337-TA-690

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION
FINAL DETERMINATION OF NO VIOLATION OF SECTION 337;
TERMINATION OF THE INVESTIGATION** has been served by hand upon the
Commission Investigative Attorney, Juan S. Cockburn, Esq., and the following parties as
indicated, on January 26, 2011



Marilyn R. Abbott, Secretary
U.S. International Trade Commission
500 E Street, SW
Washington, DC 20436

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**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, DC 20436**

In the Matter of

**CERTAIN PRINTING AND IMAGING
DEVICES AND COMPONENTS THEREOF**

Investigation No. 337-TA-690

COMMISSION OPINION

On September 23, 2010, the presiding administrative law judge (“ALJ”) issued his final initial determination (“ID”) in the above-referenced investigation. The ALJ found a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, by the respondents in connection with U.S. Patent No. 5,863,690 (“the ‘690 patent”). The ALJ found no violation of section 337 by the respondents in connection with the remaining four patents, U.S. Patent Nos. 5,746,866 (“the ‘866 patent”); 6,388,771 (“the ‘771 patent”); 6,209,048 (“the ‘048 patent”); and 6,212,343 (“the ‘343 patent”). On November, 22, 2010, we adopted the ALJ’s finding of no violation with respect to the ‘866, ‘771, and ‘048 patents, but determined to review the findings and conclusions pertaining to the ‘690 and ‘343 patents.

On review, we affirm the ALJ’s finding that no section 337 violation occurred with respect to the ‘343 patent, but reverse his finding that a violation occurred with respect to the ‘690 patent. More particularly, as to both the ‘343 and ‘690 patents, we reverse the ALJ’s finding that Ricoh satisfied the economic prong of the domestic industry requirement of section 337(a)(3). As to the ‘343 patent, we have determined to modify the ALJ’s construction of “a lower edge” and affirm, on modified grounds, his findings that (1) Oki does not infringe the asserted claims of ‘343 patent and (2) Ricoh has not satisfied the technical prong of the domestic

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industry requirement. Finally, we reverse the ALJ's finding that Oki did not prove that claims 1, 5, 9, and 13 of the '690 patent are anticipated by the prior art, specifically, the prior art OL400e fuser rollers.

I. BACKGROUND

A. Procedural History

This investigation was instituted on October 26, 2009, based on a complaint filed by Ricoh Company, Ltd. of Tokyo, Japan; Ricoh Americas Corporation of West Caldwell, New Jersey; and Ricoh Electronics, Inc. of Tustin, California (collectively, "Rico"). 74 *Fed. Reg.* 55065 (Oct. 26, 2009). The complaint alleged, *inter alia*, violations of section 337 in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain printing and imaging devices and components thereof by reason of infringement of various claims of the '866, '771, '048, '343, and '690 patents. The complaint named Oki Data Corporation of Tokyo, Japan and Oki Data Americas, Inc. of Mount Laurel, New Jersey (collectively, "Oki") as respondents.

The ALJ held an evidentiary hearing from May 17, 2010, to May 25, 2010, and thereafter received post-hearing briefing from the parties. On September 23, 2010, the ALJ issued his final ID. The ALJ found a violation of section 337 by reason of infringement of claims 1, 2, 5, 6, 9, 10, 13, and 14 of the '690 patent. ID at 459. The ALJ found no violation with respect to the other asserted patents. ID at 457-58. In particular, the ALJ found no infringement by Oki and that no domestic industry exists for the '866, '343, '771, and '048 patents. *Id.* The ALJ also found some of the asserted claims of the '771 and '048 patents invalid. *Id.* The ALJ

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recommended that the Commission issue a limited exclusion order for the '690 patent and a cease-and-desist order against Oki, but recommended that no bond be set during the period of Presidential Review. ID at 450-56.

On October 6, 2010, Ricoh, Oki, and the Commission investigative attorney ("IA") filed petitions for review of the ID.¹ On October 14, 2010, Ricoh, Oki, and the IA each filed responses to each others' petitions for review.² On October 15, 2010, the Commission issued a notice requesting comments from the parties regarding any potential public interest issues. On October 25, 2010, Ricoh, Oki, and the IA filed their respective statements regarding whether the public interest would preclude issuance of a remedy.

On November 22, 2010, the Commission determined to review the issues pertaining to the '690 and '343 patents. The Commission asked for briefing on selected issues and on remedy, the public interest, and bonding. On December 9, 2010, Ricoh, Oki, and the IA filed initial submissions addressing questions set forth in the Commission's review notice.³ On December 17, 2010, Ricoh, Oki, and the IA each filed reply submissions regarding the violation issues on

¹ *See generally* Petition for Commission Review By Complainants Ricoh Company, Ltd., Ricoh Americas Corporation, and Ricoh Electronics, Inc. ("Ricoh Pet."); Respondents' Petition for Review ("Oki Pet."); Office of Unfair Imports Investigations Petition for Review of Final Initial Determination.

² *See generally* Complainants' Response to Petitions for Commission Review by Respondents and OUII ("Ricoh Resp."); Response of Respondents to Complainants' Petition for Review; Response of the Office of Unfair Imports Investigations to Petitions for Review of Final Initial Determination of Complainants Ricoh and Respondents Oki Data.

³ *See* Oki Data's Response to Commission's Determination to Review-In-Part a Final Determination Finding a Violation of Section 337 ("Oki Sub."); Complainants' Submission on Questions 1 Through 5 Raised in the Commission's Notice of Commission Determination to Review-In-Part ("Ricoh Sub."); Brief of OUII on Issues Under Review ("IA Sub.").

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review and opening submissions regarding remedy, the public interest, and bonding.⁴ Based on a request made by Oki's counsel, the Commission granted all parties an extension of time to file their reply submissions on the issues of remedy, the public interest, and bonding until December 23, 2010. On December 23, 2010, Ricoh, Oki, and the IA each filed reply submissions on the issues of remedy, the public interest, and bonding.⁵ Also on December 23, 2010, Oki filed a motion with the Commission requesting oral argument on the issue of remedy and the public interest should the Commission determine that a violation of section 337 exists.

B. Patents and Products at Issue

The technology at issue relates generally to electrophotographic multifunction printers ("MFPs"). These devices are copier machines that typically have scanning, printing, copying, and networking capabilities. The '343 patent and the '690 patent involve different aspects of the subject printers. The disclosure of the '343 patent is directed to a toner process cartridge with a specific configuration that prevents toner from leaking from the cartridge. The '343 patent,

⁴ See Complainants' Reply to Oki Data's and OUII's Submissions on Questions 1 Through 5 Raised in the Commission's Notice of Commission Determination To Review-In-Part; Complainants' Opening Submission on Remedy, Public Interest and Bonding Requested in the Commission's Notice of Commission Determination to Review-In-Part; Reply Brief of Respondents Oki Data Corp. and Oki Data Americas, Inc. In Response to Notice of Commission Determination to Review-In-Part a Final Determination Finding a Violation of Section 337; Respondents Oki Data Corp. and Oki Data Americas, Inc.'s Brief on Remedy, Public Interest, and Bonding ("Oki Rem. Sub."); Reply Brief of OUII on Issues Under Review; Brief of OUII on Remedy, Public Interest and Bonding.

⁵ See Complainants' Reply Submission on Remedy, Public Interest and Bonding Requested in the Commission Notice of Commission Determination to Review-In-Part; Respondents Oki Data Corporation and Oki Data Americas, Inc.'s Reply Brief on Remedy, Public Interest, and Bonding; Reply Brief of OUII on Remedy, the Public Interest, and Bonding.

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which issued on April 3, 2001, is entitled “Developing device, process cartridge and image forming apparatus that prevent toner leakage.” JX-4 (‘343 patent). The application that matured into the ‘343 patent was filed on October 22, 1999, and claims priority to numerous Japanese applications, the earliest of which is dated October 22, 1998. *Id.* The named inventors are Hiroshi Hosokawa, Tetsuo Yamanaka, Kenetsu Osanai, and Kenichiroh Nagai, all of Japan, and the assignee is listed as Ricoh Company, Ltd. *Id.* Claims 18-21 of the ‘343 patent are asserted by Ricoh. Claim 18, for example, recites:

18. A developing device, comprising:

a developing case in which a toner exit opposed to a photoconductor is formed;

a developing roller including an axial part rotatably supported by supporting walls provided at sides of the developing case and a roller part disposed at the toner exit;

side seals arranged at longitudinal ends of the toner exit so as to contact outer circumferential surfaces of longitudinal ends of the roller part of the developing roller; and

a blade that is formed with a thin metal plate having elasticity and that is configured such that a lower edge thereof contacts the roller part of the developing roller so as to seal a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller,

wherein the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively and a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller and configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit, and a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.

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JX-4 ('343 patent), col. 24, l. 25 - col. 25, l. 29.

The '690 patent is directed to the surface characteristics of fuser rollers, how these surface characteristics are measured, and how the fuser rollers interact with toner. The '690 patent, which issued on January 26, 1999, is entitled "Toner image fixing method." JX-5 ('690 patent). The application that matured into the '690 patent was filed on February 5, 1997, and claims priority to two Japanese applications, the earliest of which was filed on February 9, 1996. *Id.* The named inventor is Masahide Yamashita of Numazu, Japan, and the assignee is listed as Ricoh Company, Ltd. *Id.* Claims 1, 2, 5, 6, 9, 10, 13, and 14 of the '690 patent are asserted.

Claim 1 (the only asserted independent claim) states:

1. A toner image fixing method comprising the steps of:

providing a thermofusible toner image on an image supporting material;

providing two fixing members with a nipped section thereof;

heating the nipped section of the two fixing members; and

fixing the thermofusible toner image on the image supporting material by contacting the thermofusible toner image with the heated nipped section of the two fixing members, wherein an adhesion constant $\mu_{s-b}(n)$ is represented by:

$$\mu_{s-b}(n) = (\cos \theta_b - \cos \theta_s) / \sin \theta_b,$$

where n is 1 or 2, θ_b is a receding contact angle of a surface of at least one of the fixing members that contacts the thermofusible toner image on the image supporting material, and θ_s is a static contact angle of the surface, the receding and static contact angles determined using a liquid having a dipole moment of greater than about 3.0 debye when n is 1 and using another liquid having a dipole moment of 0.0 debye when n is 2, and

a ratio of a first adhesion constant to a second adhesion constant, $\mu_{s-b}(1)/\mu_{s-b}(2)$, of the surface that contacts the thermofusible toner image on the image supporting material is less than about 8.0.

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JX-5 ('690 patent), col. 11, ll. 21-48.

Ricoh contends that Oki's process cartridges (also called "image drums") and Oki MFPs that use these cartridges infringe the asserted claims of the '343 patent. *See* Complainants Ricoh Company, Ltd., Ricoh Americas Corporation and Ricoh Electronics, Inc.'s Pre-trial Brief at 31-32. Ricoh contends that Oki's fuser rollers, fuser kits, and devices that use these components infringe the asserted claims of the '690 patent. *Id.* at 33-34.

Also at issue are Ricoh's domestic C200 series products relied on by Ricoh to satisfy the domestic industry requirement for both the '343 and '690 patents. *ID* at 416. These products were manufactured abroad until sometime in 2008, when Ricoh stopped manufacturing these products altogether. *Id.* Ricoh stopped selling these products in the United States at least as early as April 2009. *Id.* Ricoh nevertheless continues to service and maintain these products for its customers. *Id.*

II. ISSUES PERTAINING TO THE '343 PATENT

A. Construction of "a direction orthogonal to a longitudinal direction of the developing roller"

Claim construction begins with the language of the claims themselves. Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). In many cases, claim terms have a specialized meaning, and it is necessary to determine what a person of skill in the art would have understood disputed claim language to mean, by analyzing the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific

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principles, as well as the meaning of technical terms, and the state of the art. *Id.* at 1116. In some instances, claim terms do not have particular meaning in a field of art, and claim construction involves little more than the application of the widely accepted meaning of commonly understood words. *Id.*

The asserted independent claims 18, 20, and 21 recite, among other things, “a blade . . . having . . . a narrow-width part . . . configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller.” JX-4 (‘343 patent), cols. 25-26. The ALJ construed “a direction orthogonal to a longitudinal direction of the developing roller” language to mean “a direction that is at a right angle to a lengthwise direction of the developing roller.” *Id.* at 235. In denying summary determination that the “orthogonal” limitation renders the asserted claims indefinite, the ALJ indicated:

Ricoh states that “a direction orthogonal to a longitudinal direction of the developing roller” is a direction “along a line running perpendicular or radial to a line running parallel to the central length-wise axis of the developing roller.” (Ricoh Resp. at 4.) I understand this description to be substantively identical to my explanation of the claim language.

Order No. 25 at 9 n.2 (Apr. 22, 2010).

We agree with the ALJ’s interpretation of this language. Because there any number of places where a reference longitudinal direction can be positioned within the developing roller, we find that an orthogonal direction is any direction that is perpendicular to any reference longitudinal direction. Put another way, these orthogonal directions lie in planes that are perpendicular to the reference longitudinal direction; these planes are parallel to the circular ends of the roller.

We find the claim language not to be indefinite, however, because the meaning of the

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claim language is clear, and one of ordinary skill in the art would understand that this language refers to any direction that is perpendicular to a reference longitudinal direction, which coincides with any line that extends through the roller parallel to the central axis thereof. *See Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325 (Fed. Cir. 2010) (“Indefiniteness requires a determination whether those skilled in the art would understand what is claimed.”) (internal quotations omitted). Simply put, the planar blade is required to bend from the surface of the roller. Nothing in the specification or prosecution history suggests that this claim language takes on anything other than its ordinary meaning. That this language adds little (if any) substance to the requirements of the claim does not make this limitation indefinite. Moreover, there is no textual nexus in the claim language that would support a more restrictive interpretation of this claim requiring, for example, that the longitudinal direction coincide with the central axis or “a direction orthogonal” be perpendicular to the surface of the roller, as the IA suggests.

B. Construction of “a lower edge”

Asserted claims 18, 19, and 21 require, among other things, “a blade . . . configured such that a lower edge thereof contacts the roller part of the developing roller.” The ALJ construed the term “a lower edge” to mean “the furthestmost point on the blade at its lower end.” ID at 85. The ALJ relied on the only use of the term “lower edge” in the ‘343 detailed description to refer to the furthestmost point on the blade 17 at the lower end in figures 8A and 8B such that the contact point of the blade and the roller is above the “lower edge” of the blade 17. ID at 86-87.

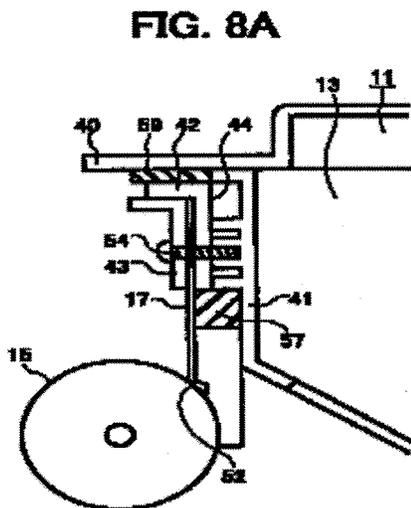
This description states:

As illustrated in FIGS. 8 and 9, the blade 17 is configured such that the part extending downward beyond the blade holder 42 bents [sic] toward the rear side of the developing case 13 by being pressed with the roller part

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34 of the developing roller 15 and the bent piece 52 contacts the roller part 34. Therefore, as indicated by a one-dot chain line in FIG. 12, the contact position C of the roller part 34 and the blade 17 is located in a position slightly above the lower edge of the blade 17.

JX-4 at 15:12-20. Ricoh sought review of the ALJ's determination because the embodiment shown in Figures 8A and 8B, which is being described in the passage the ALJ relied on to construe this term, is not covered by the ALJ's construction. As shown below in Figure 8A, the "furthest point on the blade [17] at its lower end" is not in contact with the developing roller 15, contrary to the express requirement of the asserted claims.



The Commission determined to review.

Here, we agree with Ricoh that "a lower edge" should not be read narrowly to mean "the lower edge" described in the specification. It was error for the ALJ to limit the scope of the term "a lower edge" using an embodiment which his construction does not cover. Furthermore, the ALJ's construction excludes the preferred embodiment of the '343 patent, which we know to be

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“rarely, if ever, correct.” *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (internal quotation omitted). We give “a lower edge” its ordinary meaning, which does not preclude the existence of more than one lower edge. There are a variety of dictionary definitions for the word “edge,” including, for example, “a terminating border” or “a line that is the intersection of two plane faces of a solid object.” See MERRIAM WEBSTER’S NEW INTERNATIONAL DICTIONARY (3d. ed. 2002) at 722.⁶ As it pertains to the ‘343 patent, the first “terminating border” definition describes the lowermost tip of the blade, while the second “intersection of two planes” definition describes the sharp intersection between the bent portion 52 and the main portion 17 of the blade.

In other words, the blade 17, 52 of the ‘343 patent has more than one “lower edge.” Thus, we find that “a lower edge” should not be construed to refer only to the furthestmost tip of the blade, as the ALJ construed it. This construction would effectively limit the claimed blade to a single “lower edge,” requiring the language “a lower edge” to mean “the lowest edge.” See *Ricoh Pet.* at 13-14. Nothing in the claim language, however, suggests that there must only be a single lower edge. To the contrary, “‘a’ or ‘an’ in patent parlance carries the meaning of one or more in open-ended claims containing the transitional phrase ‘comprising.’” *Free Motion Fitness, Inc. v. Cybex Int’l Inc.*, 423 F.3d 1343, 1350 (Fed. Cir. 2005) (internal quotation omitted).

C. Infringement

The ALJ found that none of the Oki products except for the 9600 model infringe the

⁶ These are just two of the various definitions of “edge” that we find to be appropriate in the context of the ‘343 patent.

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asserted claims of the '343 patent. ID at 356-68. In particular, the ALJ found that the accused products do not have a blade that is (1) "configured such that a lower edge thereof contacts the roller part of the developing roller" and (2) "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit," as required by asserted claims 18-21 of the '343 patent. ID at 357-60.

Above, we construed "a lower edge" to take on its ordinary meaning rather than limiting this term to the furthestmost tip of the blade. We found that an edge can occur at the tip of the blade, or at a sharp intersection of planes in the blade. Under this construction, we find that "a lower edge" of the blade in the accused products contacts the developing roller. CX-122 at 5, 14, 16, and 19. Although the furthestmost tip of the blade does not contact the roller, the "elbow" of the L-shaped permanent bend in the accused products, *i.e.*, an edge, undoubtedly does. *Id.* Therefore, we reverse the ALJ's finding to the contrary. *See* CX-122 at 18.

As discussed *supra*, we find that the orthogonal direction of the narrow-width part of the blade need not be perpendicular to the surface of the roller. We find that "a direction orthogonal" refers to a planar bend of the blade at any angle with respect to the roller as long as the direction of the bend is in a plane that is perpendicular to the longitudinal direction. Accordingly, we reverse the ALJ's determination that the accused products do not meet the "direction orthogonal" limitation. *See* CX-122 at 19.

There are two different types of bending that occur in the accused products. There is a permanent, L-shaped bend in the narrow part of the blade, not caused by the developing roller (*i.e.*, perpendicular to the tangent at the surface point in question). CX-122 at 9. A gradual curve

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in the wide part of the blade is caused by the force applied by the developing roller. CX-122 at 14. We find that neither meets the claim language “configured to have a length that enables the narrow-width part to be bent . . . between the side seals,” as recited by the asserted claims.

Although the L-shaped permanent bend occurs in the narrow-width part, this bend does not make the blade capable of being bent between the side seals, nor does this bend occur because of the length of the narrow-width part of the blade, as required by the claims. The gradual curve in the blade does not meet the claim language either because it does not occur in the narrow-width part of the blade. Rather, the gradual curve occurs in the wide-width part. See CX-122 at 5, 9, 19.

The side cross-sectional view of the accused products shows the gradual curve is distant from the bottom end of the blade where the narrow width part is located. CX-122 at 5, 19. Thus, this bending occurs in the wide-width part, not the narrow-width part. Because the accused products do not have a “narrow-width part configured to have a length that enables the *narrow-width part* to be bent,” there is no infringement. We therefore affirm the ALJ’s determination of no infringement on these modified grounds. As to the 9600 model, we do not find clear error in the ALJ’s determination that these products infringe the asserted claims of the ‘343 patent. ID at 358-59.

D. Domestic Industry: Technical Prong

The ALJ found that Ricoh failed to prove that it satisfies the technical prong of the domestic industry requirement because its C200 series products do not practice independent claim 20 of the ‘343 patent. ID at 440 (citing RX-85C at Q. 97-103, RX-354, RX-355, and RX-356). In particular, the ALJ found that the Ricoh products do not meet the “a narrow-width part . . . configured to have a length that enables the narrow-width part to be bent . . . between the side

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seals arranged at sides of the toner exit” in claim 19 of the ‘343 patent. *Id.*

For the same reasons set forth above with respect to the accused products in our infringement discussion, we find that the C200 series domestic products meet the “a lower edge” and “a direction orthogonal” limitations, and we reverse the ALJ’s findings to the contrary. *See* CX-122 at 18, 29.

As to the remaining factual questions, we agree with the ALJ that Ricoh’s evidence falls short. Ricoh has not shown that the narrow-width portion of the blade in the C200 series is bent between the side seals or will bend between the side seals when the developing roller is assembled. We find that the photographic evidence relied on by the ALJ, the testimony of Oki’s expert, Dr. Fraser, and the physical exhibits support the ALJ’s finding that the domestic products do not meet this claim limitation. *See* RX-354; RX-355; RX-356; RX-368C at Q/A 101-03; CPX-53. We reject Ricoh’s argument that, for the blade to operate, the narrow-width part of the blade in the C200 product must bend between the side seals as shown in Figure 12 of the ‘343 patent. Even if the blade in the ‘343 patent does in fact bend between the side seals, the ‘343 patent does not show how the domestic industry product works. Contrary to Ricoh’s argument, we find that the blade in the domestic industry product, C200, need not necessarily bend between the side seals. Rather than bend between the resilient side seals as Ricoh contends, it is possible that the blade remains on top of the side seals so as to compress them without actually bending between them when forced by the developing roller. Indeed, the side seals of the C200 product are resilient fabric strips that are easily compressed. *See* CPX-53.

Moreover, for the same reasons set forth above with respect to the accused products in our infringement discussion, we find that any bending that occurs by contact with the developing

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roller occurs in the wide-width part of the blade rather than the narrow-width part where the claim requires it. CX-122 at 29, 32, 33; *see also* CDX-102. Accordingly, we affirm the ALJ's finding that Ricoh does not satisfy the technical prong of the domestic industry requirement.

E. Anticipation—Japanese Patent Application No. 61-185772

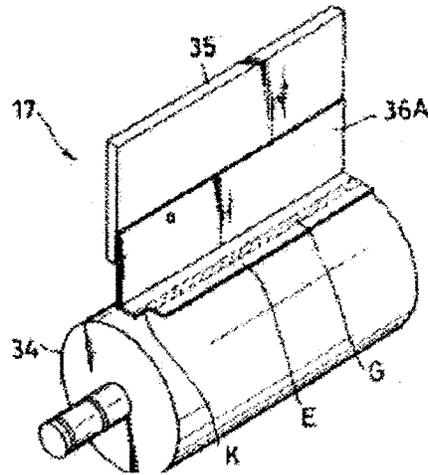
The ALJ found that Oki failed to prove that Japanese Patent Application No. 61-185772 (“the ‘772 application”) anticipates the asserted claims. ID at 206. The ALJ found that the ‘772 application does not teach (1) bending in “a direction orthogonal” to the longitudinal direction of the roller and (2) a “step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part,” as required by the asserted claims. *Id.*

As discussed above, “a direction orthogonal” can refer to any direction in a plane perpendicular to the longitudinal direction of the developing roller. Thus, a planar blade bent in any direction from the roller such as the one shown in the ‘772 application meets this limitation. We reverse the ALJ's finding that the ‘772 application does not disclose a blade bent in “a direction orthogonal.” We agree with the ALJ, however, that the contact between the blade and the roller occurs in the same area where the step part occurs. Thus, the “step part” in the ‘772 application is not “downstream of a contact point of the blade and the roller part.”

Moreover, the ‘772 application does not teach “a lower edge . . . contacts the roller part” as shown in Figures 2, 3, 5, 6, and 8. *See* RX-52C at OKI 8381587-90. In particular, the ‘772 application is clear that the nip portion G is the contact area between the blade and the roller, as shown below.

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FIG. 5



Id. at OKI 8381579. Because no “lower edge” of the blade contacts the roller of the ‘772 application in the nip portion G, this reference does not anticipate the asserted claims of the ‘343 patent. *See* RX-52C at OKI 8381587-90. We therefore affirm the ALJ’s finding that the ‘772 application does not anticipate the asserted claims of the ‘343 patent.

III. ISSUES PERTAINING TO THE ‘690 PATENT⁷

A. Level of Ordinary Skill in the Art

The ALJ found that one of ordinary skill in the art of the ‘690 patent would have specialized knowledge and experience in the field of electrostatic printing:

⁷ The Commission takes no action with respect to contributory infringement of the ‘690 patent. Chairman Okun, Commissioner Lane, and Commissioner Pinkert would have found no contributory infringement based on the evidence in the record. Vice Chairman Williamson, Commissioner Pearson, and Commissioner Aranoff would have the Commission take no position on this issue. *Beloit Corp. v. Valmet Oy*, 742 F.2d 1421 (Fed. Cir. 1984) (noting that the Commission may at its discretion review only certain dispositive issues resolved in the ID).

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would be one who has at least a Bachelor's Degree in materials science, rheology, physics, chemistry, chemical engineering, or mechanical engineering and at least three years of experience in electrophotography, electrostatic recording, or electrostatic printing or like fields. The PHOSITA would also be familiar with heat transfer, fuser roller design and technology, toner rheology, toner adhesion, release agent management, nip geometry, image fixing, paper path geometry, contact angle and surface roughness characteristics and testing of xerographic fuser rollers.

ID at 99. Nevertheless, the ALJ relied on Dr. Giacomini, an expert in the field of rheology, which is the study of the flow and deformation of matter, including elastic liquids such as toner. ID at 3 (citing Giacomini Tr. 358:3-7). Because we find an inconsistency between the ALJ's definition of one of ordinary skill in the art in the '690 patent and his acceptance of Dr. Giacomini's expert testimony on critical issues for the '690 patent, we determined to review.

Upon review, we find the ALJ's definition of one of ordinary skill in the art for the '690 patent to be slightly out of focus. In determining the relevant art of a particular invention, the Federal Circuit has indicated that some factors to consider include the following: (1) the type of skill required to understand the disclosure of the patent, (2) the type of prior art applied against the claims during prosecution by the U.S. Patent and Trademark Office ("PTO"), and (3) the nature of the problem confronting the inventor. *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1008-09 (Fed. Cir. 1983). The '690 patent specification discloses, among other things, a rheological method of reliably calculating the adhesion constant between toner and fuser rollers to determine whether these surface properties are met. JX-5 ('690 patent), col. 4, ll. 46-53 ("By measuring the adhesion constant with two kinds of liquid having respective dipole moments of greater than 3.0 debye and 0.0 debye, factors relating to surface conditions . . . are eliminated"). In fact, the only drawings in the '690 patent are rheological contact angle measurements between

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the fuser roller and the toner. *Id.* at Figures 1 and 2. Although the '690 patent also discloses a method of manufacturing fuser rollers that meet specific surface properties, none of the claims of the '690 patent are directed to the manufacture of these rollers. *Compare Id.* col. 6, ll. 1-60 (discussing material and manufacture of fuser rollers) *with* col. 11, l. 21 to col. 12, l. 49.

The '690 patent does not disclose a new "toner image fixing method," as the preamble in claim 1 suggests. Indeed, the "providing" steps in the body of independent claim 1 are well-known electrophotographic process steps. On the other hand, the claimed mathematical relationships are directed to the specified surface characteristics of the desired fuser, and all claims require certain rheological measurements to be made to determine whether the claim is met. Thus, we find that the development of the '690 invention was in the field of toner and fuser rheology. *See Orthopedic Equip. Co.*, 702 F.2d at 1008.

Moreover, during prosecution, the '690 applicant submitted a number of Japanese patent references that the PTO considered but never applied in a prior art rejection. The only references applied in a prior art rejection were U.S. Patent Nos. 5,582,917 ("the '917 reference") and 5,716,714 ("the '714 reference"). JX-10 at RITC0002188-2210. Both the '917 and '714 references are directed to material and manufacture of fusers as well as toner rheology. *See id.* at RITC0002192-2210. This also indicates that the relevant art is fuser design and manufacture as well as toner/polymer rheology. *See Orthopedic Equip. Co.*, 702 F.2d at 1009.

Although the '690 patent indicates that it deals with electrophotography, there is virtually no discussion of any specific electrophotographic device or process in the detailed description of the invention. Indeed, the only part of the '690 patent that mentions electrophotography is the "Background of the Invention" and, even then, it is only used as a general introduction to the

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problem of “hot-offset,” which the ‘690 patent sets out to solve. JX-5 (‘690 patent), col. 1, l. 5 to col. 3, l. 8. Based on the scope of the problem to be solved, the scope of the claims, the scope of the disclosure, and the scope of the prior art applied by the PTO, we conclude that knowledge of rheology and/or fuser design and manufacture is more important than knowledge of the overall electrophotographic printing process with respect to the ‘690 patent.

In light of what we view to be the relevant art, we find that one of ordinary skill in the art would have at least a bachelor’s degree in materials science, rheology, physics, chemistry, chemical engineering, or mechanical engineering and either (1) at least three years of experience in xerographic fuser design and toner or polymer rheology, (2) at least three years of experience in rheology in industry or a graduate institution, or (3) a graduate degree in rheology or a like field. This person would also be generally familiar with electrophotographic printing and one or more of the following areas: heat transfer, fuser roller design and technology, toner or polymer rheology, toner adhesion, release agent management, or contact angle and surface roughness characteristics, and testing of xerographic fuser rollers. We find a general familiarity with electrophotographic printing to be sufficient given the ‘690 patent’s focus on fuser design and toner and polymer rheology and lack of emphasis on other parts of the printing process. *See* JX-5 (‘690 patent), col. 11, ll. 21-49. Moreover, our definition of the required level of skill omits certain areas that are only tangentially related to the ‘690 patent, including nip geometry, image fixing, and paper path geometry, because knowledge in these areas would not help one understand the claimed invention. Finally, we conclude that experience in (1) xerographic fuser design and toner or polymer rheology, (2) rheology in industry or a graduate institution, or (3) a graduate degree in rheology would allow one to understand the invention of the ‘690 patent.

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Based upon these conclusions, we find Dr. Giacomini, Ricoh's expert, to be a person of ordinary skill in the relevant art. In particular, Dr. Giacomini is "generally familiar" with electrophotography, and he has the other requisite qualifications set forth above. CX-268C at Q/A 11, 52-71; CX-129. The ALJ found Dr. Giacomini credible because he was knowledgeable about the areas of dispute for the '690 patent. Although it is difficult to quantify credibility of a witness along with other credentials, the ALJ's assessment of Dr. Giacomini as a knowledgeable expert witness strongly suggests that he is at least one of ordinary skill in the art of the '690 patent. *See e.g.*, ID at 240, 270-71. Thus, we affirm the ALJ's determination that Dr. Giacomini is qualified as an expert for the '690 patent on the modified grounds set forth above.

B. Validity: Anticipation

The ALJ found that Oki failed to prove that U.S. Patent Nos. 3,291,466 ("the '466 patent") (RX-115) and 4,935,785 ("the '785 patent") (RX-117) anticipate the asserted claims 1, 5, 9, and 13. ID at 269. The ALJ also found that Oki failed to prove that its OL400e roller anticipated the asserted claims because it was not clear that the rollers tested by Ricoh were the same as those OL400e rollers manufactured prior to the critical date of the '690 patent. ID at 258. The ALJ made similar findings for Oki's OL1200 rollers. ID at 264-66.

The only disputed claim limitations (reproduced below) are directed to the surface conditions between the toner and the fuser roller. The ALJ refers to these as the 5th and 6th limitations:

an adhesion constant $\mu_{s-b}(n)$ is represented by:

$$\mu_{s-b}(n) = (\cos \theta_b - \cos \theta_s) / \sin \theta_b,$$

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where n is 1 or 2, θ_b is a receding contact angle of a surface of at least one of the fixing members that contacts the thermofusible toner image on the image supporting material, and θ_s is a static contact angle of the surface, the receding and static contact angles determined using a liquid having a dipole moment of greater than about 3.0 debye when n is 1 and using another liquid having a dipole moment of 0.0 debye when n is 2, and

a ratio of a first adhesion constant to a second adhesion constant, $\mu_{s,b}(1)/\mu_{s,b}(2)$, of the surface that contacts the thermofusible toner image on the image supporting material is less than about 8.0.

JX-5 ('690 patent), col. 11, ll. 34-48. The claimed equation represents the calculation of the adhesion constant ratio based on the static and receding contact angles using two different liquids. It is undisputed that the remaining elements "providing a thermofusible toner image . . .," "providing two fixing members . . .," "heating the nipped section . . .," and "fixing the thermofusible toner image . . ." existed in the prior art, including Oki's OL1200 and OL400e printers and fusers. ID at 269-73.

The '690 patent indicates that PFA coated fuser rollers (like those used in the prior art Oki products) "easily satisfy the above-mentioned surface physical properties." JX-5 ('690 patent), col. 6, ll. 1-19. The '690 patent does not qualify this sweeping statement. The "surface physical properties" with which the '690 patent is concerned include an adhesion contact ratio of less than 8.0 when measured using the liquids set forth in the '690 patent. *Id.* at col. 4, ll. 21-55. The '690 patent explains that measuring the adhesion constant with static contact and receding contact angles using a single liquid is unreliable due to variations in surface conditions of thermofusible rollers. *Id.* According to the '690 patent, using more than one liquid, one with a dipole moment greater than 3.0 debye and the other with a dipole moment of 0.0, to measure the angles yields more accurate results. The specification states:

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[T]he degree of difficulty in separating melted toner from the surface of a fixing member may be obtained by measuring the static contact angle and the receding contact angle between the melted toner and the surface of the fixing member . . . [A]ccording to the present invention, the adhesion constant . . . was found to be fairly correlative . . .

[S]ince the adhesion constant depends on surface conditions of the fixing member, the adhesion constant measured using only one kind of liquid tends to vary. By measuring the adhesion constant with two kinds of liquid having respective dipole moments of greater than 3.0 debye and 0.0 debye, factors relating to the surface conditions of the fixing member are eliminated and the ratio of the adhesion constants is found to correlate with the degree of difficulty in separating melted toner from the surface of a fixing member.

Id. at col. 4, ll. 21-55. Because hot-offset is a problem with separation between the melted toner from the thermofusible roller, the adhesion constant calculated in this manner is indicative of the degree of hot-offset. Based on this description, we find that the '690 patent admits that a fuser roller made of PFA, such as the prior art Oki rollers, inherently meet the claimed less than 8.0 adhesion constant ratio. The "easily satisf[ies]" language is an admission and we consider this factual evidence in our validity analysis. See *Pharmastem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1362 (Fed. Cir. 2007); *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1570 (Fed. Cir. 1988) ("A statement in the patent that something is in the prior art is binding on the applicant and patentee for determinations of anticipation and obviousness."); *Sjolund v. Musland*, 847 F.2d 1573, 1577-79 (Fed. Cir. 1988) (the applicant's statements in the specification concerning the prior art must be accepted as "a matter of law").

Even if we were not entitled to rely on the patentee's admission, the remaining detailed description, including Example 2, supports the same conclusion. JX-5 ('690 patent), col. 6, ll. 3-5 and col. 7, ll. 4-30. As can be seen from Tables 1 to 3, the adhesion constant ratio for the

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roller was calculated to be 0.43 (Table 3, line 2, column 6) based on static contact and receding contact angles measured (Table 2, line 2) using 2-nitropropane having a dipole moment of 3.73 and n-heptane having a dipole moment of 0.0 (Table 1). *See id.* at col. 7, ll. 32-43.

Although much of the debate about invalidity based on Oki's prior art fuser rollers centered around whether the rollers that were tested by Ricoh's expert were the same as the rollers that existed before the effective date of the '690 patent, we find clear and convincing record evidence that the Oki OL400e rollers that existed before the '690 patent inherently anticipate asserted claims 1, 5, 9, and 13, regardless of whether these rollers are the exact same as those that were tested by Ricoh's expert during the investigation. *See King Pharms., Inc. v. Eon Labs., Inc.*, 616 F.3d 1267 (Fed. Cir. 2010) ("Anticipation by inherent disclosure is appropriate only when the reference discloses prior art that must necessarily include the unstated limitation.") (internal quotations omitted). It is undisputed that Oki's OL400e fuser rollers were coated with PFA since before the effective filing date of the '690 patent. Thus, we conclude that these prior art Oki rollers inherently meet the claimed adhesion constant ratio. Asserted dependent claim 5 requires a receding contact angle of greater than 30 degrees when measured with a liquid having a dipole moment of greater than 3.0 debye. Example 2 shows that when 2-nitropropane—debye 3.73—is used on a PFA-coated roller, the receding contact angle was 39 degrees, which clearly meets this limitation.

As to claims 9 and 13, we find the evidence clear and convincing that the OL400e also anticipates these claims, which require "a center-line average roughness less than about 3.0 μm ." *See* RX-186C at OKI008381592-94 (certified translation of RX-185C); *see also* RX-182C; RX-

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123C Q/A 98-105, 114-119; RX-192C. RX-186C is a document entitled “Design Change Order” dated July 27, 1993. In the section entitled “Substance of Changes” and again on the last page, this document indicates that the surface roughness of the PFA coating is to be changed from 0.7 Ra to 0.7 Ra or less. *See* RX-186C at OKI008381592-94. As the ‘690 patent recognizes, “Ra” is the unit for center-line average roughness. JX-5 (‘690 patent), col. 3, ll. 48-50. Thus, the design change order shows that the center-line average roughness of Oki’s OL400e rollers were well below the claimed less than 3.0 um both before and after the design change. Because the OL400e roller met this limitation before the critical date of the ‘690 patent, Oki’s OL400e product anticipates claims 9 and 13.

In light of the foregoing, we find that claims 1, 5, 9, and 13 are anticipated by the prior art OL400e roller, and we reverse the ALJ’s finding to the contrary. We decline to reach Oki’s contentions that the ALJ erred in finding that neither the ‘466 patent, the ‘785 patent, nor the OL1200 Oki rollers anticipates the asserted claims. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421 (Fed. Cir. 1984).

IV. DOMESTIC INDUSTRY: ECONOMIC PRONG FOR THE ‘343 AND ‘690 PATENTS

Ricoh relied on its expenses related to its C200 series printers and MFPs to meet the economic prong of the domestic industry requirement for the ‘343 and ‘690 patents. The ALJ found that Ricoh satisfied the economic prong of the domestic industry requirement with its service and repair expenses, although he noted that Ricoh’s C200 series printers and MFPs are no longer sold and were never manufactured in the United States. ID at 422. The ALJ credited testimony of a Ricoh employee, Mr. Mandernacht, that Ricoh has spent on average []

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annually on labor to service and repair C200 series printers and MFPs during its fiscal years 2008 and 2009 (which span from April 2008 to March 2010). *Id.* at 423. The ALJ rejected Oki's argument that complainant's evidence was unreliable and its expenditures were not significant. *Id.* at 424. The Commission determined to review.

As a prerequisite to a finding of violation of section 337, a complainant must establish that "an industry in the United States, relating to the articles protected by the [intellectual property right] . . . concerned, exists or is in the process of being established." 19 U.S.C. § 1337(a)(2). Typically, the domestic industry requirement of section 337 is viewed as consisting of technical and economic prongs. *See e.g., Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, USITC Pub. 3003, Comm'n Op. at 14-17 (Nov. 1996). The technical prong concerns whether complainant practices at least one claim of the asserted patents. The economic prong concerns domestic activities with respect to the patent or patented article.

To satisfy the economic prong in cases involving alleged infringement of statutory intellectual property rights, section 337(a)(3) requires a complainant to demonstrate that, "with respect to the articles protected by the [intellectual property right] concerned," it has engaged in one or more of the following activities in the United States:

- (A) significant investment in plant and equipment;
- (B) significant employment of labor or capital; or
- (C) substantial investment in [the intellectual property right's] exploitation, including engineering, research and development, or licensing.

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19 U.S.C. § 1337(a)(3). Because these three criteria are listed in the disjunctive, a complainant need only establish one factor in order to satisfy the economic prong of the domestic industry requirement. *Wind Turbines*, Inv. No. 337-TA-376, Comm'n Op. at 15.

Although the term “significant” in section 337(a)(3)(A) and (B) is not expressly defined in the statute, “the design of the statute provides substantial guidance” in determining the meaning of this term. *Certain Coaxial Cable Connectors and Components Thereof and Products Containing Same*, Inv. No. 337-TA-650, Comm'n Op. at 44 (Mar. 31, 2010). The language of sections 337(a)(2) and 337(a)(3)(A) and (B) taken together indicate the intent of Congress that in order to establish a domestic industry, a complainant’s investment in plant and equipment or employment of labor or capital must be shown to be “significant” in relation to the articles protected by the intellectual property right concerned. Thus, under the statute, whether the complainant’s investment and/or employment activities are “significant” is not measured in the abstract or in an absolute sense, but rather is assessed with respect to the nature of the activities and how they are “significant” to the articles protected by the intellectual property right. The legislative history of section 337(a)(3) evidences that Congress intended to codify the Commission’s practice with respect to the first two factors and to expand the scope of the domestic industry by adding the third factor “substantial investment in [the intellectual property’s] exploitation,” as set forth in section 337(a)(3)(C). H.R. Rep. No. 40, 100th Cong., 1st Sess. Pt. 1, at 157 (1987).

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The Commission's determination as to whether a complainant has established that its investment and/or employment activities are significant with respect to the articles protected by the intellectual property right concerned is not evaluated according to any rigid mathematical formula. See *Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm'n Op. at 39 (Aug. 1, 2007) ("*Male Prophylactics*"). Rather, the Commission's determination entails "an examination of the facts in each investigation, the article of commerce, and the realities of the marketplace." *Id.* The determination takes into account the nature of the investment and/or employment activities, "the industry in question, and the complainant's relative size." *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm. Op. at 26 (May 16, 2008).

In ascertaining whether a complainant has established that its activities are significant with respect to the articles protected by the intellectual property right concerned, the Commission has considered, among other things, the value added to the article in the United States by the domestic activities. See, e.g., *Certain Concealed Cabinet Hinges and Mounting Plates*, Inv. No. 337-TA-289, 1990 ITC LEXIS 3, Comm'n Op. at *32 (Jan. 8, 1990) ("*Cabinet Hinges*") ("significance' as used in the statute denotes an assessment of the relative importance of the domestic activities"). The Commission has also assessed the relative domestic contribution to the protected article by comparing complainant's product-related domestic activities to its product-related foreign activities. See, e.g., *Male Prophylactics*, Inv. No. 337-TA-546, Comm'n Op. at 43 (finding that complainant's undertakings, measured on a comparative basis, created

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meaningful value added to the imported product); *Schaper Mfg. Co. v. Int'l Trade Comm'n*, 717 F.2d 1368, 1372 (Fed. Cir. 1983). The Commission has also examined the nature of complainant's activities to determine whether they are directed to the practice of one or more claims of the asserted patent. *See, e.g., Male Prophylactics*, Inv. No. 337-TA-546, Comm'n Op. at 42-43 (noting that complainant's U.S. activities were "directed to the practice of certain patent claims."); *Cabinet Hinges*, Inv. No. 337-TA-289, Comm'n Op. at 23 ("Because of the indirect bearing on the patented features of the [product]," the Commission gave less weight to complainant's investments relating to adding an optional dowel to the imported product).

Ricoh filed its section 337 complaint on September 18, 2009, thus our analysis focuses on its undertakings prior to that date. *See Coaxial Cable Connectors*, Inv. No. 337-TA-650, Comm'n Op. at 51 n.17. Ricoh relies strictly on the service and repair of its C200 series printers and MFPs to meet the economic prong. We find no reason to question the reliability of Ricoh's service and repair figures. *See* ID at 422-23. Ricoh provided evidence that it expended [] hours in fiscal year 2008 and [] hours in fiscal year 2009 on C200 series-related service and repair. *Id.*; CX-275C; CX-174C; CX-175C. Additionally, Ricoh submitted evidence that through the end of fiscal year 2009, it sold approximately [] C200 series printers and MFPs in the United States. CX-277C at 5. Ricoh's evidence supports its claim that its total expenditures for salaries and benefits paid to its U.S. employees for service and maintenance of C200 series printers and MPFs in the United States amounted to approximately [] annually in its fiscal years 2008 and 2009. CX-275C at Q/A 39-41. This expenditure represents

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approximately the equivalent of the full-time employment of [] over this period, approximately 18 months of which occurred prior to the filing of the complaint.⁸

As the IA correctly notes, the Commission has previously recognized that, in appropriate circumstances, a complainant may satisfy the economic prong of the domestic industry by demonstrating that its service and repair activities and investments are significant with respect to the articles protected by its intellectual property rights. For example, in *Toy Vehicles*, the Commission found that complainant's services relating to its patented dual control power pedal units under warranty and as replacement parts was shown to be significant to complainant's U.S. business. See, e.g., *Certain Battery-Powered Ride-on Toy Vehicles and Components Thereof*, Inv. No. 337-TA-314, USITC Pub. 2420, Initial Determination at 20-21 (unreviewed in relevant part) (Aug. 1991). Similarly, in *Cast Iron Stoves*, the Commission found that complainant's repair and testing activities, preparation of brochures and service manuals, and instruction of dealers on the safe installation of wood burning stoves protected by the intellectual property rights concerned satisfied the economic prong because of the relative importance of these activities to the protected articles, and the significant domestic value added resulting from these activities. *Certain Airtight Cast-Iron Stoves*, Inv. No. 337-TA-69, USITC Pub. 1126, Comm'n Op. at 10-11 (Jan. 1981). Likewise, in *Spray Pumps*, the complainant met the economic prong by demonstrating that the frequent warranty servicing required over the lifetime of the pumps protected by the patents added significant value. *Certain Airless Spray Pumps and Components*

⁸ We recognize that Ricoh may not dedicate particular employees to the service or repair of particular printers. CX-275C at 7. We merely provide this information to inform our analysis of the magnitude of Ricoh's expenses.

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Thereof, Inv. No. 337-TA-90, USITC Pub. 1199, Comm'n Op. at 10-11 (Nov. 1981). More recently, in *Male Prophylactics*, the Commission found complainant's investment and/or employment activities to be significant where complainant's lubrication, foiling, testing, and packaging of unfinished imported condoms transformed the product into saleable merchandise, resulted in 34% domestic value added, and included operations directed to the practice of certain patent claims. Comm'n Op. at 41-45. In *Video Displays*, the Commission found the economic prong met where complainant's post-sale service operations, including warranty repairs and refurbishments, return merchandise authorizations, customer call center operations, and technician activities with respect to the video displays protected by the asserted patents, were significant. *Certain Video Displays, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-687, Order No. 20, Initial Determination (May 20, 2010) (unreviewed).

In this case, however, complainant failed to submit evidence to substantiate the nature and significance of its activities with respect to the articles protected by the patent. For example, complainant submitted no evidence to show how its activities were important to the articles protected by the asserted patents in the context of the company's operations, the marketplace, or the industry in question, or whether complainant's undertakings had a direct bearing on the practice of the patent. Nor did the complainant demonstrate whether and to what extent its domestic activities added value to the imported products. Thus, in analyzing whether Ricoh has demonstrated "significant employment of labor or capital," the ALJ was left to consider only the magnitude of complainant's expenditures in an absolute sense.

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As our prior decisions recognize, however, the magnitude of the investment cannot be assessed without consideration of the nature and importance of the complainant's activities to the patented products in the context of the marketplace or industry in question. For example, in *Stringed Musical Instruments*, the Commission considered the inventor's investments in the exploitation of the patent-at-issue in relation to the protected articles "taking into account that [complainant] is an individual and that the market for guitar parts, however defined, is relatively small." *Stringed Musical Instruments*, Inv. No. 337-TA-586, Comm Op. at 26. Although that investigation was decided under subsection (C) of the statute, it illustrates the generally applicable principle that whether an investment is "substantial" or "significant" is context-dependent. Accordingly, the employment of [] in the United States over approximately 18 months may represent a significant employment of labor where it contributes significant value to the product, where it is sizeable in relation to a complainant's overall product-related expenses and investments, or in another relevant context. The same employment of labor, however, may not be significant in another context.

We conclude that Ricoh has failed to show that its documented labor costs constitute a "significant employment of labor or capital" as required by section 337(a)(3)(B) in light of the factual circumstances presented in this case and complainant's failure to submit additional evidence to support its domestic industry claim.⁹ As noted, Ricoh relies on its employment of

⁹Although Ricoh has focused on section 337(a)(3)(B) dealing with "employment of labor or capital," we cannot conclude, in light of the present circumstances, that Ricoh's C200 series service and repair activities would meet any other prongs of section 337(a)(3). See *Certain Switches and Products Containing Same*, Inv. No. 337-TA-589, Initial Determination at 74 (Nov. 7, 2007) (unreviewed in relevant part) (finding the economic prong satisfied by a "substantial

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labor devoted to the service and repair of its C200 series printers and MFPs. Ricoh ceased its foreign manufacturing of the C200 series printers and MFPs in 2008 and stopped selling the C200 series printers and MFPs by April 2009 at the latest, which was five months prior to filing its section 337 complaint. ID at 422. Even when Ricoh sold these products in the United States, they were manufactured entirely abroad and entered the United States as complete products ready for sale and installation. *Id.* Ricoh submitted no evidence to show how its domestic activities add any value to the completed saleable product, or to demonstrate the nature and relative importance of its activities to the articles protected by the patent (in view of the relevant industry or marketplace).¹⁰

Aside from acknowledging that the C200 series printers and MFPs were manufactured entirely abroad, Ricoh has provided no evidence regarding its foreign product-related investment and/or employment activities. Thus, Ricoh has failed to show that a comparison of its C200 series-related *domestic* activities with its C200 series-related *foreign* activities would support its “investment” under section 337(a)(3)(C) relating to, inter alia, “customer training and support, the drafting of manuals, a limited amount of testing, minor repairs to returned products, and a small amount of design work” for a complainant whose product was manufactured abroad); *Certain Connecting Devices (“Quick-Clamps”) for Use with Modular Compressed Air Conditioning Units*, Inv. No. 337-TA-587, Initial Determination at 63-64 (Feb. 13, 2008) (unreviewed) (finding the economic prong satisfied by a “substantial investment” under section 337(a)(3)(C) relating to “customer support . . . , quality inspection, qualifying vendors, retooling manufacturing equipment, and quality control” for a complainant whose product was manufactured abroad).

¹⁰ We recognize that an analysis of the value added by a complainant’s domestic activities is better suited to a situation in which those domestic activities involve at least some production work. *See, e.g., Male Prophylactics*, Inv. No. 337-TA- 546, Comm’n Op. at 42-43 (noting that complainant’s domestic activities consisted of lubricating, foiling, and packaging complainant’s product). However, we offer this analysis to more fully assess Ricoh’s proffered evidence.

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claim that its domestic labor expenses are “significant.” See *Cabinet Hinges*, Comm’n Op. at *32 (“‘significance’ as used in the statute denotes an assessment of the relative importance of the domestic activities”); *Male Prophylactics*, Comm’n Op. at 43 (on “a comparative basis, the domestic activities in which [complainant] invested create ‘value added’ [of 34 percent] to the bulk product imported from China.”).¹¹ We find that the factual circumstances in *Male Prophylactics*, relied on by the ALJ, are clearly distinguishable from the present set of facts. In *Male Prophylactics*, the complainant’s domestic production and service activities were shown to add 34% of the value to the completed saleable product, whereas, Ricoh’s services and repairs are purely post-sale and there was no evidentiary proof that such activities added value to the imported articles. The *Male Prophylactics* complainant had also leased factory space and

¹¹ The ALJ declined to compare Ricoh’s overall service and repair expenses with its C200-related service and repair expenses because “such a comparison would obviously hurt large, diversified companies that produce a wide range of products.” ID at 424. We decline to adopt this rule for all cases because, in our view, such a comparison *could* serve as a means to demonstrate that an employment of labor or capital is significant especially, where as here, complainant has not provided any other evidence. The economic prong of the domestic industry requirement is analyzed on a case-by-case basis in light of all the relevant facts. See *Coaxial Cable Connectors*, Inv. No. 337-TA-650, Comm’n Op. at 51. We note that Ricoh’s evidence of its [] in total annual expenditures on labor for all of its printers and MFPs, compared to its [] in expenses related to its C200 series labor and repair activities, does not support its case because it is not clear from the record how many printers and MFPs Ricoh services over which this total expenditure is distributed. See CX-275C at Q/A 11-14. Ricoh *could* have submitted evidence of its service and repair expenses associated with a comparable product, thus allowing the Commission to compare significance of domestic labor expenses related to two different products. Moreover, Ricoh failed to submit evidence to demonstrate how these expenses are significant to the articles protected by the patent.

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equipment to produce the domestic product, whereas, Ricoh's repair and maintenance services are administered at customer sites.

Although Ricoh has provided estimates of office space square footage and cost for "Ricoh employees dedicated to service, support, sales, and marketing of the C200 series," ID at 417, Ricoh has explained that its service and repair efforts occur "out in the field." CX-275C at 3.¹² Thus, it is unclear how these expenses relate to Ricoh's service and repair work. We find Ricoh's failure to submit evidence to demonstrate how these expenses are significant to the articles protected by the patent is deficient for the same reasons that complainant's showing was deficient with respect to labor expenses.

Based on these facts, we find that Ricoh has not shown that a domestic industry exists with respect to the articles protected by the '343 and '690 patents. Thus, we reverse the ALJ's finding that Ricoh has satisfied the economic prong for the '343 and '690 patents. We do not reach Oki's patent exhaustion argument or Ricoh's related waiver contention.

V. CONCLUSION

For the foregoing reasons, we affirm the ALJ's finding that no section 337 violation occurred with respect to the '343 patent but reverse his finding that a violation occurred with respect to the '690 patent. Specifically as to both patents, we reverse the ALJ's finding that Ricoh satisfied the economic prong of the domestic industry requirement of section 337(a)(3).

¹² Ricoh derived this figure by multiplying its "total equipment costs . . . for equipment used for the sales, marketing, service, and support for MFPs" by "the percentage of the total revenue from [Ricoh's] MFP sales in the United States that consisted of the revenue from the sale of the [C200 series] product line." CX-274C at 16.

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As to the '343 patent, we have determined to modify the ALJ's construction of "a lower edge" and affirm his findings that Oki does not infringe the '343 patent and Ricoh does not satisfy the technical prong of the domestic industry requirement on modified grounds. Finally, we reverse the ALJ's finding that Oki did not prove that claims 1, 5, 9, and 13 of the '690 patent are anticipated by the prior art. We adopt all findings and conclusions in the ID that are not inconsistent with this opinion.

By order of the Commission.

A handwritten signature in black ink, appearing to read "J. R. Holbein", written in a cursive style.

James Holbein
Acting Secretary to the Commission

Issued: February 17, 2011

**CERTAIN PRINTING AND IMAGING DEVICES AND
COMPONENTS THEREOF**

337-TA-690

CERTIFICATE OF SERVICE

I, James R. Holbein, hereby certify that the attached **COMMISSION OPINION** has been served by hand upon the Commission Investigative Attorney, Juan S. Cockburn, Esq., and the following parties as indicated, on

February 17, 2011


James R. Holbein, Acting Secretary
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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

In the Matter of

**CERTAIN PRINTING AND IMAGING
DEVICES AND COMPONENTS THEREOF**

Investigation No. 337-TA-690

**NOTICE OF COMMISSION DETERMINATION TO REVIEW-IN-PART A FINAL
DETERMINATION FINDING A VIOLATION OF SECTION 337; SCHEDULE FOR
FILING WRITTEN SUBMISSIONS ON THE ISSUES UNDER REVIEW AND ON
REMEDY, THE PUBLIC INTEREST, AND BONDING**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to review a portion of the final initial determination (“ID”) issued by the presiding administrative law judge (“ALJ”) on September 23, 2010 finding a violation of section 337 and to request briefing on the issues under review and on remedy, the public interest, and bonding.

FOR FURTHER INFORMATION CONTACT: Daniel E. Valencia, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-1999. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <http://www.usitc.gov>. The public record for this investigation may be viewed on the Commission’s electronic docket (EDIS) at <http://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission’s TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on October 26, 2009, based on a complaint filed by Ricoh Company, Ltd. of Tokyo, Japan; Ricoh Americas Corporation of West Caldwell, New Jersey; and Ricoh Electronics, Inc. of Tustin, California (collectively “Rico”). 74 *Fed. Reg.* 55065 (Oct. 26, 2009). The complaint alleged, *inter alia*, violations of section 337 in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain printing and imaging devices and components thereof by reason of infringement of U.S. Patent Nos. 6,209,048 (“the ‘048 patent”); 6,212,343 (“the ‘343 patent”); 6,388,771 (“the ‘771 patent”); 5,764,866 (“the ‘866 patent”); and 5,863,690 (“the ‘690 patent”). The complaint named Oki Data

Corporation of Tokyo, Japan and Oki Data Americas, Inc. of Mount Laurel, New Jersey (collectively “Oki”) as respondents.

On September 23, 2010, the ALJ issued his final ID finding that Oki violated section 337 in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain printing and imaging devices and components thereof by reason of infringement of several claims in the ‘690 patent. The ALJ found that Oki has not violated section 337 with respect to the ‘048, ‘343, ‘771, and ‘866 patents. Along with the ID, the ALJ issued a recommended determination on remedy and bonding (“RD”). Complainant Ricoh, respondent Oki, and the Commission investigative attorney (“IA”) filed petitions for review of the ID on October 6, 2010. Ricoh, Oki, and the IA each filed responses to the petitions for review on October 14, 2010.

Having examined the record of this investigation, including the ALJ’s final ID, the petitions for review, and the responses thereto, the Commission has determined to review the final ID in part. In particular, the Commission has determined to review all findings and conclusions relating to whether a violation of section 337 has occurred with respect to the ‘343 and ‘690 patents.

The parties are requested to brief their positions on the issues under review with reference to the applicable law and the evidentiary record. In connection with its review, the Commission is particularly interested in responses to the following questions:

The ‘343 Patent

(1) The Commission has determined to review all findings relating to the limitation “a direction orthogonal to a longitudinal direction of the developing roller,” as recited in the asserted claims of the ‘343 patent.

(a) Please state your position on the meaning of “a longitudinal direction of the developing roller,” as recited in the asserted claims. How does your position differ from the ALJ’s construction?

(b) Specifically, does “a longitudinal direction” include any line extending parallel to the central axis of the roller? Or, does this refer to the central axis itself?

(c) Please state your position on the meaning of “*a direction orthogonal* to a longitudinal direction of the developing roller.” Please take into account that the planar blade is bent along its entire width, and do not confine your analysis to two-dimensional cross-sections.

(d) Assuming “a longitudinal direction” can include any line extending parallel to the central axis of the roller, can “a direction orthogonal” refer to a direction that

is not perpendicular to the surface of the roller, *i.e.*, a tangent extending through the surface of the roller?

(e) Given the planar shape of the blade contacts the roller in three dimensions along the entire width of the blade, and is bent along the entire width of the blade, is there any bend that would not meet the “direction orthogonal” limitation?

(f) How does your answer to (d) comport with the preferred embodiment of the ‘343 patent shown in Figures 8A and 8B? Is the blade 17 shown in Figures 8A and 8B bent in “a direction orthogonal to a longitudinal direction of the developing roller?”

(g) How do your answers to (a) through (e) affect the ALJ’s findings regarding infringement, validity, and domestic industry?

(2) The Commission has determined to review the ALJ’s construction of “a lower edge,” as recited in the asserted claims of the ‘343 patent. The asserted claims of the ‘343 patent recite, among other things:

wherein the blade includes a wide-width part . . . and ***a narrow-width part . . . configured . . . to be [sic] bend in a direction orthogonal*** to a longitudinal direction of the developing roller . . . and the narrow-width part is disposed ***downstream of the contact point of the blade and the roller part*** . . . in the rotation direction.

JX-4 (‘343 patent), col. 25, ll. 16-30 (emphasis added).

(a) Please explain whether the language emphasized above informs the meaning of “a lower edge.”

(b) Can the claimed “a lower edge” refer to an edge of the “narrow-width part,” an edge of the “wide-width part,” or both?

(c) If the narrow-width part of the blade is bent away from the roller such that the edge opposite the boundary between the wide-width part and the narrow-width part does not contact the roller, as shown in Figures 8A, 8B, and 12, how should “a lower edge” be construed?

(d) Can “a lower edge thereof contacts the roller part of the developing roller” refer to contact between the roller and an area extending from the lower edge of the blade to a point on the blade slightly above the lower edge?

(e) How do your answers to (a) through (d) affect the ALJ’s findings regarding infringement, validity, and domestic industry?

The '690 Patent

(1) The Commission has determined to review the ALJ's determination of the level of ordinary skill in the art of the '690 patent. See ID at 99. Please comment on what the level of ordinary skill in the art is with respect to the '690 patent. Please provide specific citations to the record and testimony. Although the parties are invited to brief their respective positions generally on this issue, the Commission is specifically interested in answers to the following questions:

(a) Would it be appropriate for the Commission to modify the ALJ's determination to add the fields of applied rheology and/or applied material science to the types of experience that would satisfy the three-year minimum requirement in the ALJ's determination?

(b) Would it be appropriate for the Commission to modify or remove the ALJ's determination to remove the three-year minimum experience requirement altogether?

(c) Would it be appropriate for the Commission to modify the ALJ's familiarity requirement by, for example, requiring familiarity with at least one (as opposed to all) of the following technological areas: heat transfer, fuser roller design and technology, toner rheology, toner adhesion, release agent management, nip geometry, image fixing, paper path geometry, contact angle and surface roughness characteristics and testing of xerographic user rollers?

(d) Would it be appropriate for the Commission to modify the ALJ's familiarity requirement to remove any technological areas not directly related to the interaction between a toner and a fuser roller?

(2) The Commission has determined to review the ALJ's determination that the asserted claims of the '690 patent are not anticipated.

(a) What are the "above-mentioned surface physical properties" mentioned in column 6, lines 4-5 of the '690 patent?

(b) Please comment on whether examples 1 and 2 of the '690 patent inform the patent's statement in column 6 that PTFE (polytetrafluoroethylene) and polytetrafluoroethylene/perfluoralkylvinylether (PFA) are "[s]pecific examples of materials for the fixing member which easily satisfy the above-mentioned surface physical properties."

(c) Under what circumstances (if any) would a PTFE fuser roller not have an adhesion constant ratio of less than about 8.0 when measuring receding and static

contact angles using 2-nitropropane and n-heptane, respectively, as set forth in the '690 patent?

(d) To what extent is the adhesion constant ratio dependent on the surface roughness of the fuser roller and composition of the toner? How does the subject matter of dependent claims 9-16 inform your response, if at all?

(e) Is it appropriate under current legal precedent to consider the asserted patent's disclosure in determining what would be inherent in the prior art?

(f) Please comment on whether the dependent claims of the '690 patent are anticipated or obvious, assuming claim 1 of the '690 patent is found to be anticipated.

(g) What materials are the OL 400 rollers and OL 1200 rollers coated with? Has this material changed since the critical date of the '690 patent?

(3) Please state your position with respect to contributory infringement by Oki of the asserted claims of the '690 patent.

(4) Please provide a summary of Ricoh's annual labor costs associated with the C200 domestic product. Please isolate costs by year and indicate any possible trends.

(5) Are the C200 MFP's "articles protected by the ['690] patent" under section 337(a)(2)?

As to the '048, '771, and '866 patents, the Commission has determined that Oki did not violate section 337. The Commission has determined to review and take no position on the following findings and conclusions in the ID, however:

(1) the finding that the Taylor reference ("A Telerobot on the World Wide Web") (RX-281) does not anticipate or render obvious claims 19-21 and 23 of the '048 patent;

(2) the finding that U.S. Patent Nos. 5,657,448 and 5,784,622 do not anticipate or render obvious the asserted claims of the '048 patent;

(3) the ALJ's determination not to construe the following claim terms in the '048 patent: "descriptor," "resource identifier defining a resource and its location," "command," and "interconnected, on-line documents";

(4) the construction of "communications mechanism" in claim 19 of the '048 patent and associated findings on the issues of infringement, domestic industry, and validity;

(5) the finding that Japanese Published Application No. JP H07-306934 does not anticipate or render obvious the asserted claims of the '771 patent; and

(6) the finding that claim 13 of the '771 patent is infringed.

The Commission has determined to review the ALJ's findings that the claim terms "scan means," "print means," "copy means," and "test means" of the '866 patent, and the claim terms "scanning means," "means for setting an operation code," and "a code unit for setting an operation code" of the '771 patent do not render the asserted claims indefinite. Upon review, the Commission has determined that the terms at issue are not indefinite under the relevant standard set forth in *Aristocrat Technologies. v. International Game Technology*, 521 F.3d 1328, 1337 (Fed. Cir. 2008). The Commission adopts the ALJ's substantive analysis of these issues set forth in his Order No. 29 (May 4, 2010).

In connection with the final disposition of this investigation, the Commission may (1) issue an order that could result in the exclusion of the subject articles from entry into the United States, and/or (2) issue one or more cease and desist orders that could result in the respondent(s) being required to cease and desist from engaging in unfair acts in the importation and sale of such articles. Accordingly, the Commission is interested in receiving written submissions that address the form of remedy, if any, that should be ordered. If a party seeks exclusion of an article from entry into the United States for purposes other than entry for consumption, the party should so indicate and provide information establishing that activities involving other types of entry either are adversely affecting it or likely to do so. For background, see *In the Matter of Certain Devices for Connecting Computers via Telephone Lines*, Inv. No. 337-TA-360, USITC Pub. No. 2843 (December 1994) (Commission Opinion).

If the Commission contemplates some form of remedy, it must consider the effects of that remedy upon the public interest. The factors the Commission will consider include the effect that an exclusion order and/or cease and desist orders would have on (1) the public health and welfare, (2) competitive conditions in the U.S. economy, (3) U.S. production of articles that are like or directly competitive with those that are subject to investigation, and (4) U.S. consumers. The Commission is therefore interested in receiving written submissions that address the aforementioned public interest factors in the context of this investigation.

If the Commission orders some form of remedy, the U.S. Trade Representative, as delegated by the President, has 60 days to approve or disapprove the Commission's action. See Presidential Memorandum of July 21, 2005, 70 *Fed. Reg.* 43251 (July 26, 2005). During this period, the subject articles would be entitled to enter the United States under bond, in an amount determined by the Commission and prescribed by the Secretary of the Treasury. The Commission is therefore interested in receiving submissions concerning the amount of the bond that should be imposed if a remedy is ordered.

WRITTEN SUBMISSIONS: The parties to the investigation are requested to file written submissions on the issues identified in this notice. Parties to the investigation, interested government agencies, and any other interested parties are encouraged to file written submissions on the issues of remedy, the public interest, and bonding. Such submissions should address the

ALJ's recommendation on remedy and bonding set forth in the RD. Complainants and the IA are also requested to submit proposed remedial orders for the Commission's consideration. Complainants are also requested to state the date that the '690 and '343 patents expire and the HTSUS numbers under which the accused products are imported. The written submissions and proposed remedial orders must be filed no later than close of business on Thursday December 9, 2010. Reply submissions must be filed no later than the close of business on Friday December 17, 2010. No further submissions on these issues will be permitted unless otherwise ordered by the Commission.

Persons filing written submissions must file the original document and 12 true copies thereof on or before the deadlines stated above with the Office of the Secretary. Any person desiring to submit a document to the Commission in confidence must request confidential treatment unless the information has already been granted such treatment during the proceedings. All such requests should be directed to the Secretary of the Commission and must include a full statement of the reasons why the Commission should grant such treatment. *See* 19 C.F.R. § 210.6. Documents for which confidential treatment by the Commission is sought will be treated accordingly. All nonconfidential written submissions will be available for public inspection at the Office of the Secretary.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in sections 210.42-46 and 210.50 of the Commission's Rules of Practice and Procedure (19 C.F.R. §§ 210.42-46 and 210.50).

By order of the Commission.

A handwritten signature in black ink, appearing to read "Marilyn R. Abbott", written in a cursive style.

Marilyn R. Abbott
Secretary to the Commission

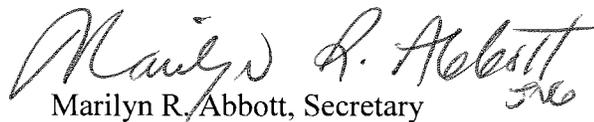
Issued: November 22, 2010

**CERTAIN PRINTING AND IMAGING DEVICES AND
COMPONENTS THEREOF**

337-TA-690

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION DETERMINATION TO REVIEW-IN-PART A FINAL DETERMINATION FINDING A VIOLATION OF SECTION 337; SCHEDULE FOR FILING WRITTEN SUBMISSIONS ON THE ISSUES UNDER REVIEW AND ON REMEDY, THE PUBLIC INTEREST AND BONDING** has been served by hand upon the Commission Investigative Attorney, Juan S. Cockburn, Esq., and the following parties as indicated, on November 22, 2010



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PUBLIC VERSION

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

In the Matter of

**CERTAIN PRINTING AND IMAGING
DEVICES AND COMPONENTS THEREOF**

Inv. Nos. 337-TA-690

**INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND
RECOMMENDED DETERMINATION ON REMEDY AND BOND**

Administrative Law Judge Robert K. Rogers, Jr.

(September 23, 2010)

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For the Commission Investigative Staff:

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Pursuant to the Notice of Investigation and Rule 210.42 of the Rules of Practice and Procedure of the United States International Trade Commission, this is the Administrative Law Judge's Final Initial Determination in the matter of Certain Printing & Imaging Devices & Components Thereof, Investigation No. 337-TA-690.

The Administrative Law Judge hereby determines that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain printing devices and imaging devices and components thereof, in connection with U.S. Patent No. 5,764,866. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States does not exist that practices U.S. Patent No. 5,764,866.

The Administrative Law Judge hereby determines that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain printing devices and imaging devices and components thereof, in connection with U.S. Patent No. 6,388,771. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States does not exist that practices U.S. Patent No. 6,388,771.

The Administrative Law Judge hereby determines that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain printing devices and imaging devices and components thereof, in connection with U.S. Patent No. 6,209,048. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States does not exist that practices U.S. Patent No. 6,209,048.

The Administrative Law Judge hereby determines that a violation of Section 337 of the

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Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain printing devices and imaging devices and components thereof, in connection with U.S. Patent No. 6,212,343. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States does not exist that practices U.S. Patent No. 6,212,343.

The Administrative Law Judge hereby determines that a violation of Section 337 of the Tariff Act of 1930, as amended, has been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain printing devices and imaging devices and components thereof, in connection with U.S. Patent No. 5,863,690. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States does exist that practices U.S. Patent No. 5,863,690.

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The following abbreviations may be used in this Initial Determination:

CDX	Complainants' demonstrative exhibit
CIB	Complainants' initial post-hearing brief
CPX	Complainants' physical exhibit
CRB	Complainants' reply post-hearing brief
CX	Complainants' exhibit
Dep.	Deposition
JSRCC	Joint Statement Regarding Claim Construction
JX	Joint Exhibit
RX	Respondents' exhibit
RDX	Respondents' demonstrative exhibit
RIB	Respondents' initial post-hearing brief
RPX	Respondents' physical exhibit
RRB	Respondents' reply post-hearing brief
RRX	Respondents' rebuttal exhibit
SIB	Staff's initial post-hearing brief
SRB	Staff's reply post-hearing brief
Tr. at	Transcript
CPHB	Complainants' pre-hearing brief
RPHB	Respondents' pre-hearing brief
SPHB	Staff's pre-hearing brief

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I. BACKGROUND

A. Procedural History

On October 20, 2009, the Commission issued a Notice of Investigation in this matter to determine:

[W]hether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain printing and imaging devices or components thereof that infringe one or more of claims 1-6, 8, 11-15, and 19 of U.S. Patent No. 5,764,866; claims 1-4, 7, and 13 of U.S. Patent No. 6,388,771; claims 1, 6-14, 16-21, 23-29, 31-33, 38-44, 46-54, and 56-57 of U.S. Patent No. 6,209,048; claims 18-21 of U.S. Patent No. 6,212,343; and claims 1-16 of U.S. Patent No. 5,863,690, and whether an industry in the United States exists as required by subsection (a)(2) of section 337.

(See Notice of Investigation.) The investigation was instituted upon publication of the Notice of Investigation in the *Federal Register* on October 26, 2009. See 74 Fed. Reg. 55065 (2009). 19 CFR § 210.10(b).

The complainants are Ricoh Company, Ltd. of Tokyo, Japan, Ricoh Americas Corporation of West Caldwell, New Jersey, and Ricoh Electronics, Inc. of Tustin, California (collectively “Ricoth”). The respondents are Oki Data Corporation of Tokyo, Japan and Oki Data Americas, Inc. of Mount Laurel, New Jersey (collectively “Oki Data”). The Commission Investigative Staff of the Office of Unfair Import Investigations is also a party in this investigation.

On March 29, 2010, I issued an initial determination granting Ricoh’s unopposed motion to terminate the investigation in part based on Ricoh’s withdrawal of a number of asserted claims. The Commission chose not to review the initial determination.

On May 4, 2010, I issued an initial determination granting in part Oki Data’s motion for

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summary determination of invalidity of U.S. Patent Nos. 6,388,771; 6,209,048; and 5,764,866 for failure to comply with 35 U.S.C. § 112. Specifically, I found that claim 3 of U.S. Patent No. 6,388,771 is invalid pursuant to 35 U.S.C. § 112, ¶ 2. On May 21, 2010, the Commission issued a notice of decision not to review the initial determination.

I denied all other summary determination motions filed by the parties.

An evidentiary hearing was conducted before me from May 17, 2010 to May 25, 2010. Ricoh, Oki Data, and the Commission Investigative Staff (“Staff”) participated in the hearing. In support of its case-in-chief and rebuttal case, Ricoh called the following witnesses:

- Dr. Larry A. Stauffer (expert witness);
- Dr. A. Jeffrey Giacomini (expert witness);
- Gregory J. Wolff (inventor of ‘048 patent);
- Glenn Weadock (expert witness);
- Dr. Robert L. Stevenson (expert witness);
- Charlie Vidal (Senior Manager of Product Marketing for Ricoh Americas Corp.);
- Dennis Dispenziere (Chief Financial Officer and Senior Vice President of Ricoh Americas Corp.);
- Jeffrey Briwick (Officer and Executive Vice President of Ricoh Electronics);
- Glen Mandernacht (Vice President, Direct Technology Services for Ricoh Americas Corp.); and
- Ron Albeck (Manager, Capture & Distribution Marketing for Ricoh Americas Corp.).

In support of its case-in-chief and rebuttal case, Oki Data called the following witnesses:

- Yoshinori Takahashi (General Manager of the Strategic Planning Office for Oki

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Data Corp.);

- Tatsuya Koyama (Chief of Technology Development Center 2, Engineering Division for Oki Data Corp.);
- Dr. L. Jackson Fraser (expert witness);
- Noboru Oishi (General Manager of the Development Dept. 2 in Technology Development Center 2 of the Development Division for Oki Data Corp.);
- Mikio Sato (Senior Staff in the Sales Support Division of the Domestic Sales Department of Kyowa Interface Science Co, Ltd.);
- Matthew J. Hubert (Project Leader of the Product Testing Group of Chemir Analytical Services);
- Carl Taylor (Director of Marketing for Oki Data Americas, Inc.);
- Dr. Robert S. Karz (expert witness);
- Yoshitaka Nishiyama (General Manager of Development Department 3 of Technology Development Center 1 of the Engineering Division for Oki Data Corp.);
- Dr. A. James Baroody (expert witness); and
- Simon J. Edwards (expert witness).

In addition, various deposition transcripts were received into evidence in lieu of direct witness statements or live testimony.

After the hearing, post-hearing briefs and reply briefs were filed on June 11, 2010 and June 18, 2020, respectively.

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B. The Private Parties

1. Ricoh

The complainants are three Ricoh entities. Ricoh Company, Ltd. is organized and existing under the laws of Japan, having a principal place of business at 8-13-1 Ginza, Chuo-ku, Tokyo, 104-8222, Japan. (Complaint at ¶ 4.) Ricoh Americas Corporation, founded in 1962, is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 5 Dedrick Place, West Caldwell, NJ 07006. (Complaint ¶¶ at 5, 10.) Ricoh Electronics, Inc. is a corporation organized and existing under the laws of California, having a principal place of business at One Ricoh Square, 1100 València Avenue, Tustin, CA 92780. (Complaint at ¶ 6.)

2. Oki Data

The respondents are Oki Data Corporation and its subsidiary Oki Data Americas, Inc. Oki Data Corporation is based in Tokyo, Japan and employs about 900 people. (RX-351C at Q. 9, 16.) Oki Data Americas, Inc., headquartered in New Jersey, imports and sells ODC printers and MFPs. (*Id.* at Q. 26-29.)

C. Overview Of The Patents At Issue

1. U.S. Patent No. 5,764,866

U.S. Patent No. 5,764,866 (“the ‘866 patent”), issued on June 9, 1998, is entitled “Scanner, network scanner system, and method for network scanner system.” (JX-1.) It was filed on May 13, 1996, and claims priority to a Japanese application filed on May 26, 1995. (*Id.*) The named inventor is Yoshio Maniwa of Yokohama, Japan, and the assignee is listed as Ricoh Company, Ltd. (*Id.*) The Abstract states:

A device for scanning an image to create image data to be transmitted to a network to which the device is connected. The scanning device includes an

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operation panel for selecting each of settings of scan conditions, a scan unit for scanning at least one image to create image data according to the settings of scan conditions, a memory unit for storing the image data, and a network-interface unit for sending the image data stored in the memory unit to the network.

(Id.)

2. U.S. Patent No. 6,388,771

U.S. Patent No. 6,388,771 (“the ‘771 patent”), issued on May 14, 2002, is entitled “Image input device for sending image data together with information indicating contents of desired operation to be performed on the image data.” (JX-2.) It was filed on September 22, 1997, and claims priority to a Japanese application filed on September 24, 1996. *(Id.)* The named inventor is Shunpei Tamaki of Kanagawa, Japan, and the assignee is listed as Ricoh Company, Ltd. *(Id.)*

The Abstract states:

An image input device is provided which can instruct a host computer to perform a cleared process with respect to image data obtained by scanning without a user's instruction being input to the host computer. The image input device is adapted to be connected to a host computer so as to transfer image data to the host computer. An instruction with respect to what process is to be applied to the image data by the host computer is input to the image input device by the user. The content of the instruction is announced to the host computer when the image data is transferred to the host computer.

(Id.)

3. U.S. Patent No. 6,209,048

U.S. Patent No. 6,209,048 (“the ‘048 patent”), issued on March 27, 2001, is entitled “Peripheral with integrated HTTP server for remote access using URL's.” (JX-3.) It was filed on February 9, 1996. *(Id.)* The named inventor is Gregory J. Wolff of Mountain View, California, and the assignee is listed as Ricoh Company, Ltd. and Ricoh Corporation. *(Id.)* The

Abstract states:

A peripheral control mechanism is described. The peripheral is operable with a network that provides access to interconnected, online documents. The access

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occurs in response to document requests. The peripheral includes a server that controls peripheral operations using requests formatted as a resource locator (e.g., an http request).

(Id.)

4. U.S. Patent No. 6,212,343

U.S. Patent No. 6,212,343 (“the ‘343 patent”), issued on April 3, 2001, is entitled “Developing device, process cartridge and image forming apparatus that prevent toner leakage.” (JX-4.) It was filed on October 22, 1999, and claims priority to numerous Japanese applications, the earliest dated October 22, 1998.. *(Id.)* The named inventors are Hiroshi Hosokawa, Tetsuo Yamanaka, Kenetsu Osanai, and Kenichiroh Nagai, all of Japan, and the assignee is listed as Ricoh Company, Ltd. *(Id.)* The Abstract states:

A developing device including a developing roller opposed to a photoconductor and rotatably mounted to a developing case of the developing device. A blade mounting surface is formed in an outer wall of the developing case, that is opposed to the photoconductor, and a blade holder, a blade and a supporting plate, that are laminated with each other, are mounted to the blade mounting surface of the developing case. A part of the blade opposite to a part of the blade sandwiched between the blade holder and the supporting member is elastically bent so as to contact an outer circumferential surface of the developing roller, and seal members are arranged at least along an edge of a longitudinal side of the blade holder at the side of the developing roller and along an edge of another longitudinal side of the blade holder at the opposite side of the developing roller, respectively, so as to increase airtightness of gaps between the blade holder and the outer wall of the developing case.

(Id.)

5. U.S. Patent No. 5,863,690

U.S. Patent No. 5,863,690 (“the ‘690 patent”), issued on January 26, 1999, is entitled “Toner image fixing method.” (JX-5.) It was filed on February 5, 1997, and claims priority to a two Japanese applications, the earliest filed on February 9, 1996. *(Id.)* The named inventor is Masahide Yamashita of Numazu, Japan, and the assignee is listed as Ricoh Company, Ltd. *(Id.)*

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The Abstract states:

A toner image fixing method for producing a fixed image having good image qualities without hot-offset even when toner having a relatively low fixing temperature is employed by an image forming apparatus having a fixing unit including two fixing members such that an image formed of thermofusible toner on an image supporting material is fixed by heating at a nipped section of the two fixing members, wherein a ratio of a first adhesion constant to a second adhesion constant, $\mu_{s-b(1)}/\mu_{s-b(2)}$, of a surface of a fixing member contacting the thermofusible toner image is less than about 8.0. An adhesion constant $\mu_{s-b(n)}$ is represented by: wherein n is 1 or 2, θ_{s-b} and θ_{s-s} represent a receding contact angle and a static contact angle of the surface of the fixing member, respectively, which are measured using a liquid having a dipole moment of greater than about 3.0 debye when n is 1 and measured using another liquid having a dipole moment of 0.0 debye when n is 2.

(*Id.*)

D. Products At Issue

The products at issue in this Investigation are various types and models of printing and imaging devices, including MFPs and components used in MFPs. Generally speaking, MFPs are devices that incorporate the functionality of multiple devices into one device. A typical MFP may act as a combination of some or all of the following devices: printer, scanner, photocopier, and fax machine.

II. JURISDICTION

A. Subject Matter Jurisdiction

The complaint alleges that Oki Data has violated Subsection 337(a)(1)(B) by the importation and sale of products that infringe the asserted patents. I find that Oki Data imports into the United States, sells for importation, or sells within the United States after importation products that Ricoh has accused of infringement in this investigation. (*See* May 14, 2010 Stipulation of Material Facts Relating to Importation & Inventory.) Thus, I find that the Commission has subject matter jurisdiction over this investigation under Section 337 of the

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Tariff Act of 1930. *See Amgen, Inc. v. United States Int'l Trade Comm'n*, 902 F.2d 1532, 1536 (Fed. Cir. 1990).

B. Personal Jurisdiction

Oki Data responded to the complaint and notice of investigation, participated in the investigation, made an appearance at the hearing, and submitted post-hearing briefs. Thus, I find that Oki Data submitted to the personal jurisdiction of the Commission. *See Certain Miniature Hacksaws*, Inv. No. 337-TA-237, Initial Determination, 1986 WL 379287 (October 15, 1986).

C. In Rem Jurisdiction

The Commission has *in rem* jurisdiction over the products at issue by virtue of the finding that accused products have been imported into the United States. *See Sealed Air Corp. v. United States Int'l Trade Comm'n*, 645 F.2d 976, 985 (C.C.P.A. 1981).

III. CLAIM CONSTRUCTION¹

A. Applicable Law

1. Generally

“An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996) (citation omitted). Claim construction “is a matter of law exclusively for the court.” *Id.* at 970-71. “The construction of claims is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims.” *Embrex, Inc. v. Serv. Eng'g Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000). “[O]nly those [claim]

¹ Ricoh's post-hearing briefs did not include a separate section for claim construction; instead, it addressed claim construction issues in its infringement discussion. While this format is in violation of Ground Rule 11.1, I have considered Ricoh's claim construction positions that appear in its infringement analysis.

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terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.” *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Claim construction focuses on the intrinsic evidence, which consists of the claims themselves, the specification, and the prosecution history. *See generally Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). The Federal Circuit in *Phillips* explained that in construing terms, courts must analyze each of these components to determine the “ordinary and customary meaning of a claim term,” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1313.

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Id.* at 1312 (citations omitted). “Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Id.* at 1314. For example, “the context in which a term is used in the asserted claim can be highly instructive,” and “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.” *Id.*

“[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (citation omitted). “The longstanding difficulty is the contrasting nature of the axioms that (a) a claim must be read in view of the specification and (b) a court may not read a limitation into a claim from the specification.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004). The Federal Circuit has explained that there are certain instances when the specification may limit the meaning of the claim language:

[O]ur cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise

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possess. In such cases, the inventor's lexicography governs. In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the inventor's intention, as expressed in the specification, is regarded as dispositive.

Phillips, 415 F.3d at 1316.

In addition to the claims and the specification, the prosecution history should be examined if in evidence. "The prosecution history...consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent. Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Id.* at 1317 (citation omitted). "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

If the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence may be considered. Extrinsic evidence consists of all evidence external to the patent and the prosecution history, including dictionaries, inventor testimony, expert testimony and learned treatises. *Id.* at 1317. Extrinsic evidence is generally viewed "as less reliable than the patent and its prosecution history in determining how to read claim terms[.]" *Id.* at 1318. "The court may receive extrinsic evidence to educate itself about the invention and the relevant technology, but the court may not use extrinsic evidence to arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence." *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 977 (Fed. Cir. 1999).

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2. Means-Plus-Function

Section 112, paragraph 6 of the Patent Act states that:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6 (2009).

“Section 112, paragraph 6 was intended to allow the use of means expressions in patent claims without requiring the patentee to recite in the claims all possible structures that could be used as means in the claimed apparatus.” *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1211 (Fed. Cir. 2003). The process of construing a means-plus-function term differs from the process of construing other claim language. “The first step in the construction of a means-plus-function claim element is to identify the particular claimed function. The second step in the analysis is to look to the specification and identify the corresponding structure for that function.” *Id.* at 1210 (citations omitted).

The construction of a means-plus-function term is thus limited by the disclosure of the corresponding structure in the specification. As explained by the Federal Circuit, “[t]he literal scope of a properly construed means-plus-function limitation does not extend to all means for performing a certain function. Rather, the scope of such claim language is sharply limited to the structure disclosed in the specification and its equivalents.” *J & M Corp. v. Harley-Davidson, Inc.*, 269 F.3d 1360, 1367 (Fed. Cir. 2001). Section 112, paragraph 6 has been described as representing “a *quid pro quo* by permitting inventors to use a generic means expression for a claim limitation *provided that* the specification indicates what structure(s) constitute(s) the means.” *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1381 (Fed. Cir. 1999).

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B. The '866 Patent

1. "Operation Panel Means"

The term "operation panel means" appears in asserted claim 1.

Ricoh's Position: Ricoh contends that the corresponding structure for this means-plus-function term is a user interface for receiving user input and its equivalents. Ricoh notes that this is described in the specification, for example, at column 9, lines 1-5 and depicted in Figure 1, item 18. Ricoh asserts that Staff's proposed construction includes more structure than is necessary to perform the function of "selecting each of settings of scan conditions."

In its reply brief, Ricoh claims that Oki Data has continually changed its position on the construction of this claim language. Ricoh argues that Oki Data's proposed construction is too limited, and that Oki Data's ever-changing position should not be considered.

Oki Data's Position: Oki Data contends that the corresponding structure for this means-plus-function term is a touch screen panel coupled to a scanner/printer controller. (Citing JX-13; JX-1 at 6:22, 7:16-18, Figs. 1-2.) Oki Data states that Ricoh argues that a button pad is part of the corresponding structure because the examiner rejected the claims over a reference with a set of buttons and a small touch screen. Oki Data asserts that the law is clear that the rejection has no relevance to the structure of the operation panel means.

Staff's Position: Staff contends that the function for this means-plus-function term is to enable a user to set conditions for the scanning operation. Staff contends that the corresponding structure is a touch screen panel. (Citing JX-1 at 6:39-41.) Staff claims that Ricoh's proposed construction is too broad, as the specification is limited to a display-and-touch-panel. Staff notes that the fact that the examiner took a broad view of the claimed operation panel means during prosecution is not conclusive for purposes of claim construction. (Citing JX-6 at RITC 0000353-

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354, 0000374.)

Construction to be applied: The term “operation panel means” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “selecting each of settings of scan conditions.” The corresponding structure is an operational-display-and-touch panel unit and equivalents.

Claim 1 requires “operation panel means for selecting each of settings of scan conditions.” It is undisputed that “operation panel means” is a means-plus-function term.²

The specification discloses the structure to select the settings of scan conditions as follows:

The operational-display-and-touch-panel unit 18 is used for inputting and outputting of data for copier operations and for controlling the copier engine 17. That is, the operational-display-and-touch-panel unit 18 displays current settings of the scan conditions, operation procedure, etc., and is used for entering an instruction for various operations such as an image scan operation, a transfer operation transferring the image data to the scanner/printer controller 12, a printing operation printing the image data provided from the scanner/printer controller 12, etc.

The operational-display-and-touch-panel unit 18 is comprised of a 400-by-640-dot LCD (liquid crystal display), for example, and includes a display mechanism for displaying information such as a status message required for the scanner/printer function and a touch-panel [*sic*] mechanism used for setting the copier function, the printer function, and the scanner function through an interaction with a user. Through these display mechanism and the touch-panel mechanism, the operational-display-and-touch-panel unit 18 displays usage of each mechanism, for example, and receives a user input by detecting a position touched by the user on the display.

(JX-1 at 6:50-7:5.) The structure disclosed is a touch screen panel, and not the “user interface for receiving user input” as asserted by Ricoh. (*See* CIB at 129.) Ricoh’s proposed construction seeks to broaden the disclosure of the specification by allowing a non-touch screen panel, such as a panel with physical buttons, to meet this claim limitation. Such a construction is inconsistent

² For each means-plus-function claim construction addressed herein, I incorporate by reference my discussion of the proper standard for claim construction under § 112, ¶ 6, which is found in Section III.A.2 *supra*.

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with the scope of the disclosure in the specification.

2. “Scan Means”

The term “scan means” appears in asserted claims 1, 5, and 6.

Ricoh’s Position: Ricoh contends that the corresponding structure for this means-plus-function term is a scan engine and scanner driver, and its equivalents. (Citing JX-13 at 13-14.) Ricoh states that this is all of the structure necessary to perform the function of scanning at least one image to create image data according to the settings of scan conditions.

Ricoh argues that Staff’s proposed construction is incorrect because it requires far more structure than is necessary to perform the claimed function. According to Ricoh, very little structure of Staff’s proposed construction bears any resemblance to the recited function.

Oki Data’s Position: Oki Data contends that the corresponding structure for this means-plus-function term is a scanner/printer controller, which includes a controlling unit. (Citing JX-13; JX-1.) The controlling unit includes a CPU and a ROM unit, and the copier unit includes a scanner engine. Oki Data contends that the corresponding structure further includes the scanner driver and scanner application software. Oki Data argues that during the hearing, Dr. Stevenson admitted that this proposed construction is correct. (Citing Tr. at 793:7-13, 796:16-797:22, 798:1, 794:23-795:6, 798:5-800:6.) (RIB at 104-105.)

Staff’s Position: Staff contends that the corresponding structure for this means-plus-function term is a scanner engine, scanner driver, scanner/printer controller, which includes a controlling unit. (Citing JX-1 at Fig. 1, Fig. 2.) (SIB at 120.)

Construction to be applied: The term “scan means” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “scanning at least one image to create image data according to said settings of scan conditions.” The corresponding structure is a scanner engine

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that controls a scanner unit having ARDF (auto document feeder) coupled to a scanner/printer controller, and equivalents.

Claim 1 requires “scan means for scanning at least one image to create image data according to said settings of scan conditions.” It is undisputed that “scan means” is a means-plus-function term.

The corresponding structure is disclosed in Figure 1 and the following descriptions:

The copier engine 17 includes a scanner engine 14, a printer engine 15, and an image processing unit 16. The scanner engine 14 controls a scanner unit (not shown) having ARDF (auto document feeder).

(JX-1 at 6:43-46.)

At a step S7, the scanning of the sheets is started by the scanner/printer controller 12 controlling the scanner engine 14 of the copier engine 17.

(JX-1 at 14:56-58.)

Ricoh seeks to limit the corresponding structure to the scanning equipment, and not include the scanner/printer controller. The claimed function requires “scanning at least one image to create image data according to said settings of scan conditions.” Because the scan condition settings are stored in the scanner/printer controller (JX-1 at 16:11-22), the scanner/printer controller is part of the structure necessary to accomplish the claimed function.

3. “Memory Means”

The term “memory means” appears in asserted claims 1 and 2.

Ricoh’s Position: Ricoh contends that the corresponding structure for this means-plus-function term is memory and/or a hard drive, and its equivalents. Ricoh argues that this is all the structure necessary to perform the function of storing the image data and scan files containing different sets of said settings of scan conditions.

Ricoh argues that the structure identified by Dr. Baroody is incorrect because the passage

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of the '866 patent specification cited by Dr. Baroody relates to an entirely separate host machine and not the device being claimed in claim 1. (Citing RX-33C at Q. 156-157.) Ricoh argues that Staff's construction contains more structure than is necessary to perform the claimed function.

Oki Data's Position: Oki Data contends that the first function associated with this means-plus-function term is "for storing said image data," and that the corresponding structure is found at column 14, line 59 to column 15, line 4. According to Oki Data, this includes page buffer memory and a second, non-volatile memory that receives image data from the page buffer memory on a page-by-page basis. (Citing JX-1 at 21:47-51.)

Oki Data contends that the second function is "storing...scan files containing different sets of said settings of scan conditions, one of said scan files being selected by said operation panel means to determine said settings of scan conditions used by said scan means." Oki Data asserts that the structure associated with that function appears at column 21, lines 14-27.

Staff's Position: Staff concurs with Oki Data that the corresponding structure is disclosed at column 21, lines 14-27. Staff argues that the structure needed to perform the claimed function is more than what was identified by Ricoh because the function includes storing image data and scan files, and one of said scan files being selected by said operation panel means. Thus, Staff contends that additional structure is required to enable selection by the operation panel means and structure to determine the scan conditions of the selected scan.

Construction to be applied: The term "memory means" shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is "storing said image data and scan files containing different sets of said settings of scan conditions." The corresponding structure is page-buffer memory and a hard drive unit, and equivalents.

Claim 1 requires "memory means for storing said image data and scan files containing

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different sets of said settings of scan conditions, one of said scan files being selected by said operation panel means to determine said settings of scan conditions used by said scan means.” It is undisputed that “memory means” is a means-plus-function term.

The specification discusses storage of image data and scan files in the hard drive unit 23:

The hard-drive unit 23 is used as a data storage area for programs and data for the controlling unit 20.

(JX-1 at 7:28-29.)

Scan data (image data) obtained by the scanner unit is compressed page by page by the scan-in-buffer-and-function unit 25, and is stored in the page-buffer memory 24. If the page-buffer memory 24 has sufficient remaining space for storing the next page of the image data, the scan operation continues while the compressed image data temporarily stored in the page-buffer memory 24 is transferred page by page to a secondary memory such as the hard-drive unit 23.

(JX-1 at 14:59-66.)

When a request for the test print is entered through the operational-display-and-touch-panel unit 18 of the digital copier device 4, the scanner/printer controller 12 reads the image data stored in the page-buffer memory 24 or the hard-drive unit 23.

(JX-1 at 15:42-46.)

Using the scan-file handler 110, a user creates a scan file 111 specifying the settings of the scan conditions. The scan file 111 is sent from the host machine 2 to the scanner/printer controller 12 of the digital copier device 4, and is stored in the hard-drive unit 23 of the scanner/printer controller 12. As shown in FIG. 6, a plurality of scan files can be created and stored in the hard-drive unit 23 as scan files 131.

(JX-1 at 16:13-20.)

The specification also discusses temporary storage of image data in memory found in the controlling unit of the device:

The page-buffer memory 24 temporarily stores, in a unit of pages, image data to be printed and image data scanned by the scanner unit under the control of the copier engine 17. The scan-in-buffer-and-function unit 25 receives and temporarily stores the image data provided from the copier engine 17, and applies

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a predetermined process to the image data before supplying it to the page-buffer memory 24.

(JX-1 at 7:47-57.)

Scan data (image data) obtained by the scanner unit is compressed page by page by the scan-in-buffer-and-function unit 25, and is stored in the page-buffer memory 24. If the page-buffer memory 24 has sufficient remaining space for storing the next page of the image data, the scan operation continues while the compressed image data temporarily stored in the page-buffer memory 24 is transferred page by page to a secondary memory such as the hard-drive unit 23. If the page-buffer memory 24 does not have sufficient remaining space, the scan operation is put into a waiting status until the compressed image data temporarily stored in the page-buffer memory 24 is transferred to the secondary memory.

(JX-1 at 14:59-15:4.)

Thus, I find that the corresponding structure for the “memory means” is page-buffer memory and a hard drive unit. Oki Data and Staff assert that the passage found at column 21, lines 14-27 also discloses corresponding structure. The passage reads as follows:

In FIG. 9, the host machine 2b is equipped with a scan-file handler 110b and a scan-image-file handler 120b. Using the scan-file handler 10b, a user creates a scan file 11b specifying the settings of the scan conditions. The scan file 11b is sent from the host machine 2b to the file-server machine 90 to be stored therein. As shown in FIG. 9, a plurality of scan files can be created and stored in the file-server machine 90 as scan files 131b. The user can obtain a list of the scan files 131b stored in the file-server machine 90 by using the directory service 112b of the scan-file handler 10b.

The scan files 131b stored in the file-server machine 90 are copied to the scanner/printer controller 12b of the digital copier device 4b, and are stored as scan files 131c in the scanner/printer controller 12b.

(JX-1 at 21:14-27.) This portion of the specification addresses the storage of scan files on the file-server machine 90. It does not address the storage of scan files on the device claimed in claim 1. Therefore, it is not relevant to construction of “memory means,” as it is not a portion of the specification disclosing structure corresponding to the claimed function of the “memory means.” The specification addresses the storage of scan files on the device claimed in claim 1 at

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column 16, lines 13 to 20, as detailed *supra*.

4. “Network-Interface Means”

The term “network-interface means” appears in asserted claims 1, 2, and 4.

Ricoh’s Position: Ricoh contends that the corresponding structure for this means-plus-function term is network interface hardware and driver, and its equivalents. Ricoh states that the NIC-interface unit, shown in Figure 1 as item 21, is the structure necessary to perform the claimed function of receiving at least some of said scan files from said network and sending said image data stored in said memory means to said network. Ricoh claims that Staff’s proposed construction contains more structure than is necessary to perform the claimed function.

Oki Data’s Position: Oki Data contends that the function for this means-plus-function term is “for receiving at least some of said scan files from said network and sending said image data in said memory means to said network.” Oki Data identifies the corresponding structure as a CPU, a ROM, a RAM, a hard-drive interface circuit, a host interface circuit, and a NIC-interface circuit. (Citing JX-1 at 8:35-38.)

Oki Data asserts that because the claim term refers to “scan files” and not “scan conditions,” the function and corresponding structure must include the sending of files over the network to avoid being indefinite. Oki Data then addresses the parties’ disputes regarding the term “scan files,” which is discussed *supra*.

Staff’s Position: Staff contends that the structure necessary to perform the claimed function can be found at column 8, lines 35-38, and includes a CPU, a ROM, a RAM, a hard-drive interface circuit, a host-interface circuit, and a NIC-interface circuit. Staff asserts that each of these items plays a role in receiving scan files and sending image data.

Construction to be applied: The term “network-interface means” shall be construed

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pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “receiving at least some of said scan files from said network and sending said image data stored in said memory means to said network..” The corresponding structure is a NIC-driver unit coupled to a NIC-interface circuit in the controlling unit, and equivalents.

Claim 1 requires “network-interface means for receiving at least some of said scan files from said network and sending said image data stored in said memory means to said network..”

It is undisputed that “network-interface means” is a means-plus-function term.

I find that the corresponding structure is disclosed in the following passages in the specification:

The NIC-driver unit 21 is connected to the LAN 5, and transfers a data stream for the printer unit, operating/editing commands for the scanner unit, and image data by using the Ethernet scheme or the Token Ring scheme.

(JX-1 at 7:17-20.)

The controlling unit 20 of FIG. 2 includes a CPU 30, a ROM 31, a RAM 32, a hard-drive-interface circuit 33, a host-interface circuit 34, a NIC-interface circuit 35, and a FAX-modem-interface circuit 36.

(JX-1 at 8:35-38.)

The NIC-interface circuit 35 controls data exchange with the NIC-driver unit 21.

(JX-1 at 8:51-52.)

5. “File”

The term “file” appears in asserted claims 1-4 and 8. The parties dispute the term “file” in the context of the phrase “receiving at least some of said scan files from said network,” which appears in claim 1.

Ricoh’s Position: Ricoh contends that the term “file” should be given its plain and ordinary meaning, which is “a collection of related records treated as a unit.” Ricoh relies on the

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Fifth Edition of the IEEE Dictionary for this definition. (Citing CDX-270.)

Ricoh claims that the definition offered by Oki Data's expert Dr. Baroody is untimely, as Ricoh states that none of the parties offered a construction of "file" prior to the hearing. (Citing Tr. at 1468:13-1469:2.) Nevertheless, Ricoh argues that Dr. Baroody's definition is unduly restrictive and is unsupported by the '866 patent. Ricoh notes that the definition was taken verbatim from the "Free On-Line Dictionary of Computing," and that the definition was published in January 2007. (Citing Tr. at 1471:20-24.) Ricoh further states that Oki Data's corporate representative claimed not to know how to define "file" during his deposition, meaning that regardless of what Dr. Baroody offers as a construction, Oki Data has no opinion on the issue. (Citing Tr. at 1482:13-1484:7.)

Oki Data's Position: Oki Data contends that a "file" must have the following characteristics: (1) a single sequence of bytes; (2) a finite length; (3) the capability of being stored in a non-volatile storage medium; (4) existence in a directory; and (5) a name for reference during file operations. (Citing RX-370C at Q. 35; RX-20; Tr. at 1482:1-8, 1562:7-13.)

Oki Data contends that Ricoh failed to address the meaning of "file" in its pre-hearing brief, even though the issue was "hotly contested" during expert discovery. According to Oki Data, the only mention of "file" in Ricoh's pre-hearing brief is Dr. Stevenson's definition of "file," and that definition comports with Oki Data's definition. (Citing CPHB at 377.) Oki Data thus claims that Ricoh's argument is waived pursuant to Ground Rule 8.2.

Oki Data argues that, contrary to Ricoh's assertion, Dr. Baroody's definition of "file" was not untimely, as the issue was raised in Dr. Baroody's initial expert report. Oki Data claims that Dr. Baroody independently developed his definition, and merely used the "Free On-Line Dictionary of Computing" as corroborative evidence. (Citing Tr. at 1561:11-1562:13; RX-20.)

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Oki Data argues that there is no evidence to support the use of the IEEE Dictionary definition proposed by Ricoh. (Citing CDX-270.)

Oki Data claims that the specification and the prosecution history support its proposed construction of “file.” (Citing Tr. at 1564:16-1566:12; JX-1 at Fig. 9; RX-33C at Q. 153.)

Staff’s Position: Staff contends that the prosecution history makes clear that “scan files” are not the same as “image data.” (Citing JX-6.) Staff explains that “scan files” are files that contain sets of settings of scan conditions. Staff does not provide a specific definition for the term “file.”

Construction to be applied: “a named collection of data stored in one unit.”

Both Ricoh and Oki Data argue that the opposing party waived its right to offer a construction for “file.” In fact, I find that both Ricoh and Oki Data failed to offer a proposed construction for “file” in the Joint Statement of Proposed Claim Constructions. (JX-13.) Thus, I find that both Ricoh and Oki Data waived the right to offer a construction of the term “file.”

Still, it is clear that the construction of the term “file” is material to resolving the dispute between the parties. Oki Data argues that the accused products do not include a “network-interface means for receiving at least some of said scan files from said network” because the information received by the accused products does not amount to a “file,” as construed by Oki Data. (RIB at 113-115.) Thus, it is necessary for me to determine the scope of the term “file” as used in claim 1. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“When the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.”)

Oki Data relies on Dr. Baroody’s expert testimony, as well as a definition from the Free On-Line Dictionary of Computing (“FOLDOC”). Contrary to Oki Data’s assertion, I find that

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the definition offered by Dr. Baroody comes directly from the FOLDOC definition, and was not independently created by Dr. Baroody. (RX-370C at Q. 35; Tr. at 1481:7-1482:8, 1561:11-1562:13.) Dr. Baroody testified that the FOLDOC definition “is consistent with [his] understanding of the term ‘file’ as one of ordinary skill in the art.” (RX-370C at Q. 35.)

I find that there are multiple problems with Oki Data’s reliance on the FOLDOC definition. First, the definition offered into evidence depicts a date of 2007. (RX-20.) The ‘866 patent was filed in 1996, issued in 1998, and claims priority to a Japanese patent application filed in 1995. Thus, the definition is not contemporaneous with filing or issuance of the ‘866 patent. A dictionary definition that is not contemporaneous with the patent filing or issuance may not accurately reflect the meaning of the term to one of ordinary skill in the art at the time the patent was filed. *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1299 (Fed. Cir. 2003) (refusing to consider non-contemporaneous dictionary definitions); *Globespanvirata, Inc. v. Texas Instruments, Inc.*, 2005 WL 984346, at *3 (D.N.J. Apr. 7, 2005) (same).

Second, the FOLDOC definition of “file” is not a true definition, and is more appropriately considered a list of typical file characteristics. The document begins with the following explanation:

The history of computing is rich in varied kinds of files and file systems, whether ornate like the Macintosh file system or deficient like many simple pre-1980s file systems that didn’t have directories. However, a typical file has these characteristics.

(RX-20.) This passage demonstrates that there are varied kinds of files, and the “definition” only offers the characteristics found in a *typical* file. Thus, the document is clear that not all files will have all of these characteristics.

Even when the five characteristics of a “typical” file are listed, the document provides apparent counter-examples, which Oki Data and Dr. Baroody do not address. For example, the

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first characteristic listed is “[i]t is a single sequence of bytes (but consider Macintosh resource forks).” (RX-20.) The third characteristic listed states “[i]t is stored in a non-volatile storage medium (but see ramdrive).” (*Id.*) These unexplained statements found in parentheses support the conclusion that the listed characteristics are not found in all “files.”

Moreover, after listing the typical characteristics of files, the FOLDOC definition concludes by listing other possible attributes for files:

Additionally, a file system may support other file attributes, such as permissions; timestamps for creation, last modification, and last access and revision numbers (a’la VMS).

(RX-20). Dr. Baroody offers no reason why he did not include these additional characteristics in his definition of “file.”

Further, Oki Data claims that certain portions of the specification, including the passage at column 16, lines 15 through 22 and Figure 9, support Dr. Baroody’s construction of “file.” (*See* RIB at 106-107.) Yet, Dr. Baroody admitted during cross examination that the portions of the specification that he relied upon did not demonstrate all of the elements of the definition of “file” that he proposed. (Tr. at 1477:3-1479:23.)

Ricoh relies on a contemporaneous dictionary definition from THE NEW IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS, p. 498 (1993). The dictionary offers multiple definitions of “file,” including: “a collection of related records treated as a unit;” “a set of related records treated as a unit;” “one named collection of data;” and “a set of related records usually treated as a named unit of storage.”³

³ Oki Data criticizes Ricoh’s use of the IEEE Dictionary because the dictionary definition was offered as a demonstrative exhibit. (*See* CDX-270.) While Oki Data is correct that a demonstrative exhibit is not evidence, I hereby take notice of the IEEE Dictionary definition, thus allowing the definition to be used in this determination. *See Clark v. Walt Disney Co.*, 642 F. Supp. 2d 775, 782 (S.D. Ohio 2009) (taking judicial notice of a dictionary definition and explaining that “[a] dictionary is one of those sources whose accuracy cannot reasonably be questioned and, as a general rule, courts may consult a dictionary at any stage of the litigation to determine the meaning of words and phrases.”)

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Turning to the intrinsic record, I find no explicit definition of “file,” but the evidence provides context that assists in the understanding of the term. The specification provides the following descriptions:

At the step S4, scan-file IDs of scan files which have been created for recording various settings are displayed, and an appropriate scan-file ID is selected. In the present invention, the different settings of the scan conditions are recorded in the scan files, so that previous settings can be used to avoid the trouble of entering the settings again. Also, the settings of the scan conditions can be made through the workstations 3 to be kept in a scan file in advance, so that a user does not have to operate the operational-display-and-touch-panel unit 18. Since the user might not be familiar with the operation of the operational-display-and-touch-panel unit 18, it is beneficial to allow the user to make the settings through the workstations 3.

(JX-1 at 14:36-48; Fig. 5.)

In FIG. 6, the utility software 10 (or the application software 9) of the host machine 2 includes a scan-file handler 110 and a scan-image-file handler 120. Using the scan-file handler 110, a user creates a scan file 111 specifying the settings of the scan conditions. The scan file 111 is sent from the host machine 2 to the scanner/printer controller 12 of the digital copier device 4, and is stored in the hard-drive unit 23 of the scanner/printer controller 12. As shown in FIG. 6, a plurality of scan files can be created and stored in the hard-drive unit 23 as scan files 131. The user can obtain a list of the scan files 131 by using the directory service 112 of the scan-file handler 110.

Through the operational-display-and-touch-panel unit 18 of the copier unit 11, the user invokes the scan operation as indicated by reference numeral 132. Then, a list of the scan files 131 is displayed on the operational-display-and-touch-panel unit 18. The user selects an appropriate scan file through the operational-display-and-touch-panel unit 18 as indicated by reference numeral 133. Upon the selection, a scan-file content 134 of the selected scan file is displayed. If the scan-file content 134 is appropriate, the user confirms the choice of the scan file as indicated by reference numeral 135.

(JX-1 at 16:11-32; *see also* JX-1 at 21:28-37, Fig. 9.)

The prosecution history states that scan files “contain different sets of the settings of scan conditions[.]” (JX-6 at RITC 0000483.) There is also an explanation that “the device according to the claimed invention is able to store scan conditions as files via the network so that the user may simply select one of these files on the panel to set scan conditions[.]” (*Id.* at RITC

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0000482.)

The prosecution history distinguishes between image data and scan files by explaining that “the ‘scan files’ are not image data, but are files that contain sets of settings of scan conditions, associated with the scan means.” (JX-6 at RITC 0000510.) Examples of scan conditions kept in a scan file are “an image file ID/name, a contrast and a scan level, size-enlargement/size-reduction, a scan mode (multi-value, binary, or digital grey level), single-sided/double-sided, sheet size and sheet direction, and a timeout period[.]” (*Id.* at RITC 000510-511.)

While not all of the definitions in the IEEE Dictionary require a file to be named, the portions of the specification quoted *supra* indicate that a list of scan files must be displayed on the operational-display-and-touch-panel so that user may select a specific scan file. This is consistent with claim 1, which requires “operation panel means for selecting each of settings of scan conditions” and “one of said scan files being selected by said operation panel means to determine said settings of scan conditions used by said scan means.” Thus, I find that the intrinsic evidence supports a definition of “file” that requires the file to be named.

Based on the foregoing, I find that the proper construction of “file” is “a named collection of data stored in one unit.”

6. “Print Means”

The term “print means” appears in asserted claims 3-6.

Ricoh’s Position: Ricoh contends that the corresponding structure for the print means is a printer and printer engine having paper handling machinery, and its equivalents.

Oki Data’s Position: Oki Data contends that the claimed function is “printing said image data of one of said image files.” Oki Data contends that the corresponding structure is a

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printer engine that controls a printer unit having paper handling machinery (paper tray, double-sided-copy unit, paper ejecting unit, etc.). (Citing JX-1 at 6:46-49.)

Staff's Position: Staff contends that the structure identified in the specification is a printer engine that controls a printer unit having paper handling machinery (paper tray, double-sided copy unit, paper ejecting unit, etc.).

Construction to be applied: The term “print means” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “printing said image data of one of said image files.” The corresponding structure is a printer unit having paper handling machinery, whereby the printer unit is controlled by a printer engine, and equivalents.

Claim 3 requires “print means for printing said image data of one of said image files.” It is undisputed that “print means” is a means-plus-function term.

I find that the corresponding structure is disclosed in the following passage in the specification: “The printer engine 15 controls a printer unit (not shown) having paper handling machinery (paper tray, double-sided-copy unit, paper ejecting unit, etc.).” (JX-1 at 6:46-49.)

7. “Copy Means”

The term “copy means” appears in asserted claim 5.

Ricoh's Position: Ricoh does not offer a position on the construction of this term.

Oki Data's Position: Oki Data contends that the term “copy means” should be construed pursuant to 35 U.S.C. § 112, ¶ 6. Oki Data states that the claimed function is “for copying an image scanned by said scan means onto a sheet by using said scan means and said print means.” Oki Data identifies the corresponding structure as the structure for scanning and storing, only in temporary memory, an image for printing, and then immediately printing that image. (Citing JX-1 at 7:47-60.)

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Staff's Position: Staff contends that the term “copy means” should be construed pursuant to 35 U.S.C. § 112, ¶ 6. Staff identifies the following structure that is necessary to perform the claimed function: controlling unit, copier unit, printer unit, NIC-driver unit, and the operational-display-and-touch panel unit. (Citing JX-1 at 8:6-16.)

Construction to be applied: The term “copy means” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “copying an image scanned by said scan means onto a sheet by using said scan means and said print means.” The corresponding structure is a copier controller, a copier engine, a controlling unit, and equivalents.

Claim 5 requires “copy means for copying an image scanned by said scan means onto a sheet by using said scan means and said print means.” It is undisputed that “copy means” is a means-plus-function term.

I find that the corresponding structure is disclosed in the following passages:

The digital copier device 4 includes a copier unit 11 used for scanning and printing purposes and a scanner/printer controller 12 for controlling the copier unit 11. The digital copier device 4 operates based on the network OS, such as used in the field, connecting elements of the copier unit 11 and the scanner/printer controller 12 with each other via a predetermined network protocol such as TCP/IP, IPX/SPX, etc. The digital copier device 4 stores document data provided via the LAN 5, FAX data provided via a telephone line 13, image data obtained through the scanning function, etc. Also, the digital copier device 4 produces a printout of such data, and sends over the telephone line 13 the FAX data converted from the scan image data. Further, the digital copier device 4 obtains image data of a desired-image range by repeatedly scanning the image using the scanning function, and transfers the image data to an indicated one of the workstations 3 via the LAN 5.

The copier unit 11 includes a copier engine 17, a operational-display-and-touch-panel unit 18, and a copier controller 19. Hereinafter, the term "engine" indicates a unit for driving and controlling a pertinent unit.

The copier engine 17 includes a scanner engine 14, a printer engine 15, and an image processing unit 16. The scanner engine 14 controls a scanner unit (not shown) having ARDF (auto document feeder). The printer engine 15 controls a printer unit (not shown) having paper handling machinery (paper tray, double-

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sided-copy unit, paper ejecting unit, etc.). The image processing unit 16 processes image data for the scanner unit and the printer unit. The operational-display-and-touch-panel unit 18 is used for inputting and outputting of data for copier operations and for controlling the copier engine 17. That is, the operational-display-and-touch-panel unit 18 displays current settings of the scan conditions, operation procedure, etc., and is used for entering an instruction for various operations such as an image scan operation, a transfer operation transferring the image data to the scanner/printer controller 12, a printing operation printing the image data provided from the scanner/printer controller 12, etc.

(JX-1 at 6:21-60.)

The copier controller 19 checks a configuration of the scanner unit and the printer unit, e.g., checks what optional equipment is installed. Also, the copier controller 19 checks the status of the paper tray, the double-sided-copy unit, the paper ejecting unit, paper feeding unit, etc., and is used for setting a paper path. Further, the copier controller 19 activates a printer/scanner operation, and checks a process status, an error status, etc.

(*Id.* at 7:6-13.)

The page-buffer memory 24 temporarily stores, in a unit of pages, image data to be printed and image data scanned by the scanner unit under the control of the copier engine 17. The scan-in-buffer-and-function unit 25 receives and temporarily stores the image data provided from the copier engine 17, and applies a predetermined process to the image data before supplying it to the page-buffer memory 24. The print-data-inputting-and-rasterizing unit 26 receives image data from the FAX-modem unit 22, and supplies it to the page-buffer memory 24. The print-data-inputting-and-rasterizing unit 26 also receives image data to be faxed from the page-buffer memory 24, and converts it into raster data, if necessary, before supplying it to the FAX-modem unit 22.

(*Id.* at 7:47-60.)

8. “Test Means”

The term “test means” appears in asserted claim 6.

Ricoh’s Position: Ricoh does not offer a position on the construction of the term “test means.”

Oki Data’s Position: Oki Data contends that the term “test means” is indefinite because the specification fails to link the claim function to any structure. If the term is found to be

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definite, Oki Data asserts that the corresponding structure should be the structure set forth in Order No. 29.

Staff's Position: Staff contends that the corresponding structure for the “test means” limitation is the operational-display-and-touch-panel unit 18 of the digital copier device 4, the scanner/printer controller 12 reads the image data stored in the page-buffer memory 24 or the hard-drive unit 23. The image data is then supplied as raster data to the printer engine 15 of the copier engine 17, and the printer unit produces a printout. (Citing JX-1 at 15:40-48.)

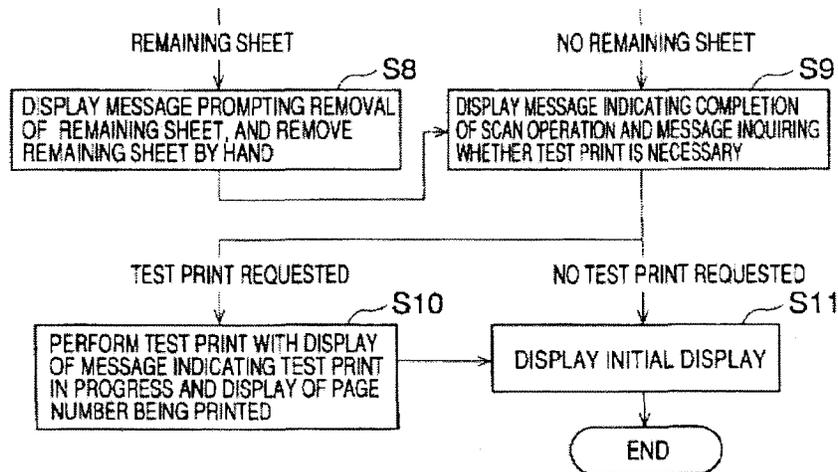
Construction to be applied: The term “test means” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “controlling said print means to print said at least one image scanned by said scan means onto a sheet in order to check if said image data of said at least one image is defective.” The corresponding structure is an operational-display-and-touch panel unit, a scanner/printer controller programmed to perform steps S9 and S10 of Figure 5,⁴ and a printer engine, and equivalents.

Claim 6 requires “test means for controlling said print means to print said at least one image scanned by said scan means onto a sheet in order to check if said image data of said at least one image is defective.” It is undisputed that “test means” is a means-plus-function term.

I find that the specification discloses sufficient structure for the “test means” limitation. Specifically, Figure 5 is a flowchart that includes the following boxes:

⁴ I note that while page-buffer memory or a hard-drive unit are also required, they are both part of the scanner/printer controller according to Figure 1 of the '866 patent.

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The specification provides the following corresponding discussion:

At the step S9, a message indicating the completion of the scan operation is displayed, and, also, a message inquiring whether a test print is necessary is displayed. If the test print is requested, the procedure goes to a step S10. Otherwise, the procedure goes to a step S11.

At the step S10, the test print is carried out while displaying a message indicating the test print in progress and displaying a page number being printed.

Here, the test print is carried out to check whether the scan has been appropriately conducted to generate suitable image data. When a request for the test print is entered through the operational-display-and-touch-panel unit 18 of the digital copier device 4, the scanner/printer controller 12 reads the image data stored in the page-buffer memory 24 or the hard-drive unit 23. The image data is then supplied as raster data to the printer engine 15 of the copier engine 17, and the printer unit produces a printout. The user checks whether an scan order of the sheets is correct, whether there is a skipped page, whether an image is skewed, and whether contrast and image gray levels are appropriate, etc.

If the scan image data is inappropriate, the scan operation described above is repeated until appropriate scan image data is obtained.

(JX-1 at 15:32-51.)

C. The '771 Patent

1. "Host Computer"

The term "host computer" appears in asserted claims 1, 7, and 13.

Ricoh's Position: Ricoh contends that the term "host computer" should be construed to

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cover both a locally-connected computer as well as a networked computer.

Ricoh states that nothing in the claims or the specification of the '771 patent limit "host computer" to a locally-connected computer. (Citing JX-2; Tr. at 628:21-24.) Ricoh notes that in analyzing the prior art, Dr. Baroody opined that the host computer can be connected via a network connection. (Citing Tr. at 1546:3-15.) Ricoh claims that Oki Data conceded that the specification does not disclose any specific definition of "host computer." (Citing RPHB at 255.) Ricoh asserts that the term should be given its plain and ordinary meaning, which would not restrict a host computer to a locally-connected computer .

In its reply brief, Ricoh claims that Dr. Baroody's opinion regarding "host computer" is untimely because Oki Data failed to offer a construction for the term in the Joint Claim Construction Statement. Ricoh asserts that Mr. Weadock did not admit that "host computer" should be limited to a locally-connected computer. (Citing Tr. at 449:5-9.) Ricoh argues that there is no indication in the specification that the claims should be limited to the embodiment shown in Figure 1, where the host computer is connected locally to an image input device. Ricoh also argues that Oki Data's irrelevant extrinsic evidence should be ignored. (Citing CX-55 at 80-85.)

Oki Data's Position: Oki Data contends that a "host computer" is "a computer that is directly connected to the image input device." Oki Data argues that this construction does not include a computer that is indirectly connected to a computer via network.

Oki Data argues that Figure 1 shows the host computer connected directly to the image input device, and this is the only configuration depicted in the '771 patent. (Citing Tr. at 450:1-4, 450:11-451:13, 450:21-451:17, 684:24-685:5.) Oki Data asserts that Ricoh's proposed

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construction is untimely and inconsistent with the position of its own expert, Mr. Weadock. (Citing JX-13.)

Oki Data also argues that Ricoh's construction is inconsistent with the way Ricoh uses the term "host computer." Oki Data asserts that a Ricoh user manual for the MP 8001 makes clear that a host computer is directly connected to an image input device. (Citing CX-44 at 83-84; Tr. at 473:9-474:5.)

In its reply brief, Oki Data argues that Ricoh is incorrect in stating that Dr. Baroody's view of "host computer" in the '771 patent is contrary to his views in the '866 patent. (Citing Tr. at 1569:23-1574:4; JX-1 at 23:27-28.) Oki Data argues that the only interface disclosed in the '771 patent is a "host I/F," which one of ordinary skill in the art would understand to mean a local connection. (Citing RX-370C at Q. 478.)

Staff's Position: Staff contends that the asserted claims require a direct connection between the device and the host computer.

Staff states that the specification and figures of the '771 patent describe a direct connection via interface I/F 19 between the host computer and the image device in each of the embodiments. (Citing Tr. at 449-452.) Staff states that image data obtained by the imaging device is sent directly to the host computer using interface I/F 19. (Citing Tr. at 452-453.)⁵

Construction to be applied: "a computer connected locally, or through a network, to an image input device"

Both Ricoh and Oki Data argue that the opposing party waived its right to offer a construction for "host computer." In fact, I find that both Ricoh and Oki Data failed to offer a proposed construction for "host computer" in the Joint Statement of Proposed Claim

⁵ Throughout its post-hearing briefs, Staff omits line numbers from its citation of the hearing transcript. A proper citation to the hearing transcript includes both page and line numbers.

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Constructions. (JX-13.) Thus, I find that both Ricoh and Oki Data waived the right to offer a construction of the term “host computer.”

Still, it is clear that the construction of the term “host computer” is material to resolving the dispute between the parties. Oki Data argues that under its proposed construction of “host computer,” the accused devices do not infringe because Ricoh has only offered evidence regarding the accused devices connected through a network connection. (RIB at 140.) Thus, it is necessary for me to determine the scope of the term “host computer” as used in the asserted claims. *O2 Micro*, 521 F.3d at 1362 (“When the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it.”)

Both claims 1 and 7 begin with “[a]n image input device adapted to be connected to a host computer.” Claim 13 begins with “[t]he method of transferring image data to a host computer.” I find nothing in the claim language that restricts the connection between the host computer and the image input device to a direct or local connection.

The ‘771 patent specification provides the following descriptions regarding the connection between the host computer and the image input device:

The present invention generally relates to image input devices and, more particularly, to an image inputting device such as an image scanner which reads an image and transfers image data to a computer via an interface.

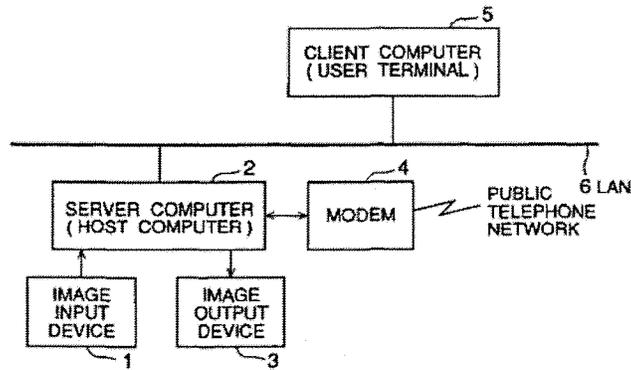
(JX-2 at 1:10-13.)

In order to achieve the above-mentioned objects, there is provided according to the present invention an image input device adapted to be connected to a host computer so as to transfer image data to the host computer[.]

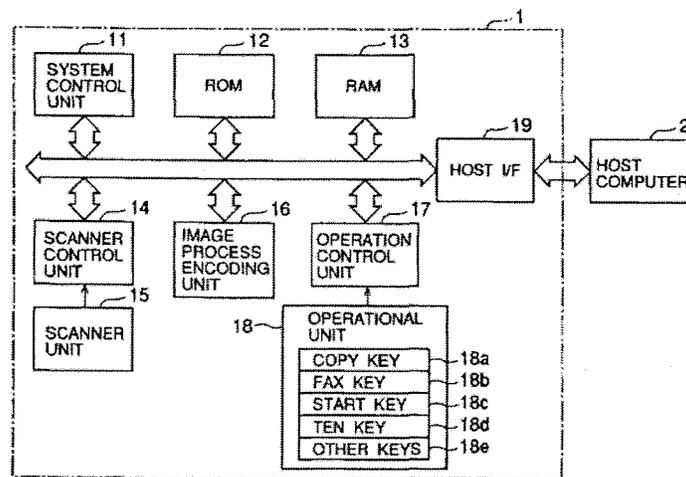
(JX-2 at 2:40-43.)

Figure 1 of the ‘771 patent depicts the host computer directly connected to the image input device:

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(JX-2 at Fig. 1.) Figure 2 depicts a more in-depth view of the image input device 1:



(JX-2 at Fig. 2.) In describing Figure 2, the specification states that “[t]he image data obtained by the scanner unit 15 is sent to the host computer 2 via a host I/F 19 in accordance with a control of the system control unit 11.” (*Id.* at 5:24-26.)

I find nothing in the prosecution history that offers further insight into the meaning of “host computer.” (JX-7.)

Oki Data relies heavily on the fact that the only embodiment depicted in the figures shows a direct connection between the host computer and the image input device. While it is true that the configuration shown in Figures 1 and 2 depicts a direct connection between the host computer and the image input device (JX-2 at 4:47-49, 5:24-26), I find that this fact does not necessarily lead to the conclusion that the claims are so limited. As the Federal Circuit has

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stated, “we have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.”

Phillips, 415 F.3d at 1323.

While there are certain circumstances where statements in the specification may limit the claims, I do not find that those circumstances are present here. The Federal Circuit has explained that:

We do not import limitations into claims from examples or embodiments appearing only in a patent’s written description, even when a specification describes very specific embodiments of the invention or even describes only a single embodiment, unless the specification makes clear that “the patentee ... intends for the claims and the embodiments in the specification to be strictly coextensive.”

JVW Enters., Inc. v. Interact Accessories, Inc., 424 F.3d 1324, 1335 (Fed. Cir. 2005) (quoting *Phillips*, 415 F.3d at 1323). To put it another way, the Federal Circuit has stated that “[g]enerally, a claim is not limited to the embodiments described in the specification unless the patentee has demonstrated a ‘clear intention’ to limit the claim’s scope with ‘words or expressions of manifest exclusion or restriction.’” *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 843 (Fed. Cir. 2010) (quoting *Liebel-Flarshiem Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

Here, I find no clear intention in the specification that the patentee intended to limit the claims to a configuration where the host computer is directly or locally connected to the image input device. While the embodiment in the specification contains such a configuration, Oki Data and Staff fail to point to any evidence in the specification which constitutes a clear intention to limit the claims. Therefore, I conclude that the plain language of the asserted claims does not require that the host computer be directly or locally connected to the image input device.

Oki Data relies on extrinsic evidence to support its argument. I find that it is unnecessary

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to resort to extrinsic evidence in this situation. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (“In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.”) Nevertheless, I address Oki Data’s assertions.

Oki Data cites to a number of passages from the examination of Mr. Weadock to support its position. After reviewing the cited passages, it is clear that Oki Data mischaracterizes Mr. Weadock’s testimony in an attempt to show that Mr. Weadock conceded that Oki Data is correct. For example, Oki Data argues that “Mr. Weadock admitted that the use of the term ‘host computer’ as depicted in the system configuration shown in Figure 1 is in accordance with the plain and ordinary meaning in the art.” (RRB at 64.) Oki Data cites to the following testimony from the hearing:

A My understanding is that if the preamble elucidates or breathes life into the claims, then it is viewed as limiting.

Q Okay. And do you agree that the term “host computer” in the ‘771 patent claims is used in accordance with its plain and ordinary meaning in the art, correct?

A Yes.

(Tr. at 449:2-9.)

There is nothing in this testimony that supports Oki Data’s position, or supports the notion that Mr. Weadock somehow admitted that the configuration shown in Figure 1 represents the plain and ordinary meaning of “host computer.” In another example Oki Data asserts that “Mr. Weadock even distinguished the prior art Oki Data has asserted against the ‘771 Patent on the basis that the prior art is not configured as shown in Figure 1 of the ‘771 Patent.” (RIB at 134.) Oki Data cites to the following testimony from the hearing:

Q But you’re relying upon figure 1 as giving you the information as to what the

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configuration of what's covered by the '771 patent is, correct?

A It is certainly one of the things that I rely upon to understand the patent.

Q Yes or no?

A Yes.

(Tr. at 684:25-685:5.) There is nothing in this testimony suggesting that Mr. Weadock distinguished the prior art cited by Oki Data on the basis that the asserted prior art is not configured as shown in Figure 1.

Oki Data cites to the testimony of its own expert witness, Dr. Baroody. Dr. Baroody offers his opinion that one of ordinary skill in the art would understand the '771 patent to be limited to a configuration where the image input device is locally connected to the host computer. (RX-33C at Q. 478.) Dr. Baroody testifies that it is his opinion that the '771 patent does not contemplate that the host computer and image input device can be connected via a network connection. (*Id.*) Dr. Baroody claims that reference to the "host I/F" in the specification indicates a locally connected interface. (*Id.*) I find that Dr. Baroody's testimony cannot overcome the fact that the intrinsic evidence is silent with regard to whether or not a "host computer" is limited to a locally-connected computer. Because Dr. Baroody's testimony is litigation driven extrinsic evidence, I give it little weight in comparison to the patent and prosecution history. *Phillips*, 415 F.3d at 1318-1319 (discussing the problems associated with extrinsic evidence).

Finally, Oki Data cites to a user manual for a Ricoh MP 8001 product and claims that the manual "explains that connection to a 'host computer' is achieved via the USB port." (RIB at 134.) The manual describes connecting the device via an Ethernet cable to a "network connection device such as a hub," and connecting the device via a USB cable to a "host

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computer.” (CX-55 at 80-84.) While the term “host computer” is used to describe a local USB connection between the device and the computer, there is nothing in this extrinsic manual that demonstrates that the term “host computer” is limited to computers with local connections to peripherals such as scanners or printers. Moreover, I find that a user’s manual not associated with the ‘771 patent cannot limit the scope of the term “host computer” when the intrinsic evidence is silent with regard to the asserted limitation.

2. “Scanning Means” (Claim 1)

The term “scanning means” appears in asserted claim 1.

Ricoh’s Position: Ricoh contends that the term “scanning means” is a means-plus-function term. Ricoh states that the corresponding structure is a scanner unit 15 and scanner control unit 14, together with operation control unit 17 and operational unit 18, depicted in Figure 2 and described at column 4, line 65 through column 5, line 31, and its equivalents. (Citing CX-69; JX-13; Tr. at 631:9-633:5.) Ricoh claims that Staff’s proposed construction improperly includes system control unit 11, ROM 12, and RAM 13. (Citing Tr. at 632:11-22.) Ricoh claims that these structures are not directly involved in performing the functions of inputting the image data and inputting an instruction. (Citing CX-271 at Q. 1140-1142.)

Ricoh notes that Oki Data seeks to limit the “scanning means” to a monochrome scanner. Ricoh claims that in the Joint Claim Construction Statement, neither Oki Data nor Staff asserted that “scanning means” should be limited to a monochrome scanner. (Citing JX-13.) Ricoh states that although the specification describes the scanner unit 15 as a “monochrome type scanner” in one instance, it is not so restricted when mentioned in additional places in the specification. (Citing JX-2 at 5:13, 5:22-24, 5:38, 7:33, 8:1, 8:66, 10:2-6.) Ricoh argues that the inventions

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recited in the claims have nothing to do with whether the scanner is color or monochrome.

(Citing Tr. at 631:1-8.)

In its reply brief, Ricoh states that Oki Data is incorrect to include system control unit 11 as part of the structure for the “scanning means.” (Citing RIB at 136.) Ricoh contends that system control unit 11 is involved in the “means for setting an operation code” limitation, and not the “scanning means” limitation. (Citing JX-2 at 5:45-51, Fig. 4.)

Oki Data’s Position: Oki Data contends that the term “scanning means” is a means-plus-function term. Oki Data asserts that the corresponding structure of the “scanning means” is found at column 5, lines 1-21 of the ‘771 patent. (Citing JX-13.) Oki Data claims that, contrary to Ricoh’s assertion, the system control unit 11 is part of the structure of the “scanning means.”

Oki Data contends that the “scanner unit 15,” which is part of the structure for “scanning means” is disclosed to be a “monochrome type scanner.” (Citing JX-2 at 5:8-12.) Thus, Oki Data asserted that the structure should be limited to monochrome type scanners.

Staff’s Position: Staff contends that the term “scanning means” is a means-plus-function term. Staff identifies the corresponding structure as a scanner unit 15 along with the system control unit 11, ROM 12, RAM 13, scanner control unit 14, operational control unit 17, and operational unit 18.

Staff argues that Ricoh construes the scanner too broadly. According to Staff, the scanner unit in the specification is described as a monochromatic scanner with a reading resolution of 300 and a gradient resolution of 8 bits (256 gradation levels). (Citing JX-2 at 5:9-12.) Staff asserts that the scanner unit is limited to these characteristics.

Construction to be applied: The term “scanning means” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed functions are “inputting the image data” and “inputting an

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instruction for directing said host computer to perform at least one of a plurality of operations on the image data transmitted by said image input device to said host computer.” The corresponding structure is the scanner control unit, scanner unit, operation control unit, and operational unit described in column 5, lines 8 through 12 and 15 through 24, and equivalents.

This claim element has two distinct functions. First, there is the function of “inputting the image data.” The structure necessary to input the image data is described as follows:

A scanner control unit 14 controls a reading operation of a scanner unit 15. The scanner unit 15 is a monochrome type scanner which performs a reading operation with a reading resolution of 300 dpi and a gradient resolution of 8 bits (256 gradation levels).

(JX-2 at 5:8-12, Fig. 2.)

Next, there is the function of “inputting an instruction...” The structure necessary to input the instruction is described as follows:

An operation control unit 17 reads a key input signal from an operational unit 18, and the contents of the key input signal to the system control unit 11. The operational unit 18 is provided with various keys so that a user can input various instructions through the keys. The keys includes a copy key 18a, a FAX key 18b, a start key 18c, ten keys 18d and other keys 18e.

The scanner unit 15 obtains image data in accordance with an instruction input through the operational unit 18 by a user.

(*Id.* at 5:15-24, Fig. 2.)

The parties dispute whether or not the structure includes system control unit 11, ROM 12, and RAM 13. I find that these components do not perform the “inputting” functions described in the “scanning means” claim limitation, and thus are not included in the necessary structure.

The parties further dispute whether or not the scanner should be limited to a monochrome scanner. I concur with Oki Data and Staff and find that the disclosed structure is the “monochrome type scanner” disclosed in column 5, lines 8 through 12.

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Ricoh offers a number of arguments in support of a broader construction that would include both monochrome and color scanners; but I find these arguments unpersuasive. Ricoh asserts that Oki Data and Staff waived their argument by not asserting that the structure was limited to a monochrome scanner in the Joint Claim Construction Statement. Oki Data did not offer its own construction, but adopted Staff's construction. (JX-13.) Staff's proposed construction clearly identified the "scanner control unit 14" and the "scanner unit 15," and cited to column 5, lines 7 through 15 of the specification. (*Id.*) This citation includes the language quoted *supra*, which describes the scanner unit 15 as a "monochrome type scanner." (See JX-2 at 5:7-15.) Thus, I find that Oki Data and Staff fairly raised this position in the Joint Claim Construction Statement.

Ricoh argues that while the specification refers to the scanner unit 15 as a "monochrome type scanner" in one instance, all other references to the scanner unit 15 are silent with regard to the type of scanner required. Thus, according to Ricoh, every other mention of the scanner unit 15 shows that the scanner is not limited to a monochrome scanner.

The scanner unit 15 first appears in Figure 2. In the describing Figure 2, the specification defines the scanner unit 15 as "a monochrome type scanner which performs a reading operation with a reading resolution of 300 dpi and a gradient resolution of 8 bits (256 gradation levels)." (JX-2 at 5:9-12.) The specification refers to the scanner unit 15 in subsequent paragraphs, but does not re-define it, as it has already been defined as a "monochrome type scanner." Under Ricoh's rationale, because the specification does not mention that the scanner unit 15 is a monochrome type scanner every time it mentions scanner unit 15, then the specification does not only describe a monochrome type scanner. Such a reading of the specification is unreasonable. It is only necessary for the specification to define the scanner unit 15 once, and all other

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mentions of the scanner unit 15 are clearly understood to refer back to the already-defined scanner unit 15.⁶

3. “Means for Setting an Operation Code”

The phrase “means for setting an operation code” appears in asserted claim 1.

Ricoh’s Position: Ricoh contends that this term is a means-plus-function term. Ricoh asserts that the corresponding structure is system control unit 11 depicted in Figure 2, programmed to perform various algorithmic steps depending on the operation being performed. (Citing JX-2 at Fig. 4, steps 22, 30, 40; Fig. 6, steps 72, 78, 82; Fig. 8, step 103; Fig. 9, step 116-117; 5:35-53, 5:65-6:11, 7:38-8:9, 9:4-17, 10:16-19.)

Ricoh notes that the specification also discloses setting other types of operation codes besides “FAX” and “COPY.” (Citing JX-2 at 11:63-67.) Ricoh claims that its proposed construction is more appropriate than Staff’s proposed construction because the operation codes are set by the system control unit 11, not by structures 17, 18, 19, and 14, as proposed by Staff. (Citing CX-271 at Q. 1153-1155.)

Oki Data’s Position: Oki Data offers no argument on this limitation, but it has indicated that it concurs with Staff’s proposed construction. (JX-13.)

Staff’s Position: Staff states that it adopts Ricoh’s proposed construction, which includes as corresponding structure the system control unit 11 “programmed to perform various steps.” Staff notes that it believes that the term is indefinite, but it will address that issue in the indefiniteness section of its brief.

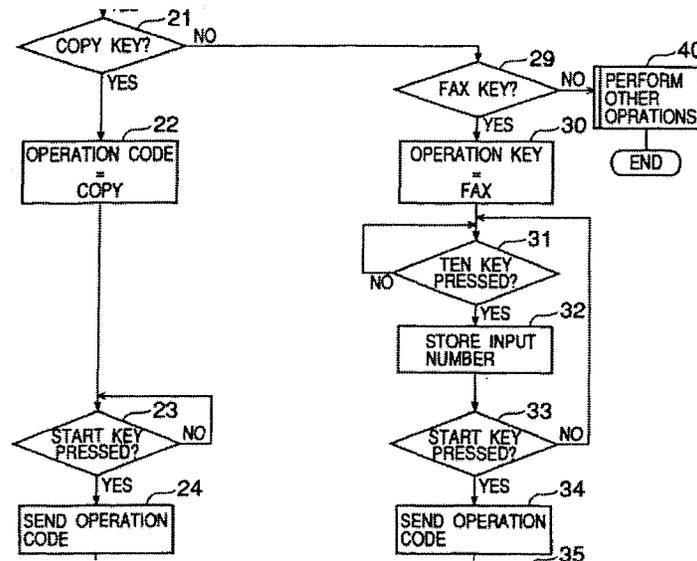
Construction to be applied: The phrase “means for setting an operation code” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “setting an operation code

⁶ Nothing in this section is intended to rule out a color scanner as an equivalent under § 112, ¶ 6. That issue will be addressed *infra*.

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which represents contents of the instruction so that said operation code is sent to said host computer so that said host computer can receive the operation code and image data and perform the at least one of the plurality of operations indicated by the operation code without any direct user input to the host computer.” The corresponding structure is the system control unit programmed to perform any of the algorithms described in column 5, lines 41 through 53; column 5, line 65 through column 6, line 11; column 7, lines 37 through 45; column 7, lines 54 through 66; column 9, lines 4 through 22; column 10, lines 9 through 22; and equivalents.

The specification describes the setting of multiple operation codes. For example, a portion of Figure 4 depicts the corresponding algorithm:



With regard to the COPY operation, the specification states:

Then, the system control unit 11 sets a state of waiting for an instruction which designate an operation mode. When an instruction is input through the operational unit 18, it is determined, in step 21, whether or not the instruction is input through the copy key 18a. If it is determined that the instruction is input through the copy key 18a, the routine proceeds to step 22 so as to set "COPY" to the operation code.

In step 22, an operation code is set to "COPY". Then, in step 23, it is determined whether or not the start key 18c is pressed. If the start key 18c is pressed, the routine proceeds to step 24. In step 24, the operation code which was set to

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"COPY" is sent to the host computer 2.

(‘771 Patent at 5:41-53.)

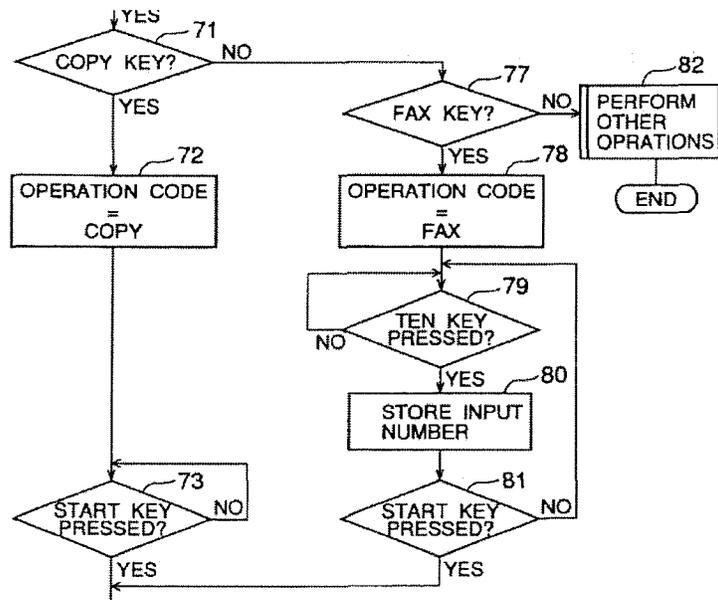
With regard to the FAX operation, the specification states:

On the other hand, if it is determined, in step 21, that the pressed key is not the copy key 18a, the routine proceeds to step 29. In step 29, it is determined whether or not the pressed key is the FAX key 18b. If it is determined that the FAX key 18b is pressed, the routine proceeds to step 30 so as to set "FAX" to the operation code.

Thereafter, in step 31, it is determined whether or not one of the ten keys 18d is pressed. If it is determined that one of the ten keys 18d is pressed, the number corresponding to the pressed ten key is stored in a memory in step 32. Then, it is determined, in step 33, whether or not the start key 18c is pressed. If it is determined that the start key 18c is pressed, the operation code "FAX" is sent to the host computer 2 via the host I/F 19 in step 34.

(‘771 Patent at 5:65-6:11.)

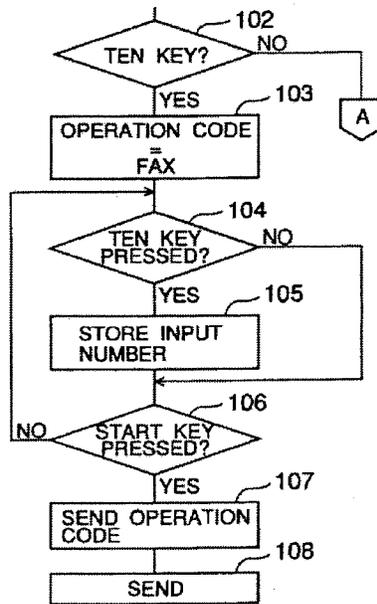
A portion of Figure 6 discloses an algorithm that performs the claimed function:



(JX-2 at Fig. 6, 7:37-45, 7:54-66.) The text describing this portion of Figure 6 is found at column 7, lines 37 through 45 and column 7 lines 54 through 66.

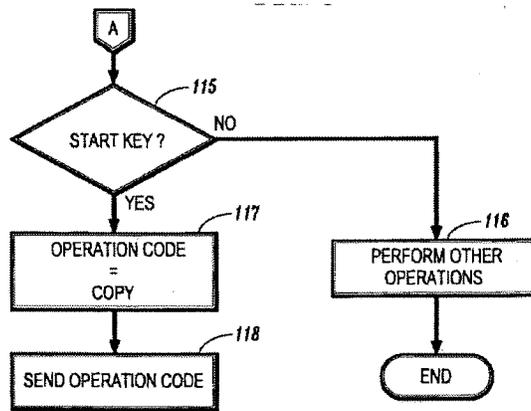
A portion of Figure 8 discloses an algorithm that performs the claimed function:

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(JX-2 at Fig. 8.) The text describing this portion of Figure 8 is found at column 9, lines 4 through 22.

Finally, a portion of Figure 9 discloses an algorithm that performs the claimed function:



(JX-2 at Fig. 9.) The text describing this portion of Figure 9 is found at column 10, lines 9 through 22.

4. “Scanning Means” (Claim 7)

The term “scanning means” appears in asserted claim 7.

Ricoh’s Position: Ricoh does not offer a separate argument for the “scanning means” limitation of claim 7.

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Oki Data's Position: Oki Data contends that the “scanning means” element of claim 7 is a means-plus-function term. According to Oki Data, the corresponding structure is identical to the “scanning means” of claim 1, while the claimed function is truncated as compared to claim 1.

Staff's Position: Staff does not offer a separate argument for “scanning means” found in claim 7.

Construction to be applied: The term “scanning means” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “inputting the image data.” The corresponding structure is the scanner control unit and scanner unit described in column 5, lines 8 through 12, and equivalents.

Claim 7 requires “scanning means for inputting the image data.” The structure necessary to input the image data is described as follows:

A scanner control unit 14 controls a reading operation of a scanner unit 15. The scanner unit 15 is a monochrome type scanner which performs a reading operation with a reading resolution of 300 dpi and a gradient resolution of 8 bits (256 gradation levels).

(JX-2 at 5:8-12, Fig. 2.)

The parties dispute whether or not the structure includes system control unit 11, ROM 12, and RAM 13. I find that these components do not perform the “inputting” function described in the “scanning means” claim limitation, and thus are not included in the necessary structure.

The parties further dispute whether or not the scanner should be limited to a monochrome scanner. For the reasons described *supra* with respect to the “scanning means” limitation of claim 1, I find that the corresponding structure disclosed in the specification is a monochrome scanner, plus equivalents.

5. “Operational Unit”

The term “operational unit” appears in asserted claim 7.

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Ricoh's Position: Ricoh contends that “operational unit” has an ordinary and customary meaning and does not need to be construed. If construction is necessary, Ricoh contends that the term means “an interface that allows a user to manually input instructions to the image input device.” (JX-13.)

Ricoh argues that Oki Data is incorrect to assert that “operational unit” is a means-plus-function term. Ricoh notes that claims 1 and 7 were written differently, with claim 1 using “scanning means” and claim 7 using “operational unit.” According to Ricoh, claims that are written differently must be given different meanings.

In its reply brief, Ricoh reiterates that this term is not a means-plus-function term, and that different meanings must be given to claim terms that are written differently in separate claims. (Citing *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1365-1369 (Fed. Cir. 2000).)

Oki Data's Position: Oki Data contends that the term “operational unit” in claim 7 is a means-plus-function term even though it does not include the word “means.”

Oki Data argues that the word “unit” is a generic term that does not connote definite structure. (Citing *Aspex Eyewear, Inc. v. Altair Eyewear, Inc.*, 288 Fed. Appx. 697, 703 (Fed. Cir. 2008).) Oki Data asserts that the word “operational” is simply a descriptor, so broad as to be meaningless, and there is no recognized meaning for the term. Oki Data states that the corresponding structure is the operational control unit 17 and operational unit 18, depicted in Figure 2 and described at column 4, line 65 through column 5, line 31, and its equivalents.

Oki Data notes that Ricoh defines “operational unit” to mean “an interface that allows a user to manually input instructions to the image input device.” (Citing JX-13.) Oki Data claims that this definition is incorrect because it ignores the patentee's own definition of “operational

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unit” found in the specification. (Citing JX-2 at 5:17-21.)

Staff’s Position: Staff does not address this term.

Construction to be applied: “an interface that allows a user to manually input instructions to the image input device.”

Because the limitation “operational unit” does not use the word “means,” there is a rebuttable presumption that § 112, ¶ 6 does not apply. *TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008). The relevant inquiry is whether or not the claim term connotes structure. On this issue, the Federal Circuit stated that “we have held that it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function.” *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1359-1360 (Fed. Cir. 2004). Thus, the Federal Circuit has “seldom held” that a limitation that does not use the term “means” is a means-plus-function limitation. *Id.* at 1362 (stating that the circumstances must be “unusual” for the presumption against § 112, ¶ 6 to be overcome).

The Federal Circuit has found that seemingly broad, generic terms are not means-plus-function limitations. In *Lighting World*, 382 F.3d at 1359, the court addressed whether the term “connector assembly” was subject to § 112, ¶ 6. Before conducting the analysis, the court noted that “what is important is whether the term is one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term ‘means for.’” *Id.* at 1360. The court looked at dictionary definitions to conclude that “that the term ‘connector’ has a reasonably well-understood meaning as a name for structure, even though the structure is defined in terms of the

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function it performs.” *Id.* at 1361. The court also noted that the specification used the term “connector assembly” as the name for structure. *Id.* The court concluded that the term “connector” disclosed sufficient structure, and therefore the term “connector assembly” was not a means-plus-function limitation. *Id.* The court acknowledged that the term was “certainly broad” and vulnerable to an invalidity attack, but stated that that was a risk that the patent drafter took when choosing that term. *Id.* at 1361-1362.

In *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1582 (Fed. Cir. 1996), the issue was whether the district court correctly found that the phrase “detent mechanism” was a means-plus-function limitation. The court first noted that simply because a term is defined in functional terms, § 112, ¶ 6 does not automatically apply. *Id.* at 1583. The court explained that the names of devices such as “filter,” “brake,” “clamp,” “screwdriver,” and “lock” are derived from the functions they perform; but that does not make them all means-plus-function terms. *Id.* Considering various dictionary definitions, the court found that the term “detent” denotes a device with a generally understood meaning in the mechanical arts. *Id.* Therefore, the court found that “detent mechanism” provided sufficient structure and that § 112, ¶ 6 was inapplicable.

In contrast, the Federal Circuit has found on rare occasions that a phrase that does not use the term “means” is a means-plus-function limitation. In *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1353 (Fed. Cir. 2006), the parties disputed whether or not the phrase “colorant selection mechanism” was a means-plus-function limitation. The court first noted that “[t]he generic terms ‘mechanism,’ ‘means,’ ‘element,’ and ‘device’ typically do not connote sufficiently definite structure.” *Id.* at 1354. The court then examined whether or not adding the term “colorant selection” to “mechanism” added sufficient structure to avoid § 112, ¶ 6. The court found that “colorant selection,” when added to “mechanism,” did not disclose sufficient

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structure to avoid § 112, ¶ 6: “the term ‘colorant selection,’ which modifies ‘mechanism’ here, is not defined in the specification and has no dictionary definition, and there is no suggestion that it has a generally understood meaning in the art.” *Id.* Thus, the term was construed as a means-plus-function limitation.

In *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1213 (Fed. Cir. 1998), the issue was whether or not the phrase “lever moving element” was a means-plus-function limitation. The court affirmed the district court’s determination that “lever moving element” was a means-plus-function limitation. Specifically, the court found that there was no evidence that “lever moving element” has a generally understood structural meaning in the relevant art. *Id.* at 1213-1214. In rejecting the patentee’s argument that the term recited sufficient structure, the court explained:

In the instant case, the claimed “lever moving element” is described in terms of its function not its mechanical structure. If we accepted La Gard’s argument that we should not apply section 112, ¶ 6, a “moving element” could be any device that can cause the lever to move. La Gard’s claim, however, cannot be construed so broadly to cover every conceivable way or means to perform the function of moving a lever, and there is no structure recited in the limitation that would save it from application of section 112, ¶ 6.

Id. at 1214.

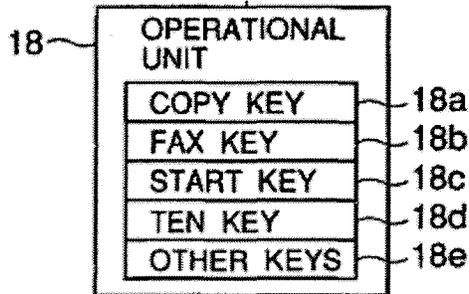
Based on the cases described *supra*, the relevant inquiry focuses on whether or not there is evidence that “operational unit” is used in the art to connote structure. Evidence on this issue can come from the intrinsic record or extrinsic sources such as dictionaries, technical treatises, or expert testimony. Here, I find that Oki Data and Staff have failed to overcome the presumption that “operational unit” is not a means-plus-function term. I find that the specification provides evidence that the term “operational unit” is used by the patentee to connote structure. The term “operational unit” appears in the specification in the following passage:

An operation control unit 17 reads a key input signal from an operational unit 18, and the contents of the key input signal to the system control unit 11. The

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operational unit 18 is provided with various keys so that a user can input various instructions through the keys. The keys includes a copy key 18a, a FAX key 18b, a start key 18c, ten keys 18d and other keys 18e.

(JX-2 at 5:15-21.) Figure 1 depicts the operational unit:



(JX-2 at Fig. 1.)

Because the term “operational unit” is used in the specification to connote structure, I find that the presumption against the application of § 112, ¶ 6 has not been overcome. *Lighting World*, 382 F.3d at 1361-1362. Based on the disclosure in the specification, I find that “operational unit” means “an interface that allows a user to manually input instructions to the image input device.” Oki Data argues that this construction is contrary the definition of “operational unit” found in the specification. I find that the disclosure in the specification quoted *supra* is not an express definition of “operational unit,” but simply a description of an embodiment of an “operational unit.” Limiting the meaning of the term to the embodiment found in Figure 1 would amount to improperly importing limitations from the specification into the claim. *Silicon Graphics, Inc. v. ATI Techs., Inc.*, 607 F.3d 784, 792 (Fed. Cir. 2010) (warning against importing limitations from embodiments into claims).

6. “Code Unit”

The term “code unit” appears in asserted claim 7.

Ricoh’s Position: Ricoh contends that “code unit” has an ordinary and customary meaning and does not need to be construed. If construction is necessary, Ricoh contends that the

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term means “a unit that sets an operation code to be sent to the host computer, corresponding to the input instruction.” Ricoh contends that if the term is construed pursuant to § 112, ¶ 6, then the corresponding structure is consistent with the structure for the “means for setting” limitation in claim 1. (JX-13.)

Ricoh argues that Oki Data is incorrect to assert that “code unit” is a means-plus-function term. Ricoh notes that claims 1 and 7 were written differently, with claim 1 using “means for setting...” and claim 7 using “code unit for setting...” According to Ricoh, claims that are written differently must be given different meanings.

In its reply brief, Ricoh reiterates that this term is not a means-plus-function term, and that different meanings must be given to claim terms that are written differently in separate claims. (Citing *Kraft Foods, Inc. v. Int’l Trading Co.*, 203 F.3d 1362, 1365-1369 (Fed. Cir. 2000).)

Oki Data’s Position: Oki Data contends that the term “code unit” in claim 7 is a means-plus-function term even though it does not include the word “means.”

Oki Data argues that the word “unit” is a generic term that does not connote definite structure. (Citing *Aspex Eyewear, Inc. v. Altair Eyewear, Inc.*, 288 Fed. Appx. 697, 703 (Fed. Cir. 2008).) Oki Data asserts that the word “code” is so broad as to be meaningless, and there is no explanation of the term in the ‘771 patent. Oki Data argues that when asked for a definition, Mr. Weadock was only able to define “code unit” in purely functional terms. (Citing CX-271 at Q. 1195.) Oki Data does not provide the corresponding structure for “code unit,” but equates the term to the “means for setting” language found in claim 1.

Staff’s Position: Staff contends that the term “code unit” is a means-plus-function term. Staff asserts that Ricoh has not identified anything in the language of the claim element that

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allegedly discloses the requisite structure to one of ordinary skill in the art. Staff states that “code unit” should be given the same construction as the “means for setting an operation code” as found in claim 1.

Construction to be applied: The term “code unit” shall be construed pursuant to 35 U.S.C. § 112, ¶ 6. The claimed function is “setting an operation code which represents contents of the instruction so that said operation code is sent to said host computer so that said host computer can receive the operation code and image data and perform the at least one of the plurality of operations indicated by the operation code without any direct user input to the host computer.” The corresponding structure is the system control unit programmed to perform the algorithms described in column 5, lines 41 through 53; column 5, line 65 through column 6, line 11; column 7, lines 37 through 45; column 7, lines 54 through 66; column 9, lines 4 through 22; column 10, lines 9 through 22; and equivalents.

Because the limitation “code unit” does not use the word “means,” there is a rebuttable presumption that § 112, ¶ 6 does not apply. *TIP Sys.*, 529 F.3d at 1373.⁷ I find that Oki Data and Staff have overcome the rebuttable presumption.

Based on the cases discussed, *supra*, with respect to the construction of “operational unit,” the relevant inquiry focuses on whether or not there is evidence that “operational unit” is used in the art to connote structure. Evidence on this issue can come from the intrinsic record or extrinsic sources such as dictionaries, technical treatises, or expert testimony. Here, I find that there is no evidence in the record to support a finding that the term “code unit” connotes structure.

Unlike “operational unit,” “code unit” is not used at all in the specification, and only

⁷ The description of the legal standard found *supra* in the discussion of the term “operational unit” will not be repeated and is hereby incorporated by reference.

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appears in the claims. The term “unit” is a generic term that does not connote sufficiently definite structure. *See Mass. Inst. of Tech.*, 462 F.3d at 1354. Adding language to an otherwise generic term such as “unit” may add sufficient structure to avoid § 112, ¶ 6. *Id.* Here, I find that the addition of “code” does not add sufficient structure, as the word “code” does not call to mind any structure. There is no evidence to contradict this finding, as Ricoh does not argue that “code unit” has a generally understood meaning in the art or is used by those of ordinary skill in the art to connote structure. Furthermore, Ricoh cites to no testimony or other evidence to support the finding that “code unit” is a structural term.

Ricoh offers a single argument on this issue. (CIB at 111.) According to Ricoh, claim 1 includes the claim language “means for setting an operation code” followed by a function that is identical to the function found after the “code unit” language of claim 7. Ricoh argues that by writing the claims in different formats, the patentee clearly chose to make the limitation in claim 1, and not claim 7, a means-plus-function limitation. (*Id.*) Ricoh’s argument fails to address the relevant analysis – whether or not the term “code unit” describes sufficient structure to avoid § 112, ¶ 6. The Federal Circuit has explained that any presumption created by the doctrine of claim differentiation “may be overcome by a contrary construction mandated by the application of § 112, ¶ 6.” *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1304 (Fed. Cir. 2005). Thus, I find Ricoh’s argument unpersuasive.

Because the function of the “code unit” limitation in claim 7 is identical to the function of the “means for setting an operation code” limitation in claim 1, I find that the construction of “code unit” shall be identical to the construction of “means for setting an operation code.” Thus, the claimed function is “setting an operation code which represents contents of the instruction so that said operation code is sent to said host computer so that said host computer can receive the

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operation code and image data and perform the at least one of the plurality of operations indicated by the operation code without any direct user input to the host computer.” The corresponding structure is the system control unit programmed to perform the algorithms described in column 5, lines 41 through 53; column 5, line 65 through column 6, line 11; column 7, lines 37 through 45; column 7, lines 54 through 66; column 9, lines 4 through 22; column 10, lines 9 through 22; and equivalents.⁸

D. The ‘048 Patent

1. “Server”

The term “server” appears in asserted claims 1, 19, 24, 29, 33, 49, and 54.

Ricoh’s Position: Ricoh contends that “server” means “a programmed processor that guides the physical actions of the peripheral in response to networked requests.” (JX-13.) Ricoh contends that “server” is not a means-plus-function term.

Ricoh asserts that Order No. 29 properly ruled that Oki Data had failed to meet its burden to prove that “server” is a means-plus-function term, and that Oki Data has not introduced any additional evidence at the hearing to support its position. (Citing Order No. 29; RIB at 65-66.) Ricoh claims that “server” is a well-known and commonly understood term of art. (Citing CX-308 at Q. 173-174; CX-271 at Q. 102; Tr. at 625:10-21, 1651:22-1652:20.) According to Ricoh, the term “server” appears in every prior art reference asserted by Oki Data, and these references do not define the term or discuss the structure of a “server.” (Citing RX-249; RX-253; RX-250; RX-252; RX-281.)

⁸ Oki Data offers an additional claim construction argument, asserting that the limitations of claim 13 are step-plus-function limitations. (RIB at 139.) While conceding that Order No. 29 precludes this argument, Oki Data makes the argument for purposes of preserving the record. (*Id.*) I reaffirm my finding in Order No. 29 that the parties will not be allowed to assert that the limitations of claim 13 are step-plus-function limitations because this position was not raised in the Joint Claim Construction Statement. (Order No. 29 at 19-21; JX-13.) If it is determined that the claim limitations are step-plus-function limitations, I find that the limitations of claim 13 should be construed in an identical manner to the limitations of claim 1, as the language in claim 13 mirrors the language in claim 1.

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Ricoh claims that neither Oki Data nor Staff asserted that the term “server” is a step-plus function term in method claims 24, 25, 26, 28-32, 49, 50, 51, and 53-57, thus waiving such an argument. (Citing JX-13.) Even if this argument is not waived, Ricoh claims that Oki Data has failed to prove that “server” is a step-plus-function term. Ricoh argues that Oki Data does not attempt to identify any particular step in the asserted method claims written in step-plus-function format, and that Oki Data does not identify any function for which no acts are present. Ricoh asserts that the fact that the term “server” is purportedly a means-plus-function term in the apparatus claims does not necessarily lead to a conclusion that “server” is a step-plus-function limitation in the method claims.

Oki Data’s Position: Oki Data contends that the term “server” is a means-plus-function term. According to Oki Data, because the specification fails to disclose sufficient structure corresponding to the claimed function, the term is indefinite.

Oki Data states that the intrinsic and extrinsic evidence of record demonstrates that the term “server” does not describe any definite structure. Instead, Oki Data claims that a “server” is nothing more than software that renders a general-purpose computer or processor capable of performing server functionality. Oki Data notes that the ‘048 patent states that a server can be hardware, software, or some combination thereof. (Citing JX-3 at 4:15-17, 4:38-48, 6:52-55.) Oki Data claims that the inventor testified that the term “server,” as used in the ‘048 patent, is simply software that resides on a computer chip. (Citing Tr. at 742:9-13.) Oki Data further claims that Mr. Weadock’s testimony supports a finding that a server is a means-plus-function term. (Citing Tr. at 538:5-541:6.)

Oki Data asserts that there is no structure identified in the specification that corresponds to a “server.” Oki Data claims that Ricoh has failed to identify any algorithm, software, or

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programming identified in the specification that provides the necessary structure for the term “server.” Thus, Oki Data seeks a finding that “server” is indefinite.

In its reply brief, Oki Data reiterates that regardless of a general purpose computer’s size or its associated resources, what makes it a “server” is the functionality provided by the software, not the hardware. (Citing JX-3 at 4:17-20; RX-337 at Q. 67; Tr. at 541:18-542:1.)

Staff’s Position: Staff contends that “server” is a means-plus-function term.

Staff asserts that the “server” claim limitations state that the server must perform a number of functions, but nothing in those claim limitations provide any structure for the server. Staff claims that the specification makes clear that a server may be hardware, software, or some combination thereof. (Citing JX-3 at 4:15-17, 4:38-48, 6:52-55.) Staff states that testimony from both Mr. Weadock and Mr. Wolff confirms that a “server” is a piece of software running on hardware. (Citing Tr. at 538, 742.)

Staff states that the specification discloses hardware that may be used for a server. (Citing JX-3 at 4:37-44; Tr. at 622.) Staff asserts that the specification fails to adequately disclose any algorithm or software that runs on the hardware to perform the “server” functionality. Thus, Staff contends that the “server” limitations in the asserted claims are indefinite.

Construction to be applied: “a computer that acts as a provider of data”

The parties dispute whether or not “server” is a means-plus-function term. Because the term “server” does not use the word “means,” there is a rebuttable presumption that § 112, ¶ 6 does not apply. *TIP Sys., LLC*, 529 F.3d at 1373. The analysis thus focuses on whether or not Oki Data has met its burden to demonstrate that the term “server” fails to disclose sufficient structure. On this issue, the Federal Circuit stated that “we have held that it is sufficient if the

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claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function.” *Lighting World*, 382 F.3d at 1359-1360. Thus, the Federal Circuit has “seldom held” that a limitation that does not use the term “means” is a means-plus-function limitation. *Id.* at 1362 (stating that the circumstances must be “unusual” for the presumption against § 112, ¶ 6 to be overcome).

The Federal Circuit case law described *supra* makes clear that the relevant inquiry focuses on whether or not there is evidence that “server” is used in the art to connote structure. Evidence on this issue can come from the intrinsic record or extrinsic sources such as dictionaries, technical treatises, or expert testimony. Here, I find that the evidence in the record supports a finding that the term “server” connotes structure.

The specification defines a “server” as follows: “[i]n this specification, the terms ‘client’ and ‘server’ are used to refer to a computer’s general role as a requester of data (client) or provider of data (server).” (JX-3 at 4:15-17.) The specification provides an example of the structural components that may comprise a server: “[t]he server system...may include conventional components such as a processor, memory (e.g., RAM), a bus which coupled the processor and memory, a mass storage device (e.g., a magnetic or optical disk) coupled to the processor and memory through an I/O controller and a network interface, such as a conventional modem.” (JX-3 at 4:38-44.) Mr. Weadock testified that this description of the term “server” is consistent with the well-understood meaning of the term in the art at the time of filing. (Tr. at 621:6-622:24.)

In further support of this finding, I note that other courts have quoted dictionary definitions of the term “server” that provide evidence of its plain and ordinary meaning in the art.

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In *Southwest EFuel Network, LLC v. Transaction Tracking Techs., Inc.*, 2009 WL 3460265, at *20 (E.D. Tex. Oct. 23, 2009), the court stated that the dictionary definition of “server” is “in a network, a device or computer system that is dedicated to providing specific facilities to other devices attached to the computer network.” (quoting IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONIC TERMS, pp. 972-73 (6th ed.1996)). In *Black Diamond CCT Holdings, LLC v. Coupons, Inc.*, 2003 WL 25783115, at *8 (D. Md. Dec. 17, 2003), the court listed a dictionary definition of “server” as “a shared computer on the local area network that may be ... used as a repository and distributor ... of data.” (quoting NEWTON’S TELECOM DICTIONARY 920 (8th ed.1994)). These contemporaneous dictionary definitions use the term “server” to connote structure.

Oki Data relies heavily on the fact that the specification states that a web server “need only be software[.]” (JX-3 at 6:52-55.) I find that this statement does not somehow convert the term “server” into a means-plus-function term. As Mr. Weadock explained, “sometimes ‘server’ is used to refer to a software product. Sometimes it’s used to refer to software running on a machine.” (Tr. at 625:7-9.) It is clear from both the intrinsic and extrinsic evidence that the hardware running the server software is the structure associated with the term “server” in the relevant art. (See JX-3 at 4:38-44; Tr. at 621:6-622:24.) Thus, I find that the term “server” connotes sufficient structure such that Oki Data has not overcome the presumption that the term is not a means-plus-function term.

2. “Communications Mechanism”

The term “communications mechanism” appears in asserted claim 19.

Ricoh’s Position: Ricoh contends that the term “communications mechanism” is well known in the art and should be given its plain and ordinary meaning. (Citing CX-271 at Q. 246;

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CX-69; CX-308 at Q. 180-181.)

Ricoh asserts that the term is not a means-plus-function term, as Oki Data and Staff argue. Ricoh claims that even if the term is construed as a means-plus-function term, the term is not indefinite because the specification discloses several physical structures associated with the limitation. (Citing JX-3 at 6:56-61.) Ricoh notes that Mr. Edwards conceded that the specification discloses several physical structures that may serve as the “communications mechanism.” (Citing RX-337C at Q. 645.)

Oki Data’s Position: Oki Data contends that the term “communications mechanism” is a means-plus-function term. Oki Data argues that the term fails to connote structure, is a functional term. (Citing RX-337C at Q. 641-654.) Oki Data asserts that Ricoh has failed to offer evidence that “communications mechanism” is a commonly used term of art that connotes structure. To the contrary, Oki Data claims that Ricoh’s proposed construction is purely functional. (Citing JX-13.)

In its reply brief, Oki Data states that Ricoh has failed to provide any technical dictionary, treatise, or reference to support the assertion that “communications mechanism” has a well-known meaning in the art. (Citing CIB at 101.)

Staff’s Position: Staff contends that “communications mechanism” is a means-plus-function term.

Staff asserts that “communications mechanism” does not suggest any structure. According to Staff, it is purely functional language that the specification itself states can be satisfied with “one or more communications mechanisms.” (Citing JX-3 at 6:56-58.) Staff argues that because the specification fails to disclose any software or algorithm that would enable the server to perform any of its claimed functions, the term is indefinite.

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Construction to be applied: “a device that is part of the peripheral that performs bidirectional communications functions between the peripheral and a network.”

Because the limitation “communications mechanism” does not use the word “means,” there is a rebuttable presumption that § 112, ¶ 6 does not apply. *TIP Sys., LLC*, 529 F.3d at 1373. The analysis thus focuses on whether or not Oki Data has met its burden to demonstrate that the term “communications mechanism” fails to disclose sufficient structure. On this issue, the Federal Circuit stated that “we have held that it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function.” *Lighting World*, 382 F.3d at 1359-1360. Thus, the Federal Circuit has “seldom held” that a limitation that does not use the term “means” is a means-plus-function limitation. *Id.* at 1362 (stating that the circumstances must be “unusual” for the presumption against § 112, ¶ 6 to be overcome).

The Federal Circuit case law discussed *supra* makes clear that the relevant inquiry focuses on whether or not there is evidence that “communications mechanism” is used in the art to connote structure. Evidence on this issue can come from the intrinsic record or extrinsic sources such as dictionaries, technical treatises, or expert testimony. Here, I find that the evidence in the record supports a finding that the term “communications mechanism” connotes structure.

Asserted claim 19 includes the term “communications mechanism.” It states that the claimed peripheral comprises, *inter alia*, “a communications mechanism to transfer information to and from the peripheral, wherein the communications mechanism receives requests for the device.”

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The specification uses the term “communications mechanism” in the following passage:

In the present invention, each peripheral includes a web server and a communication mechanism to allow the peripheral to communicate with the network. As a web server, the peripheral communicates with network 203 and handles http requests. Although peripheral 200 is shown having a Web server 202, the server need not be a full http server. In one embodiment, Web server 202 need only be software that handles those types of requests described herein.

In one embodiment, the peripheral includes a communications port, such as a wireless modem. Note that the peripheral of the present invention may employ one or more communications mechanisms. Peripheral 200 may comprise software/hardware for communicating with a WAN such as a telephone interface with an RJ-11 jack.

(JX-3 at 6:48-61.)

It is clear from this disclosure that the specification uses “communications mechanism” to describe structure, as it describes a wireless modem or a telephone interface with an RJ-11 jack as examples of a communications mechanism. Because the term “communication mechanism” is used in the specification to describe structure, I find that the presumption against the application of § 112, ¶ 6 has not been overcome. *Lighting World*, 382 F.3d at 1361-1362. Based on the disclosure in the specification, I find that “communications mechanism” means “a device that is part of the peripheral that performs bidirectional communications functions between the peripheral and a network.”

3. “Peripheral”

The term “peripheral” appears in asserted claims 1, 19, 21, 23, 24, 25, 26, 28, 29, 32, 33, 49, 50, 51, 53, 54, and 57.

Ricoh’s Position: Ricoh contends that because the ‘048 uses “peripheral” in its ordinary and customary way, the term does not require construction.

Ricoh argues that any construction should not be limited to require a device that does not use special driver software. Ricoh claims that there is nothing in the patent that prohibits the use

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of drivers to communicate with a peripheral device. (Citing CX-271 at Q. 73, 87-89.) Ricoh claims that the specification expressly contemplates the use of drivers. (Citing JX-3 at 2:23-45, 10:25-32.) Ricoh further claims that Staff's proposed construction is too broad, because it could encompass computers as well. (Citing CX-271 at Q. 89.)

In its reply brief, Ricoh states that the '048 patent expressly discloses a peripheral that operates with a driver. (Citing JX-3 at 10:25-32.) Ricoh argues that Oki Data provides no support for the assertion that the specification distinguishes the invention from the prior art based on the issue of whether or not the peripheral uses drivers.

Oki Data's Position: Oki Data contends that "peripheral" means "a device coupled to a network that is capable of receiving directions from a computer on a network and perform the actions that were directed. The computer must be able to operate the peripheral device without the use of special driver software."

Oki Data asserts that the critical element present in its proposed construction but missing from Ricoh's proposed construction is that a peripheral must be able to perform its operational functions without the use of a driver. (Citing JX-13.) Oki Data claims that the specification defines a peripheral as not requiring a driver. (Citing JX-3 at 6:32-35.) In addition, Oki Data asserts that the claimed subject matter was distinguished over prior art on the ground that prior art peripherals require drivers for their operation. (Citing JX-3 at 2:34-58, Fig. 1; JX-8 at RITC 1323.) Oki Data claims that the specification unequivocally disclaimed the user of all drivers for all functionality of the peripheral. (Citing JX-3 at 10:25-32; RX-337C at Q. 54.) Oki Data further claims that the inventor acknowledged that a benefit of the invention was that the peripheral did not require the use of drivers. (Citing CX-307 at Q. 36.)

In its reply brief, Oki Data states that Ricoh argues that one of the prior art references

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asserted by Oki Data in this investigation is not anticipatory because the prior art peripheral requires the use of drivers. (Citing CIB at 90; Tr. at 1648:13-1649:25.) Oki Data claims that this argument constitutes an admission that “peripheral” should be construed to require a device that does not use drivers.

Staff’s Position: Staff contends that “peripheral” means “a device coupled to the network that is capable of receiving directions from a computer on a network and performing the actions that were directed.” Staff would further limit the meaning to require that the computer must be able to operate the peripheral device without the use of special driver software.

Staff argues that Ricoh’s construction ignores the fact that the inventor distinguished his invention from the prior art based on the ability of the peripheral to operate without the use of special drivers on a host computer. (Citing JX-3 at 5:46-53, 6:34-38, 10:24-32.) Staff therefore asserts that because Ricoh’s proposed construction does not include a requirement that a peripheral be able to operate without the use of drivers loaded on a host computer, it should be rejected.

Construction to be applied: “a device coupled to a network that is capable of receiving directions from a computer on a network and performing the actions that were directed, whereby the device does not need a host computer loaded with driver software to direct it to perform any of the device’s functions.”

The term “peripheral” appears in each of the asserted independent claims of the ‘048 patent. The dispute between the parties centers on whether or not the “peripheral” of the claims is limited to a device that can be operated by a computer without special driver software.

The specification describes peripherals in the following manner: “[t]he present invention provides peripherals that are coupled to a network and are able to respond to requests from the

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network.” (JX-3 at 3:44-46.) The Background of the Invention section of the ‘048 patent discusses prior art peripherals, and specifically focuses on the problems associated with peripherals that are controlled via drivers⁹ downloaded on a host computer:

Peripheral devices are typically connected to the Web to facilitate user interaction with the Web. In prior art systems, peripheral devices are used for a variety of specific application functions. For instance, a printer, is used to print data, while a scanner is used to scan data. These peripherals are usually connected to a host computer, via a bus, which controls the use of the peripheral. A typical system is shown in FIG. 1. Referring to FIG. 1, a computer 101 typically includes an application 102 which makes calls to a driver 103 of peripheral 104 that is running on the host computer 101, thereby causing control information and signals to be sent over bus 105 to peripheral 104 to control its operation. ***Thus, access to peripheral is only through the host computer and its communication driver.*** Therefore, if an individual wishes to have the peripheral perform a specific function, the individual must communicate their wishes to the computer, which then causes the peripheral to perform the desired function. ***If an individual does not have access to a host computer with the proper driver, then the peripheral cannot be controlled. Moreover, if an individual is at a remote site, one may not have access to the host computer, yet would still like to control peripherals.*** Therefore, there is a need to be able to control peripherals directly, without relying on a host as an interface. Furthermore, it is desirable to allow the same control from a remote location.

(JX-3 at 2:34-58) (emphasis added).

The specification describes how the present invention overcomes the identified prior art peripherals:

Although the present invention attempts to provide a common interface to all peripherals, the interfaces differ substantially to those of the prior art. For instance, the present invention provides a single interface that is easily customized by new HTML pages for each user/location. ***The present invention is a global standard for document exchange. No driver software is required; therefore, the control function is easier to develop. Additionally, the present invention maintains objects and serves them all over the Web, while allowing remote access to a peripheral without the need of a host.***

(JX-3 at 6:28-38) (emphasis added).

⁹ The parties agree that a “driver” is a piece of software that translates data, instructions, controls, and the like into a form that the peripheral can specifically understand. (Tr. at 507:15-20; CX-271 at Q. 73; RX-337C at Q. 55; RX-365C at Q. 10-11.)

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Another advantage of the *present invention* is that the driver for the peripheral is standard such that *a host computer to drive the peripherals would not be needed*. All of the functionality provided by the host computer is contained in the peripheral, including server software. *In this manner, all accesses are made via a common web interface. This saves cost in that separate drivers to support different operating systems and computer systems are not required.*

(JX-3 at 10:25-32) (emphasis added).

The specification explains that unlike the prior art peripherals, the “present invention” does not require a host computer that has driver software loaded for the peripheral. The peripheral of the ‘048 patent communicates with a computer over a network connection and eliminates the need for peripheral-specific drivers to be loaded on a host computer. The specification makes clear that in the peripheral of the present invention, “all accesses are made via a common web interface,” indicating that all peripheral functionality is performed without drivers. (*Id.*)

The prosecution history further supports the specification. In Mr. Wolff’s invention disclosure submission that served as the basis for the ‘048 patent, he entitled a section of the disclosure “Advantages: NO MORE SOFTWARE DRIVERS.” (JX-8A at RITC 0001323.) He explained:

Because the [peripheral] acts as a Web Server, it does not need to interact directly with any particular “host”. The protocols (HTTP) for Web Servers and Clients are public and well known. Any communications would be accomplished through these protocols over a LAN (or WAN), thus obviating the need for special “driver” software running on a host computer to direct the peripheral.

(JX-8A at RITC 0001323.)

Under certain circumstances, the specification may limit the meaning of the claims. In particular, “the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance...the inventor has dictated the correct claim scope, and the inventor’s intention, as expressed in the specification, is regarded as dispositive.” *Phillips*, 415

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F.3d at 1316. In order for the statements from the specification to act as a disavowal of claim scope, they must be clear. *Conoco, Inc. v. Energy & Env'tl. Int'l, L.C.*, 460 F.3d 1349, 1357-1358 (Fed. Cir. 2006); *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002) (“The patentee may demonstrate an intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”); *see also Certain Self-Cleaning Litter Boxes & Components Thereof*, Inv. No. 337-TA-625, Initial Determination (Dec. 1, 2008) (discussing Federal Circuit law regarding disavowal in the specification).

Based on the disclosures in the specification (and the further support found in the prosecution history), I conclude that the patentee clearly and unambiguously limited his invention to a peripheral that obviated the need for special driver software running on a host computer to direct the functionality of the peripheral. Furthermore, the passages from the specification quoted *supra* describe the “present invention,” which is another indication of clear disavowal. *Verizon Services Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (“When a patent thus describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention.”)

Ricoh offers a single citation to the intrinsic record in an attempt to rebut Oki Data’s and Staff’s argument. Ricoh claims that the following passage demonstrates that the specification contemplates use of the claimed peripheral with drivers: “[a]nother advantage of the present invention is that the driver for the peripheral is standard such that a host computer to drive the peripherals would not be needed.” (JX-3 at 10:25-27.) Contrary to Ricoh’s argument, the passage emphasizes that the peripheral of the present invention does not require a host computer with software drivers loaded on it to operate. This is fully consistent with the conclusion in the

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preceding paragraph.

In addition, Ricoh offers extrinsic evidence in the form of expert testimony from Mr. Weadock. (*See* CX-271 at Q. 73, 87-89.) I find that this testimony does nothing to change the result for at least two reasons. First, I find that the intrinsic evidence is sufficient to construe the term “peripheral,” thus rendering extrinsic evidence unnecessary. *Vitronics*, 90 F.3d at 1583 (“In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.”). Second, Mr. Weadock’s testimony is conclusory, as he merely testified that Oki Data’s proposed construction “does not comport with the ordinary and customary meaning” of peripheral, without providing any explanation for his statement. (CX-271 at Q. 88.) “[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court.” *Phillips*, 415 F.3d at 1318.

Based on the foregoing, I find that “peripheral” shall be construed to mean “a device coupled to a network that is capable of receiving directions from a computer on a network and performing the actions that were directed, whereby the device does not need a host computer loaded with driver software to direct it to perform any of the device’s functions.”

4. “HTTP Document Request”

The term “HTTP document request” appears in asserted claims 1 and 33.

Ricoh’s Position: Ricoh contends that this term does not require construction.

Ricoh claims that there is no support in the intrinsic evidence to limit “http document requests” to the GET method and that they cannot be requests to execute a CGI script. (Citing RX-371C at Q. 69-73; CX-271 at Q. 110-113.) Ricoh argues that there is no basis to limit the claims to version 0.9 of the HTTP protocol, as the patent never mentions specific versions of

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HTTP protocols, and other versions of the protocol were in widespread use as of the date that the patent application was filed.

Ricoh claims that version 1.1 of the HTTP protocol was officially released on January 19, 1996, and thus was the current version in use at the time of filing. (Citing CX-69; CX-307 at Q. 31; Tr. at 600:13-601:4, 751:2-13.) Ricoh states that both versions 1.0 and 1.1 included the POST method. (Citing CX-69; CX-260.) Ricoh asserts that the invention could be implemented using either the GET or the POST method. (Citing Tr. at 601:9-602:5.)

Ricoh claims that Oki Data's proposed construction improperly excludes CGI requests. (Citing RX-371C at Q. 69-73.) Ricoh argues that nothing in the intrinsic evidence excludes CGI requests, and that the disclosure in the specification supports a finding that CGI requests should not be excluded. Ricoh claims that another patent that lists Mr. Wolff as the inventor provides further evidence that the term "http document requests" includes requests to invoke CGI scripts. (Citing RX-350; Tr. at 569:6-570:23, 598:12-25.)

Oki Data's Position: Oki Data contends that the phrase "each of the requests formatted as HTTP document requests" means "requests issued in accordance with the version of the Hypertext Transfer Protocol in force as of the application data for the patent (i.e. the version known as HTTP 0.9) that identifies the URL for a document to be returned."

Oki Data asserts that the accepted HTTP standard until May 1996 was HTTP v. 0.9. (Citing RX-337C at Q. 66-67.) According to Oki Data, the first line of an HTTP request must include a method, a resource, a location, and the version of HTTP in use. (Citing RX-260; RX-337C at Q. 67-74; Tr. at 558:24-559:10.) Oki Data claims that the only available method under HTTP v. 0.9 was GET, used in a so-called "simple request." (Citing RX-260; RX-337C at Q. 69-70.) Thus, Oki Data seeks to limit an HTTP document request to a GET request.

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In its reply brief, Oki Data claims that Ricoh's proposed construction seeks to write the term "document" out of the claim and thereby equate the phrase with HTTP request. (Citing Tr. at 557:2-5.) However, Oki Data asserts that not all HTTP requests are document requests. (Citing Tr. at 565:7-14.)

Oki Data claims that Ricoh's construction seeks to rely on a version of the HTTP protocol (HTTP v. 1.1) that was not adopted until well after the filing of the '048 patent. (Citing CIB at 68.) Oki Data asserts that POST requests are not requests for a document, nor for the return of anything at all. (Citing RX-365C at Q. 32-33; RX-371C at Q. 70.) Oki Data states that Mr. Weadock admitted that the POST method is defined as a method for submitting information, not retrieving information. (Citing Tr. at 565:7-14; RX-260; RX-337C at Q. 71, 73.)

Finally, Oki Data argues that Ricoh's discussion of CGI scripts is a "red herring." Oki Data states that the patent makes no mention of CGI scripts, and that CGI scripts are not HTTP document requests. (Citing RIB at 79.) Oki Data claims that the inventor clearly distinguished a CGI script from a request for a document. (Citing RX-350 at 2:7-10; Tr. at 570:20-23.)

Staff's Position: Staff concurs with Oki Data that the format of the HTTP document requests should be limited to the hypertext transfer protocol in force as of the application date of the '048 patent, which is version 0.9. (Citing JX-13.) Staff states that this construction is mandated by the Federal Circuit's recent decision in *Vizio, Inc. v. Int'l Trade Comm'n*, 605 F.3d 1330 (Fed. Cir. 2010).

Construction to be applied: "document requests issued in accordance with the Hypertext Transfer Protocol."

Oki Data and Staff seek to limit the meaning of "HTTP document request" based on the version of the HTTP protocol (version 0.9) in effect on the date that the application leading to the

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'048 patent was filed – February 9, 1996. To support this position, Oki Data asserts that HTTP version 1.0 was not published until May 1996, after the patent application was already filed. (RX-260.) Oki Data states that the only available “method” used in HTTP version 0.9 was GET. Oki Data seeks to exclude coverage for the POST method, which it claims was not adopted until the publication of HTTP version 1.0.

The Federal Circuit has explained that “the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313. Thus, the relevant inquiry is what a person of ordinary skill in the art would have understood as of February 9, 1996.

I find that, based on the evidence in the record, it would be improper to limit the term “HTTP document request” to HTTP version 0.9, as suggested by Oki Data and Staff. There is nothing in the specification or the prosecution history indicating that the inventor sought to limit the invention based on a specific version of HTTP. (JX-3; JX-8; JX-8A.) In fact, the '048 patent never references any specific version of HTTP. (JX-3.) Furthermore, the '048 patent does not discuss the GET method or the POST method. (*Id.*)

The strongest piece of evidence offered by Ricoh is a book entitled “HTML Sourcebook: A Complete Guide to HTML,” written by Ian S. Graham. (CX-260.) The book shows a copyright date of 1995. (*Id.*) The book identifies the common HTTP methods as GET, HEAD, and POST, thereby providing evidence that the POST method was known to those of ordinary skill in the art as of the filing date. (*Id.*) Ricoh also offers evidence in the form of witness testimony that the POST method was in use at the time of the filing of the application that became the '048 patent. (Tr. at 600:21-601:8, 750:16-751:6.) Ricoh further cites to the

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testimony of Oki Data's expert, who agreed that as of the application filing date, the GET method and POST method were in common use. (Tr. at 1680:4-10.) Based on this evidence, I find that there is no basis to limit the HTTP method to GET, as requested by Oki Data and Staff.

Oki Data relies on the assertion that HTTP version 1.0 was not adopted until May 1996. (RX-337C at Q. 66; RX-260.) According to Oki Data, the only method available prior to HTTP 1.0 was the GET method. (RIB at 71.) I find that Oki Data's argument and evidence does not overcome the evidence offered by Ricoh that the POST method was in use and known to those of ordinary skill in the art as of February 9, 1996.

Staff takes the same position as Oki Data, and relies on the Federal Circuit's opinion in *Vizio, Inc. v. Int'l Trade Comm'n*, 605 F.3d 1330 (Fed. Cir. 2010). I find that that opinion is factually distinguishable from the case before me. There, the dispute was whether or not the claim language "MPEG compatible program map information" necessarily refers to the MPEG-2 standard. The Federal Circuit found that the claim language was limited to the MPEG-2 standard because the specification of the patent at issue defined "MPEG standard" as the MPEG-2 standard, and the specification made no reference to any other MPEG standard. *Id.* at 1337. The court also noted that the fact that the MPEG-2 standard was the standard in use at the time of filing supported its finding. *Id.*

Unlike the specification at issue in the *Vizio* case, the specification of the '048 patent does not address any specific version of HTTP, and does not define HTTP with reference to a specific version. Furthermore, the crux of the dispute here is whether or not the claims cover the POST method, and I have found evidence to support the conclusion that the POST method was known to those of ordinary skill in the art as of February 9, 1996.

Thus, I find no reason to exclude the POST method simply because HTTP version 1.0

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was not published until May 1996. Even though I have concluded that the '048 patent does not exclude the POST method on the basis of the application filing date, it remains Ricoh's burden to prove that the POST requests in the accused Oki Data products are "HTTP document requests" as required by the claims.¹⁰

E. The '343 Patent

1. "Lower Edge"

The term "lower edge" appears in asserted claims 18, 19,¹¹ 20 and 21 as part of the phrase "a blade ... that is configured such that a lower edge thereof contacts the roller part of the developing roller...".

Ricoh's Position: Ricoh argues that, because the ordinary and customary meaning of "a lower edge" is clear in the context of the patent, the term needs no construction. If construction is required, Ricoh proposes that the term should be construed to mean "a lower region of the blade." (JX-13 at 43.)

Ricoh asserts that, at the hearing on this matter I precluded Oki Data from arguing that "a lower edge" means the "tip" or "end" of the blade, saying that Oki Data "is limited to asserting the construction of 'lower edge' found in the parties' joint claim construction statement." (Citing Tr. at 24:1-15.) Ricoh adds that "both the OUII and Oki Data's expert" recognize that Oki Data's construction does not mean the "tip" or "end" of the blade. (Citing SPHB at 15-16; Tr. at 1358:2-1359:5.) Ricoh concludes that the constructions of "lower edge" in the Joint Chart are therefore dispositive of infringement.

Ricoh argues that my ruling in Order 28 on the "upper edge" claim limitation "effectively

¹⁰ The parties also address CGI scripts in the discussion of the meaning of "HTTP document requests." Ricoh has the burden to prove that requests to invoke a CGI script in the accused Oki Data products are "HTTP document requests" as required by the claims.

¹¹ While the term does not specifically appear in claim 19, I note that claim 19 depends from claim 18. Thus all of the elements in claim 18, including the term at issue here, are a part of claim 19.

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resolved any issue on the “lower edge” limitation in Ricoh’s favor.” (Citing SPHB at 15-16.)

Ricoh contends that Figures 8A, 8B and 9 disclose the same blade configuration and same point of contact between the blade and the developing roller. (Citing JX-4 at 14:33-37; Order No. 28.)

Therefore, Ricoh reasons, claims 18 through 21 must be construed to include the embodiment depicted in Figures 8A and 8B.

Ricoh argues that the construction of Oki Data’s expert, Dr. Fraser, would read the preferred embodiment out of the asserted claims—a result that is “rarely, if ever, correct.” (Citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).) Ricoh says that Dr. Fraser tries to overcome this problem by suggesting that Figures 8A and 8B might refer to an embodiment of the invention not covered by claims 18 through 21. (Citing Tr. at 1360:6-10.) Ricoh contends that the patent’s second embodiment repeatedly incorporates the blade configuration of Figures 8A and 8B. (Citing JX-4 at 14:33-37; and JX-4, 15:12)

Ricoh avers that, when faced with these passages at trial and asked whether column 14, lines 33 to 37 of the ’343 patent indicated the blades in Figures 8 and 9 are the same, Dr. Fraser responded, “I don’t know.” (Citing Tr. at 1361:2-15.) Ricoh asserts that, when asked whether the passage at column 15, lines 12 to 20 indicated the blades are the same, Dr. Fraser conceded, “[i]t could.” (Citing Tr. at 1361:16-23.) Ricoh says Dr. Fraser further conceded that, if Figures 8 and 9 disclosed the same blade configuration, his personal construction would not cover either figure. (Citing Tr. at 1361:21 to 1362:2.)

In its reply brief, Ricoh argues that Oki Data “invites this Court to commit a cardinal claim construction error: construing the claims to exclude the preferred embodiment without highly persuasive evidence supporting such a construction.” Ricoh contends that Oki Data has identified nothing approaching the “highly persuasive evidence” required to justify such an

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anomaly. (Citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).) Ricoh adds that two additional passages in the specification contradict Oki Data's belated position. (Citing JX-4 at 14:33-37 ["Now, another developing device according to the second embodiment of the present invention is described. The parts substantially the same as those illustrated in FIG. 1 through FIG. 8 are denoted by the same numerals or codes and the description thereof is omitted."]; and JX-4 at 15:12 ["As illustrated in FIGS. 8 and 9,"].)

Ricoh addresses Oki Data's position on the issue of the observation in Order No. 28 that there is an imprecisely drawn lead line in Figure 9. Ricoh says that Oki Data frames the issue as one of allegedly "correcting" an "error" in the patent. Ricoh contends that is not the issue, and not what was done in Order No. 28. Ricoh argues that the issue instead is whether Figures 8 and 9 depict the same blade configuration, and whether it is improper to construe claims 18 through 21 to exclude that embodiment. Ricoh asserts that Order No. 28 did not "correct" an "error" in the patent; rather, it properly ruled that the intrinsic evidence as a whole trumps Oki Data's heavy reliance on what appears to be an imprecisely drawn lead line in a patent figure. Ricoh adds that the Patent Office-approved drawings in the prosecution history (Citing CX-278 at RITC0001519) are further intrinsic evidence contradicting Oki Data's belated "tip or end" construction.

Ricoh argues that Order No. 28 correctly rejected Oki Data's error by ruling that claims 18 through 21 include the preferred embodiment within their scope. (CRB 7)

Oki Data's Position: Oki Data contends that the term means "the end of the elastically bent portion of the blade opposite to the top edge of the blade." (JX-13 at 43.)

Oki Data argues that Ricoh's proposed construction is in error, criticizing Dr. Stauffer's conclusion that "[t]he only logical meaning of lower edge . . . is the lower region where the

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blade contacts the developing roller . . .” (Citing CX-267 at Q. 58, 60; Tr. at 99:8-16.)

Oki Data argues that a fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document, (Citing *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed. Cir. 2003)) rather than a “logical” meaning gleaned from a dictionary. Oki Data contends that the specification generally acts as “a concordance for the claims,” (Citing *Phillips*, 415 F.3d at 1315 (quoting *Autogiro Co. v. United States*, 384 F.2d 391, 397-98 (Ct. Cl. 1967))), and “[t]he words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history.” (Citing *Kinik*, 362 F.3d at 1365.)

Oki Data asserts that Dr. Stauffer used dictionary definitions to support his opinions, and that he paraphrased the definitions rather than faithfully representing the definitions as they appear in the dictionary. (Citing Tr. at 100:13-16; 100:19-23; 100:24-102:8; 102:9-11; 104:17-22; RX-374.) Oki Data avers that the word “region” does not appear in “Ricoh’s dictionary.” (Citing RX-374; Tr. at 102:9-11.) Oki Data asserts that Dr. Stauffer ignored the very first dictionary definition, which defines “edge” in the context of a blade and in a way that corresponds to an end or tip of the blade. (Citing Tr. at 105:9-11; RX-374.)

Oki Data avers that Dr. Stauffer admitted that the ’343 specification describes the lower edge of the blade in a way that is inconsistent with Ricoh’s position that “lower edge of the blade” means “lower region of the blade.” Oki Data says in discussing the ’343 specification at JX-4, 12:14-17, Dr. Stauffer admitted that the applicants used the phrase “edge of the end of the blade” to refer to the “tip” of the blade. (Citing Tr. at 107:8-21, 109:14-110:12.) Oki Data continues that Dr. Stauffer also conceded that the applicants distinguished this location from a

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“lower region” of the blade, which the applicants called the “lower end” of the blade. (*Id.* Tr. at 105:15-107:7, 109:8-13.)

Oki Data refers to the language of the ‘343 patent, “[t]herefore, as indicated by a one-dot chain in FIG. 12, the contact position C of the roller part 34 and the blade 17 is located in a position slightly above the lower edge of the blade 17.” (Citing JX-4 at 15:17-20.) Oki Data concludes in light of the inventors’ usage of “lower edge of a blade,” a construction encompassing the “lower region” cannot be correct. (Citing *Haemonetics, Corp. v. Baxter Healthcare Corp.*, App. No. 09-1557, Slip Op. at 8-9 (Fed. Cir., June 2, 2010); *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999).)

Oki Data counters Ricoh’s argument that construing “lower edge of the blade” as other than “lower region” would exclude “the preferred embodiment” of the asserted claims. (Citing CPHB at 65) Oki Data argues that it is well-settled that litigants may not change the claim language that was chosen, even if it requires “constru[ing] the claims to exclude all disclosed embodiments.” (Citing *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1215-16 (Fed. Cir. 2008).)

Oki Data argues assuming that no embodiment discloses the tip or end of the blade in contact with the developing roller, it is still clear error to redefine the claim contrary to the inventors’ usage of “lower edge of the blade,” to make claims 18 to 21 cover Figure 8. (Citing *Schoenhaus v. Genesco, Inc.*, 440 F.3d 1354, 1359 (Fed. Cir. 2006).)

Oki Data asserts that “until the day before his deposition,” Dr. Stauffer believed that Figure 9 depicted a different blade than Figure 8 and that this different blade was positioned at the location indicated by lead line 17 in Figure 9 – in other words with the tip or an end of the blade touching the developing roller. (Citing Tr. at 128:21-131:18, 144:4-7, 144:19-145:1.) Oki

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Data contends that there are multiple embodiments of such a blade in the '343 patent, including for example Figure 3 which shows a developing blade 17 where the tip or end is in contact with the developing roller. Oki Data notes that Figure 9 labels a different feature as the developing blade 17, but also depicts this blade with the tip or end in contact with the developing roller. Oki Data adds that several embodiments of the invention without blade holders also are disclosed in the Summary of the Invention. (Citing JX-4 at 5:58-61; "16-20, 34-38, 53-57".)

Oki Data argues that Ricoh's Pre-Hearing Brief asserted for the first time and without any support from the inventors or the prosecuting attorneys that Figure 9 shows the end or tip of the blade in contact with the developing roller as the result of an "imprecisely drawn" figure. (Citing CPHB at 69.) Oki Data says in Order No. 28, denying Oki Data's motion for summary determination on the questions of whether Oki Data's developing blades "seal a gap," "the ALJ stated (without briefing by the parties) that the portion of Figure 9 labeled '17' was an error."

Oki Data argues that the public is entitled to rely on patents as they are issued, and it is improper to construe claims with reference to any alleged errors. (Citing *Haemonetics*, 2010 U.S. App. LEXIS 11122, at *13-14; and *Hoganas AB v. Dresser Indus., Inc.*, 9 F.3d 948, 951 (Fed. Cir. 1993)). Oki Data argues that the record does not show that either drawing was "imprecisely drawn" or otherwise erroneous in the issued patent. Oki Data avers that the final issued drawings first appeared in the prosecution history after the Notice of Allowability. (Citing RX-68 at OKI008382013-2036.) Oki Data alleges that the Notice of Allowability permitted the applicants to submit new drawings – not only to correct changes requested by the examiner as Ricoh asserts, but also to include "changes required by the Notice of Draftperson's Patent Drawing Review, PTO-948." (Citing RX-68 at OKI008382013.)¹² Oki Data asserts that

¹² Oki Data states that early in the examination process, the Notice of Draftperson's Patent Drawing Review (PTO 948) directed the applicants to submit new drawings "when necessary," because (among other reasons) "[l]ines,

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the applicants then submitted revised Figures 3 and 9 in the form that appear in the '343 patent (Citing RX-68 at OKI008382021, 2027), “along with numerous other changes to the final drawings never seen or approved by the examiner as provided for in the M.P.E.P.” (Citing Tr. at 145:2-147:16.)

Oki Data argues that “the ALJ is powerless to *sua sponte* correct possible errors ‘that would not have been clearly evident to one of skill in the art reading the intrinsic evidence.’” (Citing *Cent. Admixture Pharmacy Servs., Inc. v. Advanced Cardiac Solutions, P.C.*, 482 F.3d 1347, 1353 (Fed. Cir. 2007).) Oki Data says judicial officers can only correct patents when the proposed “correction is not subject to reasonable debate based on consideration of the claim language and the specification and . . . the prosecution history does not suggest a different interpretation of the claims.” (Citing *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003); and *id.* at 1357).¹³

Oki Data argues that the patent on its face does not suggest any errors. Oki Data alleges the issued drawings show embodiments that reflect consistent usage of lower edge to mean “tip and end” in both the specification and the claims. Oki Data adds that there is “at least a

numbers & letters” were “not uniformly thick and well-defined . . .” (Citing RX-68 at OKI008381993.) Oki Data avers that seven days later, the Patent Office issued Form PTO-1002 (New Patent Application Checklist Form Matters of Form), stating:

Because of the lengthy specification in this application, it has not been checked to the extent necessary to determine the presence of all minor possible errors. Applicant’s cooperation is therefore requested in promptly correcting any errors of which he may become aware in the specification or drawings.

(Citing RX-68 at OKI008381986) Oki Data asserts that both forms permit the correction of informalities without approval of the examiner after allowance. (Citing M.P.E.P. § 608.02(z) (“Submission to the examiner is not necessary unless an amendment accompanies the drawings which changes the specification, such as where the description of figures is added or canceled.”) (2000 rev.).) Oki Data contends that changes to lead line references and changes to reference numbers like the change to Figure 9 may be incorporated directly into final drawings without illustration in sketch drawings for the examiner M.P.E.P § 608.02(b), (h) (2000 rev.) provided the changes do not constitute new matter. *Id.*

¹³ Oki Data asserts that the *Novo* standard applies to errors anywhere in a patent. (Citing 35 U.S.C. § 255; *In re Lambrech*, 202 U.S.P.Q. 620, 622 (Comm’r Pat. & Trademarks 1976) (“Omission of a reference to an earlier application on which priority is based is a mistake ‘of a minor character’ which is correctable by Certificate [of Correction].”))

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reasonable debate as to why the issued drawings show the tip or edge of various developing blades in contact with the developing roller.” Oki Data alleges that Dr. Stauffer failed to identify any errors in the drawings for more than nine months through multiple readings of the patent and the prosecution history while drafting his declaration to support the complaint, supporting Ricoh’s preparation of the Joint Claim Chart, and submitting both of his expert reports. (Citing Tr. at 129:3-130:20.) Oki Data adds that Dr. Stauffer admitted that he originally understood the lead line for blade 17 in Figure 9 to be drawn correctly, that the developing blades in Figures 8A and 9 were different, and that he only changed his mind the day before his deposition. (Citing Tr. at 131:1-17.)

In its reply brief, Oki Data argues that Ricoh has failed to discuss “how a person of ordinary skill in the art would have understood the phrase “lower edge of the blade” at the time of the invention.” Oki Data contends that in discussion of its own proposed construction (i.e. “a lower region of the blade”), Ricoh nowhere states or attempts to apply the correct legal standard. (Citing CIB at 5.) Oki Data adds that Ricoh fails to explain why its proposed construction comports with the guiding principle that the “[c]ourts do not rewrite claims; instead, [they] give effect to the terms chosen by the patentee.” (Citing *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999))

Oki Data argues that Ricoh is incorrect to state that Dr. Fraser “backed off” the idea that Figures 8A and 9 show different versions of the blade. (Citing CIB at 9-10.) Oki Data alleges that the full discussion from the hearing shows the opposite. (Citing Tr. at 1359:6-1360:18.) Oki Data concludes that Dr. Stauffer admitted that the applicants used the phrase “edge of the end of the blade” to refer to the “tip” of the blade in the ’343 patent itself. (Citing Tr. at 107:8-21.)

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Staff's Position: Staff argues that the term should be construed to mean “the end of the blade opposite to the top edge of the blade.” Staff asserts that the specification teaches that “[t]he blade 17 includes a bent piece 52 that is bent in a (*sic*) L shape at a lower end of the blade 17, and thereby it is avoided that an edge of the end of the blade 17 contacts a surface of the developing roller.” (JX-4 at 12:14-17); and “As illustrated in FIGS. 8 and 9, the blade 17 is configured such ... Therefore, as indicated by a one-dot chain line in FIG. 12, the contact position C of the roller part 34 and the blade 17 is located in a position slightly above the lower edge of the blade” (JX-4 at 15:13-20, Figs. 8-9) (JX-13 at 43.)

Staff submits that the term “lower edge” in claims 18 through 21 of the ‘343 patent means “the end of the elastically bent portion of the blade opposite to the top edge of the blade.” Staff says that Ricoh’s proposed construction, “a lower region of the blade” is very similar to the Staff’s construction in that both recognize that the term “lower edge,” when read in light of the specification, cannot be restricted to the narrow surface at the exact bottom of the blade.

Staff notes that Ricoh contends that the shape of the developing blade in figures 3, 8A, 8B, and 9 is the same despite the fact that they appear to differ. (Citing CPHB at 67-69.) Staff says that Ricoh relies on earlier drafts of the figures included in the prosecution history; but not in the issued patent to assert that Figures 8 and 9 show the same blade configuration. Staff contends that Ricoh seeks to “correct” Figure 3 and 9 in the issued patent to reflect what was shown in the earlier draft.¹⁴ (Citing CPHB at 69.) Staff argues that a review of the complete prosecution history suggests that the differences in the appearances of the blades between the Figures as originally filed and as issued were deliberate, *i.e.*, intentional by the applicant and are

¹⁴ Staff says that the Examiner rejected the earlier draft of the Figures, and asked for corrected drawings. (Citing CX-278 at RITC 0001935.)

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not a result of a mistake by the PTO.¹⁵

Staff cites as an example, on March 7, 2000, the examiner stated:

“Specification, jumbo application not checked for minor errors (if more than 20 pages of description, exclusive of claims).” “Because of the lengthy specification in this application, it has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant’s cooperation is therefore requested in promptly correcting any errors of which he may become aware in the specification or drawings.”

(Citing Tr. at 134-35; RX-68 at OKI008381986.)

Staff asserts that on February 28, 2000, the PTO had advised the applicant that the drawings had to be amended because, *inter alia*, they were unclear. (Citing Tr. at 136-38; CX-278 at RITC 0001935.) Staff says that on September 14, 2000, the applicant submitted amended drawings, and in its amendment, the applicant stated: “Figures 3, 8(a), 8(b), 9, 14, 15, 19, and 20 have been amended as suggested in the Official Action.” Staff alleges that concurrently, the applicant submitted a letter requesting approval of the amended drawings. Staff asserts that Figure 3 is identical to those in the patent as issued. Staff indicates that the amendments were approved by the examiner on November 13, 2000. Staff reasons that any change to the drawings originally submitted could have been an allowable correction of an error. (Citing Tr. at 139-40; CX-278 at RITC 0001937, RITC 0001939, RITC 0001943, RITC 0001944, RITC 0001965.)

Staff avers that in its Notice of Allowability, the PTO instructed the applicant, as follows:

Applicant MUST submit NEW FORMAL DRAWINGS

* * *

including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. 6 including changes required by the proposed drawing correction filed on Sep 14, 2000 , which has been approved by the examiner.

* * *

¹⁵One copy of the file history of the '343 patent is in the record as RX-68, and another copy is in the record as CX-278. Each exhibit contains information that may be lacking in the other.

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(CX-278 at RITC 1964; Tr. at 139-40.) The formal drawings are consistent with the amended drawings submitted in September. (Citing Tr. at 139-40; CX-278 at RITC 1964, RITC 0001971, RIT 0001983.)

Staff argues if there is no error in Figures 3 and 9 and two embodiments of the blade exist – one depicted in Figures 3 and 9 and the other in Figures 8A and 8B – then Ricoh’s argument that adoption of the Staff’s and Respondents’ proposed claim construction would result in reading out the preferred embodiment lacks merit.¹⁶ (Citing CPHB at 64-65.) Staff contends that the evidence shows that two embodiments are disclosed in the specification and claimed in the claims.

Staff argues that the embodiment disclosed in Figures 8A and 8B is covered by claim 1 while the embodiment disclosed in Figures 3 and 9 is covered by claims 18 to 21. Staff says that claim 1 references a blade holder that is shown in Figures 8A and 8B; but this blade holder is not mentioned in claims 18-21.FN9 Staff asserts that Figure 9, in contrast, which is described as “another embodiment of the present invention” (Citing JX-4 at 9:5) is covered by claims 18 to 21.¹⁷ Staff says that Figures 3 and 9 show the blade 17 in direct contact with the cartridge wall casing 41 at precisely the location where toner exit 61 is located. Staff argues that when the claim language is clear and unambiguous it is not wrong to interpret claim language to exclude one or more embodiments, including preferred embodiments, that are covered by other claims, as is the case here. (Citing *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383

¹⁶ Staff says it is noteworthy that Ricoh first raised the issue of purported errors in the figures 3 and 9 in its pre-hearing brief on April 15, 2010 after failing to do so in either of its expert reports relating to the ‘343 patent (January 29 and February 19, 2010, respectively) or in its responses to Oki Data’s motions for non-infringement and for invalidity based on indefiniteness on March 29, 2010.

¹⁷ Citing *Haemonetics, Corp. v. Baxter Healthcare Corp.*, App. No. 09-1557, Slip Op. at 8-9 (Fed. Cir., June 2, 2010).

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(Fed Cir. 2008)); and *American Med. Sys., Inc. v. Laser Peripherals, LLC*, 665 F. Supp. 2d 1025, 1034 (D. Minn. 2009).)

Construction to be Applied: “the furthestmost point on the blade at its lower end”

The construction to be applied corresponds closest to that proposed by Staff. After a thorough and careful review of the intrinsic record, I find that Ricoh’s proposed construction is overbroad and conflicts with the use of the term in at least one part of the ‘343 patent. In addition, the term does not require a limitation that it be a part of an “elastically bent” blade, as argued by Oki Data, because the edge of the blade will be its edge regardless of whether or not the blade is straight, elastically bent or bent in an “L” shape.

Ricoh’s reliance on my ruling in Order No. 28 is misplaced. In that order I treated the “upper edge” claim limitation. In so doing I discussed differences and similarities of Figures 8 and 9, and used Figure 12 to assist in that analysis. Order No. 28 did not construe the term at issue here, and it is not inconsistent with the construction applied here.

As I stated in Order No. 28, when describing Figure 9, the specification states that “[t]he parts substantially the same as those illustrated in FIG. 1 through FIG. 8 are denoted by the same numerals or codes and the description thereof is omitted.” (JX-4 at 14:33-37; Order No. 28 at 10.) I note, too, that the specification provides further enlightenment when it says, “like reference numerals designate identical *or corresponding parts* throughout the several views...” (JX-4 at 9:41-44.)

In Order No. 28, I found that there was a misplaced identification line related to item 17, which is the blade. I said that in Figure 9, it appears that the line identifying blade 17 is pointing to the perfectly vertical line to the right of developing roller 15, which I described as part of supporting wall 13b. The specification describes an outer wall 41 of the developing case 13,

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which is shown in both Figure 3 and Figure 9. In figure 9 it is clear that the line identifying the blade 17 attaches itself instead to the outer surface of the outer wall 41 of the developing case 13. Also, Figure 9 reveals the blade to be located between the blade holder 42 and the supporting plates 43. Consistent with Order No. 28, I find that blade 17 in Figure 9 is actually the line to left of the perfectly vertical line, and that blade 17, located between the blade holder 42 and the supporting plates 43, contacts the roller 15.¹⁸ This is consistent with the identification of the blade as item 17 in Figures 3 and 8. (JX 4 at 11:53-59, Figs 3, 8a, 9; Order No. 28 at 10.)

The specification states:

As illustrated in FIGS. 8 and 9, the blade 17 is configured such that the part extending downward beyond the blade holder 42 bents [*sic*] toward the rear side of the developing case 13 by being pressed with the roller part 34 of the developing roller 15 and the bent piece 52 contacts the roller part 34. Therefore, as indicated by a one-dot chain line in FIG. 12, the contact position C of the roller part 34 and the blade 17 is located in a position slightly above the lower edge of the blade 17.

(JX-4 at 15:12-20.) This passage first demonstrates that the configurations of the blade in Figure 8 and Figure 9 are the same. The passage next demonstrates that the part of the blade extending downward from the blade holder is bent due to the blade's contact with the developing roller, rather than perfectly straight. This can clearly be seen in Figure 9. I note that the blade 17 shown in Figure 5, is described as having been bent in an L shape at a lower end of the blade, and thereby it is avoided that an edge of the end of the blade 17 contacts a surface of the developing roller 15. (JX-4 at 11:66-67, 12:14-17.) I note that the blade 17 shown in Figure 3, is a corresponding part to the blade 17 shown in Figures 8a and 8b as having been bent in an L

¹⁸ While this finding is subject to much debate by the parties regarding the propriety of correcting "errors" in patent claims, I do not concur that correction of this very minor error in drawing the line indicating the blade 17 in Figure 9 has any material affect on the claims. Nevertheless, all of the intrinsic evidence indicates to me that this line was clearly drawn in error. Furthermore, I concur that the various figures do represent differing shapes of the blade 17. I do not, however, concur that this minor correction is subject to reasonable debate based on consideration of the claim language and the specification or that the prosecution history suggests a different interpretation of the drawing as discussed in *Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 587 F.3d 1339, 1353 (Fed. Cir. 2009).

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shape at a lower end of the blade, and that configuration does “avoid” than an edge of the end of the blade 17 contacts a surface of the developing roller 15.

The foregoing intrinsic evidence makes crystal clear that the terms “end of the blade” and “edge of the blade” are not treated as synonymous by the ‘343 patent. It is also clear that the term “lower edge of the blade” is indicative of “the furthestmost point on the blade at its lower end” and *not* a “lower region of the blade” that would include, for example, the elbow of an L shaped bend at the lower end of the blade.

I find that examination of the extrinsic evidence (such as expert testimony) offered by the parties is unnecessary because the intrinsic evidence is sufficient to understand the meaning of “lower edge of the blade.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (“In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.”)

2. “Upper Edge [of the Toner Exit]”

The term “upper edge [of the toner exit]” appears in asserted claims 18, 19¹⁹, 20 and 21.

Ricoh’s Position: Ricoh argues that this term has an ordinary and customary meaning and requires no construction. Ricoh contends that, if construction is necessary, the term should be construed to mean “an upper region of the toner exit.” (JX-13 at 44.)

Ricoh relies on Order No. 28, saying it correctly resolved this claim construction dispute in Ricoh’s favor, denying Oki Data’s motion for summary determination of non-infringement of the ‘343 patent. Ricoh concludes that it is undisputed Oki Data’s products meet the “upper edge” limitation under the Court’s construction.

In its reply brief, Ricoh contends that “Oki Data concedes Order No. 28 resolves the

¹⁹ While the term does not specifically appear in claim 19, I note that claim 19 depends from claim 18. Thus all of the elements in claim 18, including the term at issue here, are a part of claim 19.

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‘upper edge’/’so as to seal a gap’ claim construction and infringement issue in Ricoh’s favor.”

(Citing RIB at 13-17.)

Oki Data’s Position: Oki Data states that it adopts the Staff’s proposed construction.

(JX-13 at 44)

Oki Data alleges that Order No. 30 “largely renders moot this claim construction dispute.” Oki Data announces its intent to “seek review of that claim construction.”

Next, Oki Data says, “[t]he parties appear to be in agreement as to the meaning of this limitation.” Oki Data asserts that under all parties’ constructions, Dr. Stauffer testified about where the upper edge is located: “[t]he top of the gap is at the top of the exit of the toner cartridge[]” e.g. at the “the underside of the cartridge wall,” (Citing CX-267 at Q. 172, 174; CX-122:15; RX-368C at Q. 63), where the toner . . . leaves the developing case.” (Citing CPHB at 80.) Oki Data concludes that the ordinary and customary meaning of “upper edge” thus is the upper boundary of toner exit or chamber at the locations identified by Dr. Stauffer. (*Id.*)

Staff’s Position: Staff argues that the term should be construed to mean “the top of the exit of the toner cartridge.” (Citing JX-4 at 15:27-36, Fig. 12.) (JX-13 at 44.)

Staff says that Order No. 28 construed the “an upper edge of the toner exit” limitation as not requiring that “the blade and only the blade, seals a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller, without the help of other components.” (Citing Order No. 28 at 7) Staff states that, in light of the foregoing, it will not provide its proposed construction here. Staff says it believes that the Order is incorrect because the specification teaches that an opening in the developing case of the developing device should be sealed in order to prevent leakage both during transportation and during storage, without having to remove sealing tape covering that opening before using the

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device. Staff cites as an example, that the summary of the invention states that the focus of the “present invention” is to prevent toner leakage by filling an opening in the developing case using a novel blade structure. Staff argues when a patent describes the features of the “present invention” as a whole, this description limits the scope of the invention. (Citing *Honeywell Int’l, Inc. v. ITT Indus.*, 452 F.3d 1312, 1318-19 (Fed. Cir. 2006); *Scimed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343 (Fed. Cir. 2001); *Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1368 (Fed. Cir. 2007); JX-4 at 4:42-50, 55-60, 63-67; 5:1-5.)

Construction to be applied: “a point in the toner exit represented by the point at which the bottom surface of the seal member connects with the outer surface of the outer wall of the developing case”²⁰

In each of the asserted claims, the term to be construed appears in an element that states, in relevant part:

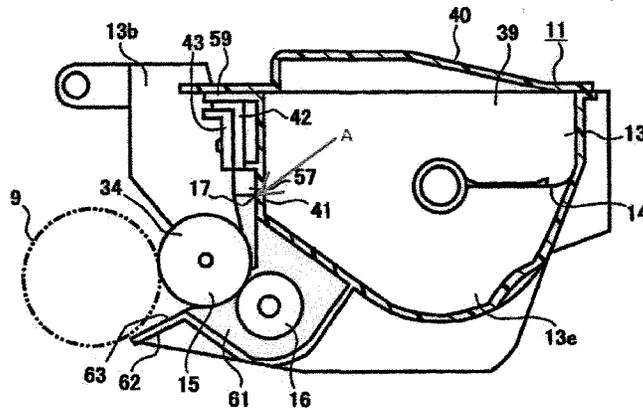
a blade ... that is configured such that a lower edge thereof contacts the roller part of the developing roller so as to seal a gap between ***an upper edge of the toner exit*** and an upper outer circumferential surface of the roller part of the developing roller,”

(JX 4 at 25:9-14, 25:51-56, 26:19-24) (Emphasis added.)

The toner exit 61 is best illustrated in Figure 9 of the ‘343 patent. The top of the toner exit shares a common wall with the developing case 13, which is designated as outer wall 41. As shown in the depiction of Figure 9, below, the toner exit occupies the area highlighted in yellow, and its uppermost point is located where the bottom surface of the seal member 57 connects with the outer surface of the outer wall 41 of the developing case 13, which is shown as point of arrow “A.”

²⁰ Notwithstanding the opinions of Ricoh and Staff, Order No. 28 did not construe this term. I note, too, that Order No. 30, cited by Oki Data, does not appear to have treated this issue in any way.

FIG. 9



In describing the toner exit the specification says, *inter alia*,

As illustrated in FIG. 9 through FIG. 11, in the developing case 13, a toner exit 61 in which the roller part 34 of the developing roller 15 is disposed and a flat surface 62 extending from a lower edge of the toner exit 61 toward the photoconductor 9 are formed.

(JX-4 at 14:39-43; Fig. 9) (Emphasis added.)

It is clear from the description and the illustration that the toner exit extends from the flat surface 62 upward to include the area in which the roller part 34 of the roller 15 is situated and includes the open area bounded by the outer surface of outer wall 41, the bottom surface of the seal member 57 and the surface of the blade 17. Thus, an upper edge of the toner exit is the point on the common wall shared by the toner exit and the developing case where the bottom surface of the seal member 57 connects with the outer surface of the outer wall 41 of the developing case 13.

I find that examination of the extrinsic evidence (such as expert testimony) offered by the parties is unnecessary because the intrinsic evidence is sufficient to understand the meaning of “upper edge [of the toner exit].” *Vitronics*, 90 F.3d at 1583 (“In most situations, an analysis of

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the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.”)

F. The ‘690 Patent

1. “The Thermofusible Toner Has Softening Point of Less Than [A]bout 80° C”

The term “the thermofusible toner has softening point of less than [a]bout 80° C” appears in asserted claims 2, 6, 10 and 14.²¹

Ricoh’s Position: Ricoh argues that the term has an ordinary and customary meaning and does not require construction. Ricoh contends that, if the term requires construction, it should be construed to mean “the temperature at which the toner begins to soften is less than about 80° C using a differential thermal analyzer.” (JX-13 at 45.)

Ricoh cites Order No. 22 to say that “the parties generally agree that the ‘softening point’ refers to the temperature at which toner begins to soften.” Ricoh adds that “Oki Data and its expert have apparently conceded the term means what Ricoh proposes – the temperature at which the toner begins to soften.” (Citing Tr. at 1173:6-15; Order No. 22 at 5.)

Ricoh argues that during the case, Oki Data raised only one claim construction issue, the meaning of “softening point” of toner. (Citing JX-13 at 61; RPHB 74-75.) Ricoh asserts that in JX-13, Oki Data claimed the ’690 patent “lacks sufficient description and teaching” of the softening point limitation. (Citing JX-13 at 45.) Ricoh contends that Oki Data now claims “that the ordinary and customary meaning should be applied” (Citing RIB at 38 n.20) and that Oki Data proposes a brand-new construction that is not the plain and ordinary meaning, to wit: “the temperature at which the toner is softened or melted such that it can be permanently fixed to paper.” (Citing RIB at 42.)

²¹ While the term does not specifically appear in claims 6, 10 and 14, I note that claims 6 and 10 depend from claim 2 directly, and claim 14 depends from claim 2 indirectly through claim 6. Thus, all of the elements in claim 2, including the term at issue here, are a part of claims 6, 10 and 14.

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Ricoh says that Staff also asserts new constructions: “the softening point is the point at which the material flows easily,” can “be transferred and ‘fixed’ to a substrate” and is “significantly above the melting point of a toner material.” (Citing SIB at 40.)²² Ricoh argues that neither Staff nor Oki Data proposed the foregoing constructions before now. Ricoh contends that the proposed constructions by both Staff and Oki Data are, therefore, late and waived.

Ricoh continues that Oki Data falsely claims that its belated definition “is recited within the specification of the ’690 patent.” (Citing RIB at 42 (citing JX-5 at 9:25-28).) Ricoh avers that the patent actually states: “[i]n addition, the toner used for the printing test has a relatively low fixing temperature. The softening point of the toner, measured with a differential thermal analyzer, was about 75°C.” (Citing JX-5 at 9:25-28.) Ricoh asserts that passage does not “define” softening point, but instead correlates two different temperatures: the softening point of toner below 80°C and a low fixing temperature.

Ricoh argues that the softening point cannot be confused with the fixing temperature at which toner is actually fused to paper. Ricoh contends that neither the parties nor Staff contended during claim construction that “softening point” is the temperature at which toner becomes fixed to paper. (Citing JX-13 at 45; SIB at 42.) Ricoh continues that no evidence supports Staff’s position that softening point “is a temperature significantly above the melting point of a toner material.” (Citing SIB at 40.)

Oki Data’s Position: Oki data offers no construction for this term. (JX-13 at 45.)

Oki Data asserts that every claim of the ’690 patent is directed to a “toner image fixing method,” that is, a method of fixing a toner image to a material such as paper by heat and

²² Ricoh says Staff also suggests that Ricoh contends that softening point “is properly construed as the glass transition point of the toner material.” (Citing SIB at 40.) Ricoh denies that it makes that contention.

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pressure. (Citing JX-5 at 11:20-12:49; CX-268C at Q. 81) Oki Data says that when the Joint Claim Construction was submitted, both Staff's and Ricoh's position was that the claim element "the thermofusible toner has [a] softening point of less than [a]bout 80°C" should be interpreted in accordance with its ordinary and customary meaning, with the Staff providing its interpretation of such meaning.²³ (Citing JX-13 at 45.)

Oki Data states that Ricoh asserted an alternative construction if the term is not construed in accordance with the ordinary and customary meaning, to wit: "the softening point as measured using Differential Thermal Analysis (DTA)." (Citing JX-13 at 45; CX-268C at Q. 108; Tr. at 319:5-13, 329:25-330:6.) Oki Data argues that, in advancing its alternative construction, Ricoh seeks to ignore the ordinary and customary meaning supported by the intrinsic and objective extrinsic evidence, and instead read a limitation into the claims from the specification. (Citing JX-5 at 11:49-51; RX-369C at Q. 41-43.)

Oki Data argues that it is a "bedrock principle" that the invention of a patent is defined by its claims. (Citing *Phillips v. AHW Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005).) Oki Data says the Federal Circuit has consistently held that limitations that do not otherwise appear in the claims should not be imported into the claims, an act the court has characterized as "one of the cardinal sins of patent law." (Citing *Phillips*, 415 F.3d at 1320-21; *N. Am. Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335, 1348 (Fed. Cir. 2005); *Tehrani v. Hamilton Med., Inc.*, 331 F.3d 1355, 1362-1363 (Fed. Cir. 2003).) Oki Data adds that where the language of the claims is clear, it is improper to limit the claims to a specific embodiment even where only one embodiment is disclosed. (Citing *Phillips*, 415 F.3d at 1323.) Oki Data contends that the Federal Circuit has explained that the line between construing claims and reading a limitation into the claims from the specification "can be discerned with reasonable certainty and

²³ Oki agrees that the ordinary and customary meaning should be applied.

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predictability if the court's focus remains on understanding how a person of ordinary skill in the art would understand the claim terms.” (Citing *Phillips*, 415 F.3d at 1323.)

Oki Data contends that Ricoh and its expert have defined the level of ordinary skill in the art in a manner that expressly excludes experience in printing technology, affirmatively stating, “[t]o understand the ’690 patent, one need not have any prior experience with toner, with fuser rollers or with image fixing.” (Citing CX-268C at Q. 70; CX-306C at Q. 15-17; Tr. at 252:22-255:2.) Oki Data argues that this approach invites clear error, quoting:

It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field.

(Citing *Phillips*, 415 F.3d at 1313.)

Oki Data asserts that Ricoh responded to Oki Data’s Interrogatory No. 13, stating that the “methods of determining, calculating or measuring the softening point include use of a differential thermal analyzer, a flow tester (*e.g.*, a Shimadzu CFT-500), and a Ring and Ball Method.” (Citing Tr. at 330:7-332:2.) Oki Data contends that Ricoh thus admitted that persons of ordinary skill in the relevant art recognize more than one method exists for determining the softening point of a thermofusible toner. (*Id.*) Oki Data says that Ricoh did not limit the term “softening point” as it is used in the ’690 patent to any specific type of measurement (*id.*), and its sworn answer is consistent with its characterization of its own toner products, for which it lists a “softening point” of “Approx. 110” without any reference to the method of measurement. (Citing RX-212 at OKI008377995; Tr. at 339:25-343:19.)

Oki Data argues that toner specifications provided by the manufacturer of the accused toners provide objective third-party evidence of how those of ordinary skill in the art *actually*

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use and interpret the term “softening point” in the context of thermofusible toners.²⁴ {

}

Oki Data argues that Ricoh’s construction is based upon one example in the patent wherein a specific toner was measured using DTA. (Citing JX-5 at 9:27-28.) Oki Data contends that there is no basis for reading this limitation into the claims on the basis of a single isolated passage, which neither states that DTA is required nor preferred. (Citing RX-369C at Q. 42.) Oki Data concludes that reading DTA into the claims would not only be violative of the Federal Circuit’s clear precedent, it ignores the remaining seven (7) times that the term “softening point” is used without any mention of DTA or any other methodology. (Citing JX-5 at 2:62-3:9, 3:38-41, 5:19, 5:24, 5:28, 5:29, 5:30; RX-369C at Q. 42; *Phillips*, 415 F.3d at 1323.)

Oki Data argues that the softening point is an inherent characteristic of a toner, and therefore does not depend on the method of measurement. (Citing RX-369C at Q. 42.) Oki Data points to the testimony of its expert, Dr. Karz, in which he said the temperature at which a thermofusible toner is melted to a sufficient point such that it can be fused or fixed to paper in a roll fuser is an inherent property of the toner’s composition, an absolute value that you can measure with any number of means. (Citing RX-369C at Q. 35-51, 42-43; JX-5 at 9:25-28; Tr. at 1184:13-1186:16.)

In its reply brief, Oki Data argues that Ricoh mischaracterizes Oki Data’s proposed construction of the term “softening point.” (Citing CIB at 35.) Oki Data says that Ricoh

²⁴ Oki Data alleges the particular toner specification was prepared October 24, 2005, and amended in relevant part on September 6, 2006, before the institution of this Investigation or any accusation concerning the ‘690 patent. (RX-235C at OKI 3782709-10.)

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wrongly asserts that Oki Data has “conceded” that the meaning of “softening point” is “the temperature at which toner begins to soften.”²⁵ (*Id.*) Oki Data contends that it has not agreed that this is the correct construction. (Citing RIB at 38-42.) Oki Data says that in support of its statement, Ricoh cites the trial transcript where Ricoh’s counsel mischaracterized the ’690 patent specification and Order No. 22. (Citing Tr. at 1173:06-15.) Oki Data submits that Order No. 22 misstated Oki Data’s position. Oki Data says that its position expressed in its Summary Determination papers was that “softening point” was the temperature at which the toner softens or melts sufficiently that it can be fixed permanently to paper. (Citing Motion Docket 690-022 at 10 fn. 8; RIB at 38-42.) Oki Data adds that Dr. Karz confirmed this was the correct construction multiple times during his courtroom testimony both during cross-examination and re-direct. (Citing Tr. at 1172:12-17, 1185:4-11, 1185:25-1186:9, 1189:17-24.)

Staff’s Position: Staff asserts that the term should be construed according to its ordinary meaning, which is “the toner has a softening point that ranges from 76 to 84 C, because such a range would normally be rounded up or down to 80° C.” (JX-13 at 45.)

Staff argues that the softening point is the point at which the material flows easily. Staff says that Ricoh bases its assertion on its reading of the intrinsic evidence, *i.e.*, the fact that the inventors purportedly used a differential thermal analyzer (“DATA”) to measure glass transition temperature and other temperatures. (Citing CPHB at 148.) Staff asserts that the glass transition temperature is the temperature at which a compound begins to lose its crystalline structure. Staff states that fixing the toner on a substrate only occurs after the toner melts. (Citing RX-123 at Q. 89.) Staff concludes that the evidence demonstrates that the term “softening point” in the toner

²⁵ Oki Data notes that in the indefiniteness section of its brief, Ricoh adds the requirement that the softening point be measured “with a device that is *analogous to* a differential thermal analyzer.” (Citing CIB at 62 (emphasis added by Oki Data).) Oki Data avers that this construction was never proposed by Ricoh before its Post-Trial Brief. (Citing JX-13 at 45.)

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art is a temperature significantly above the melting point of a toner material. (SIB 42-43)

Staff adds that acceptance of Ricoh's proposed construction of the phrase "softening point" as meaning the glass transition temperature would lead to inoperable claims, and hence, invalidity under § 101 for lack of utility.

Construction to be applied: The plain and ordinary meaning of the term, which is "the temperature at which the thermofusible toner begins to make a physical change from a solid form to a molten form is less than about 80° C."

Inasmuch as, the plain and ordinary meaning of a term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, I must define a person having ordinary skill in the art at the time of the invention ("PHOSITA"). The parties differ on the qualifications they consider important in a PHOSITA.

Dr. Giacomini, Ricoh's expert, has the opinion that a PHOSITA will have a graduate degree in rheology, or the equivalent, or several years of industrial experience in rheology. He believes a PHOSITA would also have "experience with problems revolving around common line motion, and with polymer melting, and with profilometry." (CX-306C at Q. 13-23.)

Dr. Karz, Oki Data's expert, thinks that a PHOSITA should have a Bachelor of Science or Master of Science degree or the equivalent in Materials Science, physics, chemistry, chemical engineering, or mechanical engineering, and at least three to five years of experience working with xerographic fusers. Dr. Karz opined that to possess ordinary skill, the relevant experience and familiarity would need to include heat transfer, fuser roller design and technology, toner rheology, toner adhesion, paper handling and wrinkle, release agent management, nip geometry, image fixing and paper path geometry. He said that a PHOSITA would also need familiarity

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with contact angle and surface roughness characteristics and testing of xerographic fuser rollers. (RX-123C at Q. 23.)

Dr. Giacomini disagrees with Dr. Karz's opinion, and contends that it includes irrelevant experience areas, including fuser roller design, paper handling and wrinkle, release agent management, and paper path geometry. Dr. Giacomini also said that Dr. Karz's definition includes unnecessarily specific areas including fuser roller technology, toner rheology, toner adhesion, and image fixing. Dr. Giacomini concluded that to understand the 690 patent, one need not have any prior experience with toner, with fuser rollers or image fixing. (CX-306C at Q. 13-23.)

Dr. Giacomini concedes that the '690 patent is directed to a toner fixing method applied to printing technology and relates to use of thermofusible toners. Under cross-examination regarding his opinion about common line motion, polymer melting and profilometry, Dr. Giacomini testified that he did not change his definition between the time of his deposition and the time he submitted his witness statement in this case. Dr. Giacomini said a PHOSITA must be able to understand printing technology and hot offset in particular. He asserted that anyone interested in common lines would be reading this patent, and a person with training in rheology would know what a release agent is. (Tr. at 252:25-255:2)

Dr. Giacomini asserted that a toner is always a polymer. Dr. Giacomini said the value of the 690 patent includes: (1) the fuser roughness; (2) the toner softening point using differential thermal analysis; and (3) the adhesion constant ratio $(\mu_{s-t(1)} / \mu_{s-t(2)})$. He said that the '690 patent circumvented the need for adhesion release agents by using fuser materials with low adhesion

constant ratios, and specifically those obeying the inequality those obeying: $\frac{\mu_{s-t(1)}}{\mu_{s-t(2)}} < 8.0$ He

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added that Paper handling and wrinkle has nothing to do with the 690 patent. (CX-306C at Q. 19-23.)

The '690 patent is directed to a toner image fixing method for producing a fixed image having good image qualities without hot-offset even when toner having a relatively low fixing temperature is employed. (JX-5 at Abstract.) In describing the field of the invention, the '690 patent states:

The present invention relates to a toner image fixing method for fixing a thermofusible toner image formed by electrophotography, electrostatic recording, electrostatic printing, and the like, and more particularly to a toner image fixing method for fixing a thermofusible toner image which has a relatively low fixing temperature and high tackiness when melted, such that the image is easily and completely fixed without unwanted adhesion to a fixing member of a fixing unit of an image forming apparatus.

(JX-5 at 1:6-14.)

Considering the focus of the '690 patent, I am convinced that a person having ordinary skill in the art encompassed by the '690 patent, at the time of the invention set forth therein, would be one who has at least a Bachelor's Degree in materials science, rheology, physics, chemistry, chemical engineering, or mechanical engineering and at least three years of experience in electrophotography, electrostatic recording, or electrostatic printing or like fields. The PHOSITA would also be familiar with heat transfer, fuser roller design and technology, toner rheology, toner adhesion, release agent management, nip geometry, image fixing, paper path geometry, contact angle and surface roughness characteristics and testing of xerographic fuser rollers.²⁶

The key portion of the term to be construed is "softening point." The parties differ on this point. Ricoh contends that it is the point at which the toner "begins to soften." Ricoh points

²⁶ This definition of a PHOSITA includes most of the characteristics described by Dr. Karz, with the exception of paper handling and wrinkle, the relevance of which has not been demonstrated. Also, the definition adds rheology as a relevant field of academic study.

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to the description of preferred embodiments which states in part: “[i]n addition, the toner used for the printing test has a relatively low fixing temperature. The softening point of the toner, measured with a differential thermal analyzer, was about 75°C.” (Citing JX-5 at 9:25-28.)

Ricoh asserts that the quoted passage does not “define” softening point, but instead correlates two different temperatures: the softening point of toner below 80°C and a low fixing temperature.

Ricoh argues effectively that the softening point cannot be confused with the fixing temperature at which toner is actually fused to paper. Ricoh contends that neither the parties nor Staff contended during claim construction that “softening point” is the temperature at which toner becomes fixed to paper. (Citing JX-13 at 45; SIB at 42) Ricoh contends that Oki Data and Staff have waived that argument by not including the construction in their submissions for JX-13.

Oki Data offered no construction for this term in the joint statement of proposed constructions of claim terms. (JX-13 at 45.) Oki Data is, thus, confined to arguing why the construction(s) proposed by Ricoh or Staff are incorrect.

Staff’s submittal in JX-13 did not provide a construction for the term “softening point.” It merely argued a range of temperatures that should be applied to that term. (JX-13 at 45.)

Asserted claim 2 of the ‘690 patent teaches, “[t]he toner fixing method of claim 1, wherein the thermofusible toner has softening point of less than about (sic) 80° C.” (JX-5 at 11:49-51.) The fixing method taught by claim 1 combines heating the nipped section of two fixing members and fixing the thermofusible toner image on the image supporting material by contacting the thermofusible toner image with the heated nipped section of the two fixing members, along with an adhesion constant determined by a specific formula. (*Id.* at 11:21-48.)

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The '690 patent teaches a method for fixing a thermofusible toner image which has a relatively low fixing temperature and high tackiness when melted. (JX-5 at 1:10-12.) In discussing the background of the invention, the '690 patent notes "toner is required to have good adhesion to a recording material even at a relatively low fixing temperature. Therefore, the toner has to include a tacky resin having a relatively low softening point in order to have good thermosensitivity." (*Id.* at 2:64-3:1.)

In the summary of invention, the '690 patent describes a toner image fixing method in detail. Then it describes "another embodiment" in which "a softening point of the toner is less than about 80° C., and the ratio of the first adhesion constant to the second adhesion constant, $(\mu_{1-80}) / \mu_{1-120})$, is less than about 5.0." (JX-5 at 3:19-41.)

In the description of preferred embodiments, after discussing desirable adhesion constants in detail, the '690 patent describes, "[i]n an image forming apparatus having a relatively low fixing temperature, fixing unit, a softening point of the toner is preferably less than about 80° C. to maintain low temperature fixing." It also includes reference to the ratio of the first adhesion constant to the second adhesion constant as being less than about 5.0. (JX-5 at 5:18-32.) In describing the testing of the fixing member for hot offset, the '690 patent notes that "the toner used for the printing test has a relatively low fixing temperature. The softening point of the toner, measured with a differential thermal analyzer, was about 75° C." (*Id.* at 9:26-28.)

The specification of the '690 patent recites that during testing, the softening point "measured with a differential thermal analyzer was about 75° C." I found no reference in the description of preferred embodiments that prescribed that testing method to determine the softening point of the toner. Dr. Karz testified, in fact, that the specification of the '690 patent does not make that statement. (RX-369C at Q. 42.) In claim 2 the inventor did not specify a

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testing method to determine the softening point temperature of the toner. It merely provided that the softening point was “less than about 80° C.” (JX-5 at 9:27-28, 11:50-51.) The claim does not require that the temperature be measured using any particular device. Adding the limitation suggested by Ricoh would improperly import a limitation to the claim from the specification. *Phillips*, 415 F.3d at 1323.

Regarding the term “softening point,” Dr. Karz conceded on cross-examination that it represents the temperature at which the toner begins to soften. (Tr. at 1173:6-15.) On redirect examination, however, Dr. Karz said that the softening point is the point at which the temperature of the toner reaches a high enough point that the toner will flow onto the paper and firmly attach to the paper. Dr. Karz admits that the ‘690 patent does not speak in those terms; but he opines that it is talking about that same thing. (Tr. at 1185:4-1186:16.)

On cross-examination, Dr. Giacomini testified that the glass transition point is not when something goes from being a solid and shatterable to something that is soft or liquid. He testified that it is when the material goes from a glassy state to a leathery state. He said that it is below the level at which the toners begin to melt. (Tr. at 328:13-329:7.) In his direct testimony, Dr. Karz stated that glass transition temperature is not a melting temperature. He said that immediately above that temperature many polymers (and toners) behave more like rubbers than liquids. (RX-369C at Q. 47) It appears that Ricoh’s expert and Oki Data’s expert agree that the glass transition level is not the temperature at which toner will begin to make a change from a solid form to a molten form.

The ‘690 patent uses the terms “fixing temperature” and “softening point” frequently in close proximity. The ‘690 patent uses the term “fixing temperature” to describe the condition of the toner when it is melted, having “high tackiness,” such that the image is easily and completely

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fixed without unwanted adhesion to a fixing member of a fixing unit of an image forming apparatus. (JX-5 at 1:10-14.) The '690 patent teaches that the toner has to include a tacky resin having a relatively low softening point in order to have good thermosensitivity. It cautions, however, that this results in the toner adhering to the surface of a heat fixing roller, which would normally have good releasability when used with a conventional toner having a normal fixing temperature, thus resulting in the occurrence of hot-offset. The patent goes on to say that, because of these reasons, a need exists for a toner fixing method that produces a good fixed image without hot-offset even when toner having a relatively low fixing temperature is used. (JX-5 at 2:66-3:9.) Throughout the discussion of the fixing temperature, the '690 patent does not use the term "softening point." Hence, I conclude that, when the '690 patent discusses fixing temperature and fixing point, it is discussing the condition in which the toner will adhere to the paper. That is the condition described by Dr. Karz, when he testified that the toner reaches a high enough point that the toner will flow onto the paper and firmly attach to the paper. (Tr. at 1185:4-1186:16.)

Inasmuch as, the '690 patent uses the term "softening point" in a separate context, which includes specific (low) requirements for the ratios of adhesion constants (e.g. less than about 5.0), it becomes evident that the '690 patent is describing something other than the point at which the toner reaches a condition that it will flow onto the paper. I conclude that the term "softening point" refers to the point at which the toner reaches the temperature at which it begins to make the physical transition from a solid state to a molten state. This is more clearly illustrated in the description of the preferred embodiment when it describes "[i]n an image forming apparatus having a relatively low fixing temperature, fixing unit, a softening point of the toner is preferably less than about 80° C. to maintain low temperature fixing." (JX-5 at 5:18-21.)

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Consistent with the foregoing, the '690 patent describes evaluating samples with respect to static contact angle and receding contact angle for determining first and second adhesion constants, surface roughness, and the occurrence of hot offset. In connection with the latter, the softening point of the toner, measured with a differential thermal analyzer, was about 75° C. (JX-5 at 8:44-48, 9:27-28.) Dr. Giacomini testified that he used a differential thermal analyzer and applied the standardized method and test conditions for differential thermal analysis, ASTM D3418-08, to the accused toners. (CX-306C at Q. 52-53.) On cross-examination, he distinguished the softening point from the fixing point, saying, “[s]oftening the material is a necessary condition. But normally you need to melt the material also in order for it to fix.” (Tr. at 321:8-10.)

I find that the term “softening point” is not synonymous with “fixing temperature”. I conclude that the term at issue is properly construed as having its plain and ordinary meaning, which is “the temperature at which the thermofusible toner begins to make a physical change from a solid form to a molten form is less than about 80° C.”

IV. INVALIDITY

A. Applicable Law

It is Respondents’ burden to prove invalidity, and the burden of proof never shifts to the patentee to prove validity. *Scanner Techs. Corp. v. ICOS Vision Sys. Corp. N.V.*, 528 F.3d 1365, 1380 (Fed. Cir. 2008). “Under the patent statutes, a patent enjoys a presumption of validity, *see* 35 U.S.C. § 282, which can be overcome only through facts supported by clear and convincing evidence[.]” *SRAM Corp. v. AD-II Eng’g, Inc.*, 465 F.3d 1351, 1357 (Fed. Cir. 2006).

The clear and convincing evidence standard placed on the party asserting the invalidity defense requires a level of proof beyond the preponderance of the evidence. Although not

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susceptible to precise definition, “clear and convincing” evidence has been described as evidence which produces in the mind of the trier of fact “an abiding conviction that the truth of a factual contention is ‘highly probable.’” *Price v. Symsek*, 988 F.2d 1187, 1191 (Fed. Cir. 1993) (citing *Buildex, Inc. v. Kason Indus., Inc.*, 849 F.2d 1461, 1463 (Fed.Cir.1988).)

“A patent is invalid for anticipation if a single prior art reference discloses each and every limitation of the claimed invention. Moreover, a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference.” *Schering Corp. v. Geneva Pharm., Inc.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003) (citations omitted). “When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job[.]” *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984). Therefore, the challenger’s “burden is especially difficult when the prior art was before the PTO examiner during prosecution of the application.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1467 (Fed.Cir.1990).

Section 103 of the Patent Act states:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

35 U.S.C. § 103(a) (2008).

“Obviousness is a question of law based on underlying questions of fact.” *Scanner Techs. Corp. v. ICOS Vision Sys. Corp. N.V.*, 528 F.3d 1365, 1379 (Fed. Cir. 2008). The

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underlying factual determinations include: “(1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art, and (4) objective indicia of non-obviousness.” *Id.* (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)). These factual determinations are often referred to as the “*Graham* factors.”

“When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job[.]” *Am. Hoist & Derrick Co.*, 725 F.2d at 1359. Therefore, the challenger’s “burden is especially difficult when the prior art was before the PTO examiner during prosecution of the application.” *Hewlett-Packard Co.*, 909 F.2d at 1467.

The critical inquiry in determining the differences between the claimed invention and the prior art is whether there is a reason to combine the prior art references. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417-418 (2007). In *KSR*, the Supreme Court rejected the Federal Circuit’s rigid application of the teaching-suggestion-motivation test. The Court stated that “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* at 418. The Court described a more flexible analysis:

Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue...As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

Id.

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Since *KSR* was decided, the Federal Circuit has announced that, where a patent challenger contends that a patent is invalid for obviousness based on a combination of prior art references, “the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, . . . and would have had a reasonable expectation of success in doing so.” *PharmaStem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007).

B. The ‘866 Patent

1. Anticipation

a. European Patent Application 0 632 637 A1

Oki Data’s Position: Oki contends that its has offered clear and convincing evidence that European Patent Application 0 632 637 A1 (“the IFAX application”) anticipates each asserted claim of the ‘866 patent. (Citing RX-33C at Q. 176-294; RX-39C.) Oki states that the IFAX application discloses a multi-function device including scan, copy, print, and fax capabilities that was designed to connect directly to a network of Windows workstations.

Oki Data claims that Ricoh’s only defense is that there is no discussion in the IFAX application of scan conditions or storing scan conditions from a remote location. (Citing Tr. at 836:4-11, 838:12-17, 842:14-22, 836:12-837:13, 837:18-838:3.) Oki offers three reasons why it believes Ricoh is wrong: (1) Dr. Stevenson allegedly admitted that the “Remote Access” of the IFAX allows for users to control features of the IFAX from remote locations; (2) Dr. Stevenson admitted that among the features that can be controlled remotely, the IFAX application disclosed remote setting and storing of scan parameters; and (3) Dr. Stevenson admitted that when a user logs into the IFAX, all previously altered settings are updated and loaded on the IFAX.

Oki Data asserts that Ricoh also claims that the IFAX application fails to disclose test

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means (claim 6) and deleting means (claim 8.) Oki Data contends that, contrary to Ricoh's assertion, the test means is disclosed at Figure 17 of the IFAX application. (Citing RX-33C at Q. 276-280, 283; RX-15.) Oki Data notes that it agrees that there is no "deleting means" because that term is indefinite. If that term is not found to be indefinite, then Oki Data claims that the IFAX application discloses the broadest possible interpretation of the "deleting means." (Citing RX-33C at Q. 290-293; RX-15 at 38:15-16.)

In reply, Oki Data argues that Ricoh mischaracterizes Dr. Baroody's testimony in arguing that the IFAX application discloses saving only one set of scan conditions, the default setting. (Citing Tr. at 1504:21-25.) Oki Data next claims that Ricoh is incorrect in stating that the feature of remote configuration of scan files is not expressly stated in the lists of "User Administration" features on page 57 and "System Administration" features on page 58. (Citing RX-33C at Q. 223.)

Ricoh's Position: Ricoh contends that the IFAX application does not anticipate any of the asserted claims of the '866 patent.

Ricoh argues that the IFAX application discloses saving only one set of scan conditions, the "default" set. (Citing Tr. at 1502:4-1504:25.) According to Ricoh, nowhere is there any disclosure of setting or storing multiple sets of scan conditions. Further, Ricoh argues that there is no discussion of storing scan conditions from a remote location. (Citing Tr. at 1510:4-1517:10.) Ricoh states that because the concept of remote configuration of scan parameters and storage of those parameters on the network scanner apparatus of the '866 patent is a fundamental concept to the invention, the IFAX application fails to disclose at least the "memory means" and "network-interface means" limitations of claim 1. (Citing RX-15.)

In addition, Ricoh claims that the IFAX application fails to disclose the "test means" of

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claim 6 and the “deleting means” of claim 8. (Citing CX-309; RX-33C at Q. 293.)

Staff’s Position: Staff contends that the IFAX application anticipates each asserted claim of the ‘866 patent. Staff notes that Dr. Stevenson asserts that the IFAX application is missing (1) a network interface for receiving some scan files from the network; and (2) remote configuration of scan parameters and storage of those parameters on the network scanner. (Citing CX-309 at Q. 50-51.) Staff disagrees with Dr. Stevenson’s assertions. Staff argues that the IFAX application discloses that the scanner device can be connected to a LAN, *i.e.* a network. (Citing RX-15.) Staff further argues that the IFAX application teaches storage of scan parameters and remote access, thus describing use of the IFAX over the Internet to control the scan conditions. (Citing Tr. at 839-840, 842-843, 850-851.) Moreover, Staff claims that the IFAX application discloses storage of scan conditions selected remotely by each of its users. (Citing Tr. at 837, 847-849, 852; RX-15.)

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to demonstrate by clear and convincing evidence that the IFAX application anticipates any asserted claim of the ‘866 patent.

Claim 1 requires “network-interface means for receiving at least some of said scan files from said network.” The parties dispute whether or not the IFAX application discloses this claim limitation. I find that Oki Data has failed to offer clear and convincing evidence that the IFAX application discloses this claim limitation.

The parties focus much of their attention on the remote access features described in the IFAX application. In the “Remote Access” section, it states: “[u]sers will be able to control features of their IFAX 10 from remote locations using Windows PC’s connected via serial or through any PSTN interface using an IFAX or EFAQ PC.” (RX-15 at 53.) The application then

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describes the following remote access features:

- Fax From Windows allows users to send, receive, broadcast, poll, etc. from a Windows platform using an IFAX Machine as a gateway.
- Remote Printing From Windows allows users to print documents from Windows using the IFAX Machine.
- Remote Scanning From Windows allows users to scan documents to their PC using the IFAX Machine.
- Remote Mailbox Control allows users to browse their mailbox, view, print and retrieve files remotely.
- User Administration allows users to setup the preferences from a remote location. Users will be able to access all features described in the User Administration feature description previously described in connection with Figure 61.
- System Administration allows administrators to configure and monitor a single IFAX 10 or entire network of IFAX Machines from a Windows PC. System administrators will be able to access all features described in the System Administration feature description.

(*Id.*) The section concludes by stating that “[t]he system will support such remote connections via all available and appropriate external interfaces e.g., PSTN, LAN, and serial connections...”

(*Id.*)

The language quoted *supra* demonstrates that the IFAX device allows for remote access, and the parties do not dispute this point. The dispute focuses on whether or not the IFAX application discloses remote access for sending scan files to the device. As is clear from the foregoing text, there is no explicit mention in the “Remote Access” section of being able to remotely send scan files to the device.

The second-to-last bullet point in the list states that users will be able to set User Administration preferences remotely, and refers to “all features described in the User Administration feature description previously described in connection with Figure 61.”

Figure 61 is “a screen display of the IFAX of Figure 1 used to select facsimile access restriction parameters:”

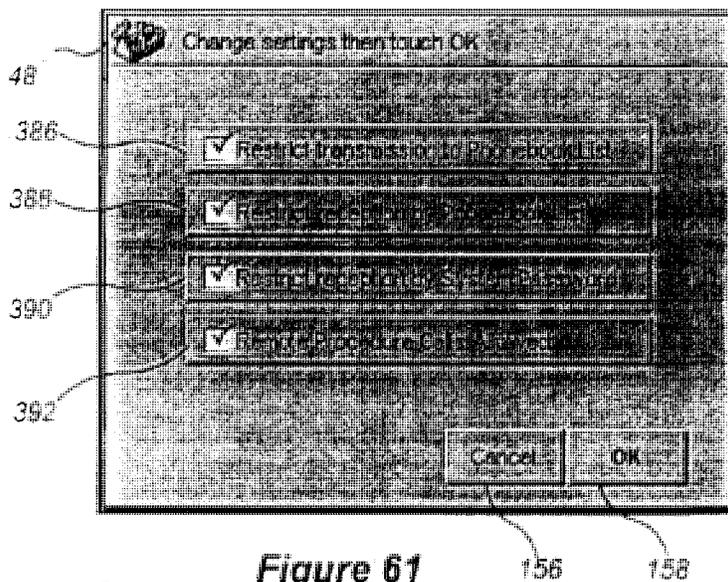


Figure 61

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(RX-15 at 6, 105.) The IFAX application explains that:

[T]he user may restrict access to the IFAX 10 by pressing the Access Restriction display location 346 and the Change button 172, causing the IFAX to change to the screen display of Figure 61. The user may restrict transmission of facsimile messages to facsimile machines listed in the phonebooks 62 (see Figure 2) by using a “Restrict Transmission to Phonebook List” button 386. If this option is selected, outgoing facsimile messages can only be transmitted to FAX machines contained within the phonebook 62.

(*Id.* at 24.)

The display options shown in Figure 61 do not relate to scan conditions,²⁷ as the features are directed to access restrictions. In addition, User Administration is discussed at page 57, and there is no mention of reception of scan files from the network. (*Id.* at 57.)

The last bullet point in the list from page 53 concerns remote access for System Administration tasks. System Administration tasks are discussed in more detail on pages 58-59, yet there is no mention of the capability of receiving scan files over the network. (RX-15 at 58-59.) While the foregoing references in the IFAX application clearly disclose controlling features

²⁷ Claim 1 explains that scan files contain settings of scan conditions.

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of the IFAX remotely, I find this is not enough to conclude that the “network-interface means” limitation is met. Thus, I conclude that there is no clear and convincing evidence of the “network-interface means for receiving at least some of said scan files from said network” limitation in the IFAX application. This conclusion is supported by the expert testimony of Dr. Stevenson. (CX-309C at Q. 48-64.)

Oki Data and its expert offer numerous arguments in support of finding the “network-interface means” limitation present in the IFAX reference, all of which are not persuasive. Oki Data argues that Dr. Stevenson admitted at the hearing that the “network-interface means” limitation is disclosed in the IFAX application (RIB at 122-123 (citing numerous portions of the trial transcript).) After reviewing the cited portions of Dr. Stevenson’s cross examination, I see no indication that Dr. Stevenson admitted that the “network-interface means” limitation is disclosed in the IFAX application. (*See generally* Tr. at 839:10-856:14.)

Oki Data argues that the IFAX feature that allows certain user-specific settings to be loaded when a user logs in to the IFAX meets the “network-interface means” limitation, and that Dr. Stevenson admitted as much. (*See* RIB at 123 (citing Tr. at 845:16-846:18, 851:6-856:6).) I find that, contrary to Oki Data’s assertion, this feature does not equate to the “network-interface means” because there is no disclosure of the IFAX device receiving scan files over a network. I find that Dr. Stevenson’s testimony does not demonstrate that the IFAX device discloses the “network-interface means” that would allow the device to receive scan files from the network. (Tr. at 845:16-846:18, 851:6-856:6.) Dr. Stevenson testified that the IFAX reference discloses that when a user logs into the IFAX, a user’s unique settings that are stored on the IFAX are loaded. (Tr. at 845:16-846:18.) He also testified more about users being able to establish personalized settings, and about the remote access capabilities of the IFAX device, discussed in

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detail *supra*. (*Id.* at 851:6-856:6.) Nowhere does Dr. Stevenson admit that the “network-interface means” limitation is present in the IFAX reference, as he does not testify that the IFAX device receives scan files over a network.

Dr. Baroody offers his opinion that the “network-interface means” limitation is disclosed in the IFAX application. (RX-33C at Q. 221-228.) After reviewing the testimony, I find that Dr. Baroody does not identify anywhere in the IFAX application where there is clear evidence of a description of the IFAX device receiving scan files over a network. (*Id.*)

In addition, Dr. Baroody opines that because the IFAX application discusses remote access and administration in general, it would be known to one of skill in the art that the IFAX device could receive scan files over the network. (RX-33C at Q. 226-228.) Dr. Baroody opines that the list of features provided when discussing remote access and administration should not be considered exhaustive, such that receipt of scan files over the network is contemplated by the IFAX application. (*Id.*) I find that Dr. Baroody’s opinion does not provide the necessary clear and convincing evidence needed to demonstrate anticipation. *Schering Corp.*, 339 F.3d at 1377. I have concluded *supra* that the IFAX application does not expressly disclose receipt of scan files over a network. While a claim limitation that is not expressly disclosed may be inherently present in a prior art reference, inherency requires a finding that the limitation is necessarily present in the prior art reference. *Id.* I conclude that Dr. Baroody’s opinion does not support a finding that the “network-interface means” limitation is inherently present in the IFAX application. (RX-33C at Q. 226-228.)

Because I have concluded that the IFAX application fails to anticipate claim 1, I find that the IFAX application fails to anticipate asserted claims 2-6 and 8 because they all directly or indirectly depend on claim 1 and thus include all of the limitations of claim 1. *See In re Fritch*,

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972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974).

b. JP H06-205177A Application

Oki Data's Position: Oki Data contends that it has offered clear and convincing evidence that the JP H06-205177A patent application ("the '177 application") anticipates claims 1 and 2 of the '866 patent. (Citing RX-33C at Q. 296-332.)

Oki Data states that the '177 application discloses a user interface for a scanner that allows a user to scan documents according to sets of pre-configured scan conditions. Oki Data states that Ricoh asserts that the '177 application is not anticipatory because it only discloses a configuration in which a host computer sits between the scanner and the network, thus missing the direct connection between the scanner device and the network called for in claim 1. (Citing CX-309 at Q. 96.) Oki Data responds by citing to Dr. Barood's testimony that the '177 application discloses that the scanner device may use an Ethernet or FDDI interface, and those interfaces are networking interfaces. (Citing RX-33C at Q. 324; RX-9 at ¶ 27.) Thus, Oki Data contends that the disclosure of the use of Ethernet or FDDI interface proves that the '177 application discloses a scanner device that can connect directly to a network without an intervening host computer. (Citing RX-33C at Q. 327.)

Ricoh's Position: Ricoh contends that the '177 application does not anticipate any of the asserted claims of the '866 patent. Ricoh argues that the '177 application discloses that there is a host computer positioned between the image scanner and the network, contrary to the requirement of claim 1 that the scanner be connected directly to the network. (Citing RX-10; CX-309 at Q. 90-94.)

Ricoh notes that Dr. Barood points to the disclosure of an Ethernet or FDDI interface for the image scanner. (Citing RX-10 at 0027.) Ricoh argues that with the proper supporting

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hardware and software, Ethernet or FDDI interfaces could be used to connect a scanner device directly to a network, but such supporting hardware and software are not disclosed in the '177 application. (Citing RX-33C at Q. 326.)

Staff's Position: Staff notes that in its pre-hearing brief, it contended that the '177 application did not anticipate because the scanning device was not directly connected to a network. Staff claims that evidence adduced at the hearing demonstrates that the scanner device depicted in Figure 1 of the '177 application is directly connected to the network. (Citing Tr. at 1538.) Thus, Staff withdraws its position that the '177 application does not anticipate any of the asserted claims of the '866 patent.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to demonstrate by clear and convincing evidence that the '177 application anticipates any asserted claim of the '866 patent.

The preamble of claim 1 recites “[a] device for scanning an image to create image data to be transmitted to a network to which said device is directly connected without an intervening host computer.” The parties all treat the preamble as a limitation. (See CIB at 143-145; RIB at 124; SIB at 134.) I concur, and find that because the preamble of claim 1 is “necessary to give life, meaning, and vitality” to the claim, it is a limitation. See *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). The specification supports this finding, as the inventor clearly distinguished his invention over the prior art based on the fact that the scanning device in the present invention is connected directly to a network instead of through an intervening host computer:

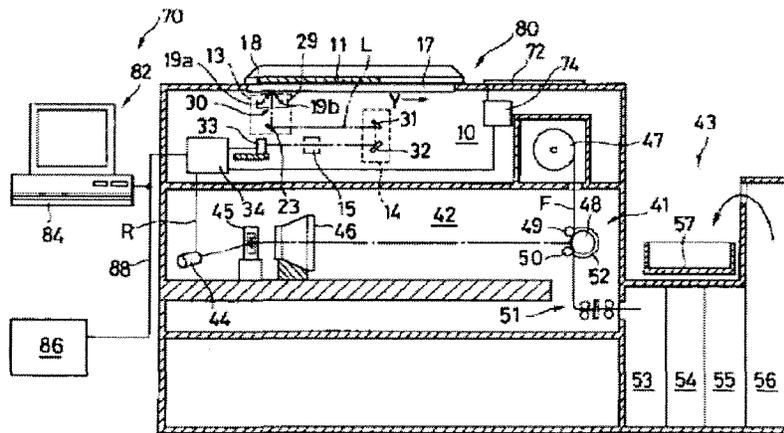
In the present invention, a conventional concept of a scanner device connected to a host machine in a one-to-one relationship is replaced by a concept of a network

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scanner system in which a digital copier device for shared use is employed as a network scanner.

(JX-1 at 1:11-16.)

Ricoh argues that the '177 application fails to disclose a scanning device that is directly connected to a network without an intervening host computer. Figure 1 of the '177 application discloses the following:



(RX-9 at OKI159300.)

The corresponding description of Figure 1 states:

Here, if the mode that is selected on the operation panel 72 is the WS mode, the image information is transferred to information processing apparatus 82 via interface 88. There are no particular limitations imposed on the interface 88 which connects the printing plate making apparatus 80 and the information processing apparatus 82 and any publicly known interface such as SCSI, RS232C, Ethernet and FDDI can be used so long as it is compatible with the system. However, with the printing plate making system 70 that is illustrated, a SCSI interface is used as an example.

(RX-9 at OKI008380058.)

The '177 application describes the information processing apparatus 82 in more detail:

“[a]s afore-described, the information processing apparatus 82 comprises a workstation 84 and an information storage unit 86. Said workstation 84 comprises a host computer that is connected to various networks and office automation equipment, and its peripheral equipment.” (*Id.*)

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In responding to Ricoh's argument, Oki Data asserts that "[u]nlike SCSI or RS232C, Ethernet and FDDI interfaces are designed as networking interfaces, and their use involves communications among multiple computers." (RIB at 124.) Dr. Baroody offers his opinion that disclosure of Ethernet and FDDI interfaces confirms that the scanner device can be directly connected to a network. (RX-33C at Q. 306, 327.)

I find that mere mention of Ethernet and FDDI interfaces is not enough to demonstrate clear and convincing evidence of a device that is directly connected to a network without an intervening host computer. The configuration depicted in Figure 1 shows a device connected to an "information processing apparatus" through a SCSI connection, which Dr. Baroody states is an interface "that only form[s] a one-to-one relationship between a host computer and a device." (RX-9 at OKI008380058; RX-33C at Q. 327; CX-309C at Q. 101.) Both experts agree that Ethernet and FDDI interfaces can be used as network interfaces, or as one-to-one interfaces. (RX-33C at Q. 327; CX-309C at Q. 104.) An assumption that the device can be directly connected to a network due to the disclosure of Ethernet and FDDI interfaces is not clear and convincing evidence that the device in the '177 application meets the preamble of claim 1. (CX-309C at Q. 104, 109.)

Because I have concluded that the '177 application fails to anticipate claim 1, I find that the '177 application fails to anticipate asserted claim 2 because it depends on claim 1 and thus include all of the limitations of claim 1. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974).

c. H07-105348 Application

Oki Data's Position: Oki Data contends that it has offered clear and convincing evidence that the H07-105348 application ("the '348 application") anticipates claims 1-3, 5, and

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6 of the '866 patent. (Citing RX-33C at Q. 333-376.)

Oki Data states that the '348 application describes a network scanner with optional printer integration. According to Oki Data, the scanner saves sets of scan conditions in a table, and allows a user to choose one of those sets of scan conditions when initiating a scan. Oki Data asserts that when the image data is scanned, it is stored in the scanner and a networked workstation may receive the information. (Citing RX-33C at Q. 337-338.)

Oki Data notes that Ricoh argues that the device in the '348 application does not receive and store "scan files." (Citing CX-309 at Q. 127.) Oki Data asserts that the device receives and stores image modes, which are "scan files" under the broad definition of "file" applied by Dr. Stevenson. (Citing RX-33C at Q. 355.) Oki Data claims that the image modes are not "scan files" as construed by Dr. Barody, but that the image modes are stored in a single scan file that meets the five characteristics of a "file" offered by Oki Data. Oki Data notes that Dr. Barody confirmed this during the hearing. (Citing Tr. at 1541:10-16, 1580:7-25.)

Oki Data claims that Ricoh also disputes that the '348 application fails to anticipate claim 3 because the reference does not disclose that the device can "print itself." Oki Data argues that the claim does not require that the device itself be able to print; instead, the claim requires that the device retain image data and be able to print the image data to a connected printer. Oki Data asserts that this is disclosed in the '348 application. (Citing RX-33C at Q. 367.)

Ricoh's Position: Ricoh contends that the '348 application does not anticipate any of the asserted claims of the '866 patent.

Ricoh explains that the '348 application discloses the ability to store a plurality of image mode records in an image mode table. Ricoh asserts that the '348 application is limited to entry of the image mode records through a user interface on the device, and does not disclose storing

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image mode parameters received from a remote host. (Citing RX-17; CX-309 at Q. 121-122.)

Therefore, Ricoh argues that the '348 application fails to disclose the "memory means for storing...scan files" and "network-interface means for receiving at least some of said scan files" limitations. (Citing CX-309 at Q. 123-127; RX-23; RX-17.)

Further, Ricoh argues that the '348 application fails to disclose the "print means" limitation of asserted claims 3-6. Specifically, Ricoh argues that the '348 application does not disclose a print engine. (Citing CX-309 at Q. 132-137.) Ricoh claims the references to printing in the '348 application are directed to printing at the host computer, and not printing by the imaging device. (Citing RX-17.) Ricoh argues that there is no disclosure of the network scanner apparatus being able to print.

Staff's Position: Staff contends that the '348 application does not anticipate any of the asserted claims because the reference does not appear to disclose receiving scan data from a remote computer as required by claim 1. Moreover, Staff asserts that the '348 application does not disclose storage of more than one image mode.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to demonstrate by clear and convincing evidence that the '348 application anticipates any asserted claim of the '866 patent.

The '348 application discloses an image input device that includes "image modes" that are stored in an "image mode table." (RX-17 at OKI008380076.) Each image mode includes various scan parameters, such as image type, resolution, encoding type, and scanning resolution. (*Id.*) Using the operation unit of the image input device, a user can enter scan parameters to be saved as an image mode. (*Id.*) The '348 application also discloses remote use of the image input device through a LAN. (*Id.* at OKI008380076-77.) The reference explains that a remote user

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can send a scan instruction command that includes the image mode number, so that the image input device knows which image mode from the image mode table should be used. (*Id.* at OKI008380077.)

The '348 application also discloses that the image mode table can be stored on a computer connected to the image input device through the network:

With the present embodiment, the image mode table was stored in the image input device. However, it is also acceptable to store it in the computer so that when the operator issues an image scan instruction to the image input device from the computer, the appropriate image mode is selected from said image mode table and the selected image mode is sent to the image input device.

(RX-17 at OKI008380077.)

I find that the '348 application fails to clearly disclose both the “memory means for storing...scan files” and “network-interface means for receiving at least some of said scan files from said network.”

As described *supra*, the '348 application discloses storing the image mode table on either the image input device or a networked computer. If the image mode table is stored on the image input device, then the image input device meets the “memory means for storing...scan files” limitation, but fails to meet the “network-interface means for receiving at least some of said scan files from said network” because there is no disclosure of sending image modes over a network to the image mode table stored on the image input device. (RX-17 at OKI008380076-77.)

If the image mode table is stored on the remote computer, then the image input device meets the “network-interface means for receiving at least some of said scan files from said network” limitation because an image mode is sent from a computer over a LAN to the image input device. Still, such a configuration fails to meet the “memory means for storing...scan files” limitation. The image input device does not store the image modes; they are stored on the

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networked computer. While an individual image mode is sent to the image input device when an operator issues an image scan instruction, there is no disclosure of storing scan *files* on the image input device in this configuration. (RX-17 at OKI008380076-77.) The ‘348 application provides no detail regarding the fate of the image modes transferred from the networked computer to the image input device. While it may be possible that the image input device stores the image modes it receives over the network, I find no indication of this from the ‘348 application, and Oki Data has failed to identify such a disclosure in the prior art reference.

Dr. Baroody provides his expert opinion that the ‘348 application anticipates claim 1. When addressing the “memory means for storing...scan files” limitation, Dr. Baroody identifies the disclosure in the ‘348 application regarding the configuration where the image mode table is stored on the image input device. (RX-33C at Q. 355.) When addressing the “network-interface means for receiving at least some of said scan files from said network,” Dr. Baroody identifies the disclosure in the ‘348 application regarding the configuration where the image mode table is stored on a networked computer. (*Id.* at Q. 359.) The two configurations described in the ‘348 application are mutually exclusive, as one requires the storage of the image mode table on the image input device, while the other requires the storage of the image mode table on a networked computer. (RX-17.) Dr. Baroody fails to explain how both limitations are met in a single configuration of image input device. Thus, I find that his expert opinion fails to support a finding that the ‘348 application anticipates claim 1.²⁸

Because claims 2, 3, 5, and 6 all depend on claim 1, I find that these claims are not anticipated for the reasons described with respect to claim 1. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974).

²⁸ I note that Oki Data offers no obviousness argument regarding a combination of the configurations shown in the ‘348 application.

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2. Obviousness

a. Level of Ordinary Skill in the Art

Oki Data's Position: Oki Data contends that person of ordinary skill in the art for the '866 patent would have a bachelor's degree or the equivalent in computer science, electrical/electronic engineering, or computer engineering plus 5-10 years of experience working with electronics and/or software coding. (Citing RX-33C at Q. 113.) According to Oki Data, to possess ordinary skill, one would have to have experience and familiarity with the systems architecture and design of network scanning and printing systems, software development and network protocols.

Ricoh's Position: Ricoh contends that a person of ordinary skill in the art would have a bachelor's degree in electrical or computer engineering and at least two years' experience in computer system design and interface design, or the equivalent. (CX-309 at Q. 19.)

Staff's Position: Staff contends that it agrees with Oki Data that a person of ordinary skill in the art for the '866 patent would have a bachelor's degree or the equivalent in computer science, electrical engineering, or computer engineering plus 5-10 years of experience working with electronics and/or software coding. Staff claims that such an individual would have experience and familiarity with the systems architecture and design of network scanning and printing systems, software development and network protocols. Staff adds that it believes that an individual with only three years of experience would be a person of ordinary skill in the art.

Discussion and Conclusion: Based on the evidence in the record, I find that a person of ordinary skill in the art would have a bachelor's degree in computer science, electrical engineering, or computer engineering and at least five years of experience working with electronics and/or software coding. A person of ordinary skill in the art would have experience

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and familiarity with the systems architecture and design of network scanning and printing systems, software development, and network protocols.

The parties' dispute centers on the number of years of experience necessary to be one of ordinary skill in the art. Dr. Baroody opines that, based on his time working at Xerox, one of ordinary skill in the art would need 5-10 years of experience in the field. (RX-33C at Q. 113-117.) Dr. Stevenson opines that one of ordinary skill in the art would have at least two years of experience. (CX-309 at Q. 19.)

I find that Dr. Baroody's testimony is well-supported. Dr. Baroody explains that as Xerox made the transition to digital multifunction systems, there was a need for software programmers, computer engineers, and electrical engineers with the required skills for Xerox's digital products. (*Id.* at Q. 115.) Dr. Baroody explained in detail why one of ordinary skill in the art would have to have experience working with issues such as networking and scanning simultaneously, and not independently. (*Id.* at Q. 116.)

Based on this testimony, I find that one of ordinary skill in the art would need more experience than proposed by Dr. Stevenson. Further, I find that Dr. Stevenson's testimony on this issue is conclusory. (*See* CX-309 at Q. 19-23.)

b. The IFAX Application In View of the '177 Application

Oki Data's Position: Oki Data contends that if the IFAX application is found to lack remote configuration of scan files, then it can be combined with the '177 application, which clearly discloses this element. (Citing RX-33C at Q. 443.)

Oki Data argues that under *KSR*, there is clear and convincing evidence that one of ordinary skill in the art would be motivated to combine these references. Oki Data relies on Dr. Baroody's testimony that companies working in the field of the '866 patent during the relevant

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time period were monitoring all kinds of technologies to monitor their implications for new products. (Citing Tr. at 1581:6-19; RX-33C at Q. 417.) Oki Data claims that the two references address the same narrow issue of user interfaces with peripherals and with scanning capability that connect directly to a network. (Citing RX-33C at Q. 418.) Oki Data asserts that it does not matter whether medium is lithographic films (as in the '177 application) or paper (as in the IFAX application) because the scanner still must read image data from the scanned sheet.

Ricoh's Position: Ricoh contends that any combination of the IFAX application, the '177 application, and the '348 application would not render the asserted claims of the '866 patent obvious. Ricoh claims that one of ordinary skill in the art of digital copier technology would not look to the diverse fields found in the three references to address the problems solved by the '866 patent. (Citing CX-309 at Q. 171-186.) Moreover, Ricoh argues that none of the three references disclose receiving via a network interface scan files that are stored on the apparatus.

Ricoh argues that secondary considerations also demonstrate that the '866 patent is not obvious. Ricoh states that if it is successful in proving infringement and the technical prong of the domestic industry requirement, it will necessarily prove that the patented invention has been commercially successful. Ricoh asserts that both Ricoh and Oki Data have sold "thousands" of products implementing the invention of the '866 patent.

In its reply brief, Ricoh states that both the IFAX application and the '177 application disclose storing a single set of scan conditions (if any), and neither reference teaches a peripheral that can receive and store multiple sets of scan conditions. Thus, Ricoh believes that the combination still leaves Oki Data short of proving invalidity.

Staff's Position: Staff takes no position regarding obviousness.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data

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has failed to offer clear and convincing evidence that the combination of the IFAX application and the '177 application renders any of the asserted claims obvious.

Before reaching the issue of whether or not a reason exists to combine prior art references, Oki Data must demonstrate that the combination of prior art references discloses all of the limitations of the claims. *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1373-1374 (Fed. Cir. 2010) (upholding finding of non-obviousness based on the fact that there was substantial evidence that the asserted combination of references failed to disclose a claim limitation); *Velder v. Garner*, 348 F.3d 1359, 1363 (Fed. Cir. 2003) (explaining that a requirement for a finding of obviousness is that “all the elements of an invention are found in a combination of prior art references”). I find that Oki Data has failed to demonstrate that all of the limitations of claim 1 are present in the combination of the IFAX application and the '177 application.

Specifically, I find that both references fail to clearly disclose “network-interface means for receiving at least some of said scan files from said network and sending said image data stored in said memory means to said network.” In the anticipation analysis, I have found that the IFAX application fails to clearly and convincingly disclose this element. Also in the anticipation analysis, I have found that the '177 application fails to clearly and convincingly disclose a scanning device directly connected to a network without an intervening host computer. The claim limitation in question refers to “receiving at least some of said scan files from *said network*.” (emphasis added.) The network referred to in this limitation is the network described in the claim preamble, which is “a network to which said device is directly connected without an intervening host computer.” Because I have found that the '177 application fails to clearly and convincingly disclose this claim element of the preamble, I find that the '177 application

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therefore also fails to disclose the “network-interface means” limitation because of the lack of the direct device-to-network connection. Such a conclusion is supported by Dr. Stevenson’s expert testimony. (CX-309 at Q. 178.)

In addition, I find that Oki Data has not provided a sufficient reason to combine the IFAX application and the ‘177 application. The Federal Circuit has explained that “it remains appropriate for a post-KSR court considering obviousness ‘to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.’” *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 582 F.3d 1288, 1300-1301 (Fed. Cir. 2009) (quoting KSR, 550 U.S. at 418)).

To support its argument that there was a reason to combine the IFAX application and ‘177 application, Oki Data offers the testimony of Dr. Barody. Dr. Barody opines that there was a reason to combine the applications because both prior art references address “user interfaces for peripherals with scanning capability that connect directly to a network.” (RX-33C at Q. 448.) As explained *supra*, I have found that the ‘177 application does not clearly and convincingly disclose a peripheral with scanning capability that connects directly to a network. Therefore, Dr. Barody’s testimony does not provide adequate reasoning to combine the references. Because the central goal of the ‘866 patent was to replace a conventional scanner device that connected to a host computer with a scanner device that is directly connected to a network (JX-1 at 1:11-16), I find that there would be no reason for one of ordinary skill in the art to look to a non-networked scanner device such as the ‘177 application.

c. The ‘348 Application In View of U.S. Patent No. 5,365,341

Oki Data’s Position: Oki Data contends that if the ‘348 application is found to lack the ability to select scan conditions from the control panel of the device, then claims 1-6 would

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nonetheless be obvious in view of the '348 application combined with U.S. Patent No. 5,365,341 ("the '341 patent").

Oki Data argues that the '341 patent clearly discloses a touch-screen panel allowing the user to choose an "edition mode," among other modes, with access to sets of scan conditions, including the ability to enlarge or reduce images. (Citing RX-13 at 3:47-62; RX-33C at Q. 399.) Oki Data states that both references come from the field of digital copier technology and relate to electronic imaging devices. (Citing RX-33C at Q. 422; Tr. at 895:5-8.) According to Oki Data, the '341 patent does not disclose any way to set up scan files, even though the device is capable of receiving files over the network. Thus, Oki Data concludes there was a clear need to combine the references, as one of ordinary skill practicing the '341 patent would be drawn to a reference disclosing the transmission of scan file information like the '348 application. (Citing RX-33C at Q. 417.)

Ricoh's Position: Ricoh does not address this combination directly, but addresses Oki Data's argument with respect to the combination of any of the § 102 references and the '341 patent, as discussed *infra*.

Staff's Position: Staff takes no position regarding obviousness.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that any of the asserted claims are obvious in light of the combination of the '348 application and the '341 patent.

Oki Data argues that if the '348 application fails to disclose the ability to select scan conditions from the control panel of the device, then that missing element can be found in the '341 patent. (RIB at 129.) As described *supra* with respect to anticipation, I have found that the '348 application fails to simultaneously disclose the "network-interface means" and "memory

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means” limitations of claim 1. Oki Data offers no argument in its briefing regarding how the combination of the ‘348 application and the ‘341 patent discloses these claim elements. Thus, I find that Oki Data failed to present clear and convincing evidence of obviousness based on the combination of the ‘348 application and the ‘341 patent. *Velandar*, 348 F.3d at 1363.

d. Any of the § 102 References In View of U.S. Patent No. 5,365,310

Oki Data’s Position: Oki Data contends that if the term “test means” is not found to be indefinite, then U.S. Patent No. 5,365,310 (“the ‘310 patent”) discloses the structure for the term “test means.” Thus, Oki Data contends that the combination of any of the § 102 references and the ‘310 patent renders claim 6 of the ‘866 patent obvious. Oki Data states that the structure is set forth in Figure 6 of the ‘310 patent, which describes steps of printing a scanned document and comparing the printed scan with the original. (Citing RX-12; RX-33C at Q. 386.) Oki Data argues that the references provide a motivation to combine because the ‘310 patent and the § 102 references all relate to the digital copier field, the ‘310 patent expressly states that its teachings are applicable and intended to be applied to other devices, and the applicable level of ordinary skill in the art is high. (Citing RX-33C at Q. 388.)

Ricoh’s Position: Ricoh contends that the combination of the ‘310 patent and any of the § 102 references fails to render any of the asserted claims obvious. Ricoh states that while the ‘310 patent deals with digital copier technology, none of the three § 102 references do. Thus, Ricoh argues that one of ordinary skill in the art of digital copier technology would not look to the diverse fields found in the § 102 references to address problems with digital copiers. (Citing CX-309 at Q. 146-161.) Ricoh further argues that Oki Data fails to identify where in the ‘310 patent or the § 102 references there is a disclosure of receiving scan files via a network interface, as required by claim 1. (*Id.*)

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Staff's Position: Staff takes no position regarding obviousness.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the combination of the '310 patent and any of the § 102 references renders claim 6 obvious.

Claim 6 is dependent on claims 3, 2, and 1. Oki Data relies on each of the § 102 references to meet the limitations of claims 1, 2, and 3, and only relies on the '310 patent to demonstrate the "test means" limitation of claim 6. (RIB at 130.) As discussed *supra* with regard to anticipation, I have found that none of the references relied upon by Oki Data anticipate any of the asserted claims of the '866 patent. Thus, Oki Data's obviousness argument necessarily fails.

Assuming *arguendo* that any of the § 102 references satisfy all of the limitations found in claims 1, 2, and 3, I find that the '310 patent does not clearly and convincingly disclose the "test means" limitation. In construing "test means," I found that claimed function is "controlling said print means to print said at least one image scanned by said scan means onto a sheet in order to check if said image data of said at least one image is defective," and the corresponding structure is an operational-display-and-touch panel unit, a scanner/printer controller programmed to perform steps S9 and S10 of Figure 5, and a printer engine, and equivalents.

The language of claim 6 requires that the test image printed is an "image scanned by said scan means[.]" Thus the test image that is printed must be an image that was actually scanned into the scanning device.

Oki Data and Dr. Baroody rely on Figure 6 of the '310 patent to meet the "test means" limitation. Figure 6 depicts a flow chart for "situations where a copy quality defect is repeatable[.]" (RX-12 at 7:56-57.) The test image that is printed is "a known test

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pattern...stored in NVM 36 of the reprographic system 10.” (*Id.* at 7:60-62.) “NVM” stands for non-volatile memory, and refers to a hard disk. (*Id.* at 5:19-21.) There is no disclosure that this test image is an image that was scanned into the device of the ‘310 patent. Dr. Baroody does not address this issue. (RX-33C at Q. 384-388.) Thus, I find that Oki Data has failed to offer clear and convincing evidence that the limitation of claim 6 is present in the ‘310 patent.

e. Any § 102 Reference In View of U.S. Patent No. 3,365,341

Oki Data’s Position: Oki Data contends that it has established that the ‘341 patent discloses all of the limitations of claims 1-6 of the ‘866 patent except the “network-interface means” limitation. (Citing RX-13; RX-33C at Q. 393-414.) Oki Data argues because the ‘341 patent and the § 102 references all relate to the field of digital copiers and because the level of ordinary skill in the art is high, there is ample evidence to support a motivation to combine the ‘341 patent with any of the § 102 references. (Citing RX-33C at Q. 416-417.)

Ricoh’s Position: Ricoh contends that the combination fails to render any asserted claims obvious. Ricoh states that the disclosure of the ‘341 patent does not teach the concept of receiving scan files from the network and therefore does not store some of the scan files received from the network in memory means. Ricoh asserts that the ‘341 patent does not describe any sort of remote setup or administration of the device. (Citing CX-309 at Q. 162-170.)

Ricoh argues that Oki Data fails to provide any motivation to combine the ‘341 patent with any of the § 102 references. Ricoh states that although the ‘341 patent may be viewed as concerning digital copier technology, none of the § 102 references address digital copier technology. (Citing CX-309 at Q. 162-170.) Therefore, Ricoh claims that one of ordinary skill in the art would not look to combine the ‘341 patent with any of the § 102 references. Finally, Ricoh argues that none of the three references disclose receiving via a network interface scan

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files that are stored on the apparatus.

Staff's Position: Staff takes no position regarding obviousness.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to prove by clear and convincing evidence that the combination of the '341 patent and any of the § 102 references renders any asserted claim obvious.

Oki Data claims that the '341 patent discloses all of the elements of claims 1-6 except the "network-interface means" element of claim 1. Oki Data argues that adding the "network-interface means" element from any of the § 102 references renders claims 1-6 obvious. (RIB at 130.)

As described *supra*, I have already concluded that each of Oki Data's § 102 references fails to clearly and convincingly disclose the "network-interface means" limitation. In addition, I have previously concluded one of ordinary skill in the art at the time of filing the '866 patent would not look to the '177 application to solve the problem addressed in the '866 patent. In light of these findings, I find that the combination of any of Oki Data's § 102 references with the '341 patent fails to clearly and convincingly render any of the asserted claims of the '866 patent obvious.

3. Indefiniteness

a. "Test Means"

Oki Data's Position: Oki Data argues that the "test means" claim language of claim 6 is indefinite. Oki Data asserts that the term is a means-plus-function term and the specification fails to disclose adequate structure to correspond to the function found in claim 6. (Citing RX-33C at Q. 171.)

Specifically, Oki Data argues that there is no software or algorithm disclosed in the

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specification that performs the function disclosed in claim 6. (Citing Tr. at 861:9-15, 861:24-862:2, 862:7-10.) Oki Data claims that the portion of the specification that Ricoh relies upon is nothing more than a description of the function of claim 6.

Ricoh's Position: Ricoh contends that Oki Data's indefiniteness argument is moot in light of Order No. 29.

Staff's Position: Staff takes no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that claim 6 is not indefinite.

In Order No. 29, I addressed this issue in the context of Oki Data's motion for summary determination of invalidity. I found that the '866 patent disclosed adequate corresponding structure in the specification. (*See* Order No. 29.) Oki Data has provided no new evidence or argument to change my opinion that the "test means" limitation of claim 6 is not indefinite.

Furthermore, I have already construed "test means." I found that the claimed function is "controlling said print means to print said at least one image scanned by said scan means onto a sheet in order to check if said image data of said at least one image is defective," and that the corresponding structure is an operational-display-and-touch panel unit, a scanner/printer controller programmed to perform steps S9 and S10 of Figure 5, and a printer engine, and equivalents. Because I was able to construe this term, it is not indefinite. *Energizer Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1371 (Fed. Cir. 2006) ("A claim that is amenable to construction is not invalid on the ground of indefiniteness.")

b. "Deleting Means"

Oki Data's Position: Oki Data argues that the "deleting means" claim language of claim 8 is indefinite. Oki Data asserted that the term is a means-plus-function term and the

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specification fails to disclose adequate structure to correspond to the function found in claim 8. (Citing RX-33C at Q. 172.)

Specifically, Oki Data argues that there is no software or algorithm disclosed in the specification that performs the function disclosed in claim 8. Oki Data claims that Ricoh only identified generic software as performing the function of claim 8, and did not identify any specific software or algorithm actually found in the specification. (Citing CX-309 at Q. 200, 203.)

Ricoh's Position: Ricoh contends that Oki Data's indefiniteness argument is moot in light of Order No. 29.

Staff's Position: Staff takes no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that claim 8 is not indefinite.

In Order No. 29, I addressed this issue in the context of Oki Data's motion for summary determination of invalidity. I found that the '866 patent disclosed adequate corresponding structure in the specification. (*See* Order No. 29.) Oki Data has provided no new evidence or argument to change my opinion that the "deleting means" limitation of claim 8 is not indefinite.

I find that the specification discloses sufficient structure for the "deleting means" limitation. Specifically, the specification provides the following:

At a step S3, entry of the scan conditions is required on the operational-display-and-touch-panel unit 18. Here, the scan conditions may include an image file ID/name, a contrast and a scan level, a size-enlargement/size-reduction, a scan mode (multi-value, binary, or digital gray level), single-sided/double-sided, sheet size and sheet direction, and *a timeout period*. If the settings of the scan conditions have been already made and kept in a scan file, the procedure goes to a step S4. If the settings of the scan conditions are to be newly made through the operational-display-and-touch-panel unit 18, the procedure does to a step S5.

(JX-1 at 14:25-35 (emphasis added).)

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In order to enhance convenient use, the application software 9 or the utility software 10 may be provided with such functions as listing file names of the image data obtained by the scan operation and stored in the digital copier device 4, deleting an indicated file of the image data, setting a timeout period of an indicated file, etc.

Use of the timeout period of an indicated file is as follows. If a copy function is selected in the workstation 3 at the time of uploading of an image file, the workstation 3 can obtain the image file by making a copy of an original image file, thereby leaving the original in the digital copier device 4. Then, the original image file in the digital copier device 4 is deleted if it is not accessed for the timeout period.

The use of the timeout period may include deletion of an image file after a timeout period without an access, regardless of whether the image file has been copied to the workstation 3. When the digital copier device 4 is used a number of times for the scanning purpose, a number of image files may be accumulated in the hard-drive unit 23. Some of these image files may be the files which are obtained through scan operations but left in the hard-drive unit 23 without transfer (copying) to the workstations 3. They were not transferred possibly because they were experimentally scanned or turned out to be inappropriate after a test scan, for example. In such cases, it is preferable to automatically delete these image files obtained through the scan operation after respective timeout periods without an access, thereby avoiding an unnecessary accumulation of the image files.

(*Id.* at 17:20-48.)

Also, according to the present invention, the timeout period can be set for an indicated file stored in the digital copier device, and if the indicated file is not accessed for the timeout period, it is automatically deleted. Thus, the memory space of the digital copier machine is freed as much as possible to provide a better working environment for users.

(*Id.* at 22:48-54.)

I find that the passages quoted *supra* provide a sufficient algorithm for performing the function of “deleting one of said image files after a predetermined time period passes without an access to said one of said image files from said network” using the computer structure disclosed in the specification. The specification explains that a timeout period is set, either by entry through the operational-display-and-touch-panel unit 18 or by accessing the timeout period that has already been entered and kept in a scan file. The specification then describes how the

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timeout period is used to allow the deletion of image files. Thus, I find that the cited portions of the specification describe the means for achieving the desired outcome, and not merely the outcome itself. *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1384 (Fed. Cir. 2009). Therefore, I find that the “deleting means” limitation is not indefinite.

c. “Scan Means,” “Print Means,” & “Copy Means”

Staff’s Position: Staff contends that the “scan means,” “print means,” and “copy means” limitations in the asserted claims are all indefinite. Staff claims that the specification fails to disclose the software or algorithm used to accomplish the claimed functions. Staff reiterates its argument in its reply brief.

Oki Data’s Position: Oki Data concurs with Staff that the term “print means” is indefinite because Ricoh’s expert confirmed that the specification does not disclose any details for the software or print engine needed to effect the “print means.” (Citing Tr. at 897:3-8.)

Ricoh’s Position: Ricoh does not address Staff’s argument.

Discussion and Conclusion: Based on the evidence in the record, I find that Staff has failed to demonstrate that the terms “scan means,” “print means,” and “copy means” are indefinite. In the claim construction analysis for the ‘866 patent, I have construed each of these terms. Because each of the terms are amenable to construction, I find that the terms are not indefinite. *Energizer*, 435 F.3d at 1371 (“A claim that is amenable to construction is not invalid on the ground of indefiniteness.”).

C. The ‘771 Patent

1. Anticipation

a. U.S. Patent No. 5,361,134

Oki Data’s Position: Oki Data asserts that U.S. Patent No. 5,361,134 (“the ‘134

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patent”) anticipates claims 1, 7, and 13. (Citing RX-33C at Q. 621-652; RX-44C.)

Oki Data notes that Ricoh argues that the ’134 patent does not meet the preambles of claims 1 and 7 because it discloses only an IBM computer and a scanner/printer contained within a single housing. (Citing CPHB at 338-340; Tr. at 679:15-20, 681:22-682:1; CX-308 at Q. 250.)

Oki Data argues that Ricoh is incorrect because the ’771 patent contains no limitation that precludes the image input device and the host computer from being contained in a single housing. Oki Data argues that Mr. Weadock acknowledged that the claims do not preclude a configuration where the host computer and the image input device are contained in a single housing. (Citing Tr. at. 681:3-682:2, 682:23-683:1, 683:8-15.)

Oki Data states that Ricoh argues that the “processing means 12” in the ’134 patent is not a “host computer.” Oki Data argues that the ’134 patent clearly demonstrates that “processing means 12” is a host computer. (Citing RX-11 at 4:20-29.) Oki Data asserts that Mr. Weadock did admit that processing means 12 is at least some form of host computer. (Citing CX-308 at Q. 253.) Oki Data further claims that this argument was not raised in Ricoh’s pre-hearing brief, and thus should be stricken. (Citing Ground Rule 8.2.)

Finally, Oki Data claims that Ricoh argues that the ’134 patent fails to disclose the “scanning means” element of claim 1 because instructions are not input by a user and because it is unclear whether the instructions are from the control module to the multifunctional local device or vice versa. (Citing CX-308 at Q. 251.) Oki Data cites to portions of the ’134 patent that it claims demonstrates that Ricoh’s assertions are incorrect. (Citing RX-11 at 4:55-57, 5:9-16.)

Ricoh’s Position: Ricoh contends that the ’134 patent fails to anticipate any of the asserted claims.

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Ricoh argues that the '134 patent fails to disclose the preambles of claims 1 and 7 because the '134 patent discloses a unified device, and not a separate image input device and host computer. (Citing RX-11 at Figs. 1-2; CX-308 at Q. 250.) Ricoh argues that the '134 patent fails to disclose a "scanning means" because the scanner described in the '134 patent cannot operate without a host computer, because the computer is attached to the device by a control module located within the computer. (Citing RX-11 at 6:57-64; CX-308 at Q. 250; Tr. at 732:2-14, 1559:6-12.) Ricoh argues that the '134 patent does not indicate whether the instructions are input by a user, or whether the instructions come from the control module to the MFP device, or the other way around. (Citing CX-308 at Q. 251.) Ricoh finally argues that the '134 patent does not disclose "setting an operation code." (Citing CX-308 at Q. 252, 256, 258.)

Staff's Position: Staff contends that the '134 patent anticipates the asserted claims.

Staff asserts that Ricoh's argument that the host computer and scanner device are located in a single housing is irrelevant because the claims of the '771 patent do not require them to be in separate structures. (Citing Tr. at 682-683.) Moreover, Staff claims that the '134 patent discloses another embodiment where the computer and scanner may be located in separate housings. (Citing RX-11 at 4:11-19, Fig. 3.)

Staff argues that the '134 patent discloses the "scanning means" element that Mr. Weadock opines is missing from the reference. (Citing RX-11 at 4:53-57.) Finally, Staff states that while the '134 patent does not meet Staff's proposed construction for the "code unit for setting..." limitation, the reference discloses the limitation under Ricoh's proposed construction.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to offer clear and convincing evidence that the '134 patent anticipates any of the asserted claims.

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The '771 patent discloses an image input device that allows a user to input an image and an operation to be performed on the resultant image data, without the need to input the operation at a connected host computer. Thus, the asserted claims require that an instruction is input to the image input device, an operation code is set based on the instruction, and that operation code is sent by the image input device to a host computer along with the image data. (See JX-2 at claims 1, 7, and 13.)

I find that the '134 patent fails to disclose clear and convincing evidence that the image input device itself sets an operation code to be sent to a host computer. Therefore, I find that the '134 patent fails to clearly disclose the “means for setting an operation code” limitation of claim 1, the “code unit for setting an operation code” limitation of claim 7, and the “setting an operation code” limitation of claim 13.

Oki Data relies on the control module 22 in the '134 patent as the structure that performs the setting of the operation code. (RX-33C at Q. 636, 647-649, 651.) I find that there is not clear and convincing evidence that the control module 22 is part of the “image input device.” The '134 patent discloses a multifunctional document processing system (“MDPS”). In Figure 1, the MDPS 10 includes a multifunctional local device 14, a control module 22, and a processing means 12. All of these components are integrated into a single housing 11. (RX-11 at Fig. 1.) The processing means 12 is described as (preferably) a personal computer, and Oki Data asserts that it is the “host computer” of the asserted claims. (RX-11 at 4:19-29; RX-33C at Q. 629.) Oki Data asserts that the multifunctional local device 14 is the “image input device” of the asserted claims. (RIB at 153; RX-33C at Q. 629.)²⁹

The control module 22 is described as follows:

²⁹ On this issue, Oki Data expressly states that “there is no dispute...that the '134 Patent discloses an ‘image input device’ in the form of a ‘multifunctional local device[.]’” (RIB at 153.)

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The processing means 12 is interfaced with a control means, which is preferably a control module 22 located within the housing 11 of the MDPS 10, which passes document signals between the processing means 12 and the multifunctional local device 14 or the remote device 16. The control module 22 is preferably a self-contained plug-in printed circuit board or card which can be conveniently inserted within an available port (not shown) within the processing means 12. The control module 22 is an intelligent controller which controls all communication, printer emulation, printer, scanner and fax functions within the MDPS 10. The control module 22 can further include a supplementary processor (not shown) which is preferably a 32 bit processor, such as an Intel 80960 processor. The supplementary processor can also be a 16-bit or a 64-bit processor. The supplementary processor receives document signals from the processing means 12 or from the multifunctional local device 14 and determines the function which is to be performed with respect to the received document signals, i.e., print, fax, etc., and the destination of the document signals, i.e., to the multifunctional local device 14, to the remote device 16 or to the processing means 12. The functions which can be performed with respect to the document signals are scanning a document, faxing a document to a remote location, receiving a document faxed from a remote location, copying a document, and printing a document.

(RX-11 at 4:62-5:21.)

Based on this disclosure, I find that the control module 22 performs the function of setting an operation code, as the control module receives a signal from the multifunctional local device 14 and determines the function (i.e. print, fax, etc.) to be performed that is associated with said signal. Dr. Barody concurs with this finding. (RX-33C at Q. 636, 647-649, 651.) I also find that there is no disclosure that the control module 22 is part of the “image input device,” i.e. multifunctional local device 14. The two alternative embodiments disclosed in the specification both make clear that the control module is part of the processing means 12, i.e. the “host computer:”

The control module 22 is preferably a self-contained plug-in printed circuit board or card which can be conveniently inserted within an available port (not shown) within the processing means 12.

(RX-11 at 4:67-5:2.)

In the alternate embodiment, the processing means 12' is preferably an independent or stand alone personal computer which is attached to a separate

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stand alone multifunctional local peripheral device 15 by a control module (not shown) located within the personal computer.

(*Id.* at 6:59-64.)

Thus, there is no disclosure of the control module 22 being part of the multifunctional local device 14. Because I find that asserted claims 1, 7, and 13 require that the operation code must be set by the image input device, I find that Oki Data failed to offer clear and convincing evidence that the '134 patent anticipates the asserted claims.³⁰

b. UK Patent Application No. GB 2,282,724

Oki Data's Position: Oki Data contends that UK Patent Application No. GB 2,282,724 ("the '724 application") anticipates claims 1, 7, and 13. (Citing RX-33C at Q. 501-582; RX-42C.)

Oki Data states that Ricoh argues that the '724 application lacks a "scanning means" because the scanner described in the '724 application cannot operate independently without the host computer because the scanner drivers are stored on the host computer. (Citing CPHB at 325-326; CX-308 at Q. 220-223.) Oki Data claims that this argument is inconsistent with Ricoh's infringement assertions, because the accused Oki Data devices require drivers for scanning. (Citing RX-365C at Q. 21-23.) Oki Data argues that the '724 application clearly discloses the necessary structure for the "scanning means," as Mr. Weadock acknowledged during the hearing. (Citing RX-33C at Q. 519; Tr. at 659:25-660:25.)

Oki Data states that Ricoh also argues that the '724 application fails to disclose the use of an "operation code" because the device only converts a signal from its copy or fax keys into transmittable form and sends the converted signal to the attached computer, rather than deriving an operation code that represents the content of the user input. (Citing CPHB at 327-328.) Oki

³⁰ To be clear, my ruling does not rest on Ricoh's assertion that the '134 patent does not anticipate the claims because the processing means 12 and the multifunctional local device 14 are stored together in a single housing 11.

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Data asserts that Mr. Weadock's testimony at the hearing demonstrates that the '724 application meets this claim element and sets operation codes just as is described in the '771 patent. (Citing Tr. at 666:5-8, 661:22-664:8; RX-34 at 14:10-17:7.) Oki Data further claims that Mr. Weadock's invalidity argument is contrary to his infringement position that an SMB command that Oki Data products convert for transmission to a computer is an operation code. (Citing CX-308 at Q. 226; Tr. at 483:1-7, 485:9-23, 488:4-23.)

Ricoh's Position: Ricoh contends that the '724 application fails to disclose the "scanning means" and "operation code" limitations, and thus fails to anticipate any of the asserted claims.

Ricoh argues that in the '724 application, the host computer controls all of the operations of the scanner. (Citing CX-308 at Q. 218-221; RX-34 at 13:3-9.) Ricoh states that this is the opposite of the architecture of the '771 patent, where the scanner controls the operations of the host computer.

Ricoh asserts that the '724 application fails to disclose the "scanning means" because the scanner of the '724 application lacks the control unit 14 disclosed in the '771 patent. (Citing CX-308 at Q. 220-222.) Ricoh asserts that the '724 application fails to disclose "operation codes," and fails to disclose sending an operation code to the host computer. (Citing RX-34 at 18:10-16; Tr. at 665:19-668:23; CX-308 at Q. 226, 229-230.) Ricoh states that in the '724 application, it discloses that the scanner sends a signal corresponding to the keys that are pressed by a user, just like how any other keyboard functions. According to Ricoh, this is a "far cry" from the operation codes disclosed in the '771 patent. (Citing CX-308 at Q. 226, 229-230.) Finally, Ricoh argues that the scanner of the '724 application relies on the host computer to instruct the scanner what operations to perform, thus meaning that the "setting an operation

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code” limitation in the ‘771 patent is not satisfied. (Citing RX-34 at 14:15-15:3.)

Staff’s Position: Staff contends that the ‘724 application anticipates the asserted claims. Staff states that Ricoh’s argument that the drivers for the scanner disclosed in the ‘724 application are stored in the host computer is irrelevant because the ‘771 patent discloses that the drivers for the image input device are located on the host computer, and the accused Oki Data C350 device requires drivers stored on a host computer. (Citing Tr. at 659; CX-308 at Q. 220-221; JX-2 at 5:58-62.)

Staff argues that, contrary to Ricoh’s assertion, the ‘724 application discloses “operation codes” as required by the claims. (Citing RX-34 at 16:7-12; JX-2 at 5:32-6:28; Tr. at. 661.) Staff asserts that the fact that the ‘724 application does not use the term “code” is irrelevant, because the “commands” described in the reference are “operation codes.” (Citing Tr. at 666-669.)

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has offered clear and convincing evidence that the ‘724 application anticipates asserted claims 1, 7, and 13.

Ricoh does not dispute that the ‘724 application is prior art. The ‘724 application was published on April 12, 1995, making it § 102(b) prior art. (RX-34.)

Ricoh raises three arguments regarding why the ‘724 application does not anticipate the asserted claims. Ricoh first claims that the ‘724 application does not disclose the “scanning means” because the scanner of the ‘724 application cannot operate without a host computer, as scanner drivers and controls are stored on the host computer. (CIB at 116.) Therefore, Ricoh claims that the ‘724 application fails to disclose the functional equivalent of control unit 14 disclosed in the ‘771 patent. (*Id.*)

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I find that, contrary to Ricoh's assertion, the '724 application clearly discloses the "scanning means" element. Ricoh appears to assert that it is a requirement of the claims that the scanner be able to operate independently of a host computer, and that the scanner drivers cannot be stored on the host computer. I find that there is no such requirement in the claim language, and that the specification of the '771 patent even describes storage of scanner drivers on the host computer:

In step 26, it is determined whether or not a predetermined time period has passed. If it is determined that the predetermined time period has passed, *it is considered that the driver for the image input device 1 is not booted up in the host computer 2* or power of the host computer 2 is not turned on. In such a case, the routine proceeds to step 27 so as to perform an error operation to display an error message, for example.

(JX-2 at 5:57-64; *see also* JX-2 at 9:26-33) (Emphasis added.)

In addition, I find that the '724 application discloses the scanner control unit 14 required by the construction of "scanning means." The '771 patent describes the scanner control unit 14 as follows: "[a] scanner control unit 14 controls a reading operation of a scanner unit 15." (JX-2 at 5:8-9.) The '724 application discloses a scanner controller 62, which serves the same purpose of the scanner control unit 14 of the '771 patent: "[t]he I/O control unit 6 comprises a motor driver 60 and a charge coupled device (CCD) 61 controlled by a scanner controller 62 to read document or picture..." (RX-34 at 12:17-19.) Therefore, I find that the scanner controller 62 of the '724 application is the structure that meets the requirement of a scanner control unit. This finding is supported by Dr. Barody's expert opinion. (RX-33C at Q. 519.)

Next, Ricoh argues that the '724 application does not disclose the "means for setting an operation code" of claim 1 and the "code unit" limitation of claim 7 because the '724 application does not set "operation codes." Ricoh claims that the disclosure of converting a key input into a command is not the same as setting an operation code. (CIB at 116-117.)

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The specification of the '771 patent has a brief description of how an operation code is set. The specification explains that if, for example, it is determined that a user has selected the "Copy" key, then the operation code is set to "COPY." The following is the extent of the description of setting an operation code:

When an instruction is input through the operational unit 18, it is determined, in step 21, whether or not the instruction is input through the copy key 18a. If it is determined that the instruction is input through the copy key 18a, the routine proceeds to step 22 so as to set "COPY" to the operation code.

In step 22, an operation code is set to "COPY". Then, in step 23, it is determined whether or not the start key 18c is pressed. If the start key 18c is pressed, the routine proceeds to step 24. In step 24, the operation code which was set to "COPY" is sent to the host computer 2.

(JX-2 at 5:43-53.)

I find that the '724 application discloses the function of setting an operation code as well.

Specifically, the '724 application states:

Demands and informations from the keyboard 11 are turned into respective commands by the MPU 71 according to the program in the ROM 70, and then sent to the computer or work station 2 via the two-way communication interface controller 63 and the connector 64.

(RX-34 at 14.)

When a signal is given to the scanner through the keyboard thereof, it is immediately converted into the command or information to the computer or work station.

(*Id.* at 16.)

Thus, the '724 application discloses turning instructions entered on the scanner's keypad into "commands" that are sent to the host computer. I find nothing in either the '771 patent or the '724 application that would distinguish the "operation codes" of the '771 patent from the "commands" of the '724 application. Dr. Baroody's testimony supports this finding. (RX-33C

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at Q. 523, 531-532.)

Finally, Ricoh argues that the '724 application discloses a system where the scanner sends commands to the host computer so that the host computer can instruct the scanner to perform an operation. (CIB at 117.) Ricoh claims that this is different than the requirement of the claims that the host computer receive instructions from the scanner. Ricoh focuses on the following passage from the '724 application:

The computer or work station 2 has a built-in multitask program or background resident program which analysis [*sic*] and judges the information transmitted from the two-way communication interface controller 63 and the connector 64, and informs the logical unit 7...according to the content of the commands, so that the logical unit 7 drives the scanner controller 62 to execute scanning, or shows the information through the display 10.

(RX-34 at 14-15.)

Oki Data asserts that this argument has been waived because it was not raised in Ricoh's pre-hearing brief. In reviewing Ricoh's pre-hearing brief, I see no mention of this argument. (CPHB at 325-329.) Thus, I concur with Oki Data that Ricoh has waived this particular argument related to the '724 application. (Ground Rule 8.2.)

Assuming *arguendo* that Ricoh's assertion has not been waived, I find that Ricoh is incorrect in asserting that the '724 application discloses the host computer instructing the scanner to perform the requested operations. The '724 application describes how the scanner can send a command to the host computer to fax or print a document. The faxing and printing operations are performed by the host computer, utilizing the attached modem and printer, respectively. (*See* RX-34 at 10-12, Figs, 6, 12, 13.) The passage quoted *supra* is no different than the image input device of the '771 patent waiting for a response from the host computer before executing a scanning operation. (*See* JX-2 at 6:14-27.)

Ricoh does not dispute that the other elements of the asserted claims are present in the

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'724 application. Claim 1 first requires “[a]n image input device adapted to be connected to a host computer so as to transfer image data to said host computer.” The '724 application discloses this limitation. (RX-33C at Q. 515.)³¹

Next, claim 1 requires “scanning means for inputting the image data.” I construed this phrase to require the scanner control unit and scanner unit described in column 5, lines 8 through 12, and equivalents. The '724 application discloses the structure that performs the function for inputting the image data. Specifically, the '724 application discloses a scanner that is controlled through a “scanner controller.” (See RX-34 at 12-13, 17-18, Fig. 9; RX-33C at Q. 519, 522.) The '724 application states that “a motor driver 60 and a charge coupled device (CCD) 61 [are] controlled by a scanner controller 62 to read document or picture...” (*Id.*) The scanner can be either a monochrome or color scanner. (*Id.*)

Claim 1 also requires “scanning means... for inputting an instruction for directing said host computer to perform at least one of a plurality of operations on the image data transmitted by said image input device to said host computer.” I construed this phrase to require the operation control unit, and operational unit described in column 5, lines 15 through 24, and equivalents. The '724 application discloses the structure that performs the function of inputting an instruction, as the '724 application discloses the use of a control panel for a user to input an operation. The control panel includes a display and various keys used to enter instructions to perform a plurality of operations, such as copying and faxing. (RX-34 at 11-13, 16, Figs. 8, 8A, 8B, 9; RX-33C at Q. 519, 523.) The '724 application discloses the use of dedicated function keys for the functions of scanning, faxing, or copying, a start key, a number pad for entering telephone numbers, and other keys. (*Id.*) The scanner also includes a key board controller 65

³¹ There is no dispute among the parties that the preamble constitutes a limitation, and I concur. *Catalina Marketing Int'l Inc. v. Coolsavings.com Inc.*, 289 F.3d 801, 808-809 (Fed. Cir. 2002)

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that controls the keyboard. (*Id.*)

Claim 1 finally requires “means for setting an operation code...” I construed this limitation to require a system control unit programmed to perform any of the algorithms described in column 5, lines 41 through 53; column 5, line 65 through column 6, line 11; column 7, lines 37 through 45; column 7, lines 54 through 66; column 9, lines 4 through 22; column 10, lines 9 through 22; and equivalents. I find that the ‘724 application discloses this corresponding structure, as the scanner includes a microprocessor unit controller (MPU) 70 programmed to perform various algorithms depending on the operation selected by a user. (RX-34 at 14-19, Figs. 9-14; RX-33C at Q. 524-525, 527-533.) I also find that the structure performs the claimed function, as the ‘724 application discloses that the scanner sends image data and a command to the host computer such that the host computer performs an operation (such as copy or fax) based on the command without the need for any direct user input to the host computer. (*Id.*)

Claim 7 is very similar to claim 1. None of Ricoh’s arguments in opposing invalidity are unique to claim 7. The one significant difference is that claim 7 requires an “operational unit.” I construed this term to mean: “an interface that allows a user to manually input instructions to the image input device.” I find that the ‘724 application discloses an “operational unit.” (RX-34 at Figs. 6, 7, 8, 8A, 8B, 9.) Thus, I find that ‘724 application discloses all of the limitations of claim 7. (RX-34; RX-33C at Q. 545-552, 554-570.)

Claim 13 is a method claim with limitations that are very similar to claim 1. For all of the reasons asserted with respect to claim 1, I find that the ‘724 application discloses the method of claim 13. (RX-34; RX-33C at Q. 571, 573-581.)³²

Thus, I conclude that Oki Data has offered clear and convincing evidence that the ‘724

³² While I concur with Dr. Baroody that the limitations of claim 13 are disclosed in the ‘724 application, I take no position on the issue of whether or not the limitations of claim 13 are step-plus-function limitations, as the result would not change my anticipation finding.

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application anticipates claims 1, 7, and 13 of the '771 patent.

c. Japanese Published Application No. JP H07-306934

Oki Data's Position: Oki Data contends that Japanese Published Application No. JP H07-306934 ("the '934 application") anticipates claims 1, 7 and 13. (Citing RX-33C at Q. 583-620; RX-43C.)

Oki Data states that Ricoh's only basis for arguing that the '934 application does not anticipate the asserted claims is that the '934 application fails to disclose a host computer that performs a "plurality of operations on the image data." (Citing CPHB at 332-338.) Oki Data states that Ricoh asserts that operations such as "zoom in" are operations *with* the image data, but not *on* the image data. (Citing Tr. at 673:14-19, 674:6-15.) Oki Data argues that this argument is wholly inconsistent with Ricoh's infringement allegations, as certain of the alleged "plurality of operations" in the accused products are not performed "on" or "with" any image data at all. (Citing Tr. at 489:21-490:6, 496:8-15; CX-271 at Q. 1269, 1088, 1111, 1348, 1355, 1426, 1433.)

Oki Data also argues that the distinction that Ricoh attempts to create is nonexistent, as Dr. Barody testified that one of ordinary skill in the art would consider the "zoom in" operation to be an operation performed "on" the image data. (Citing RX-33C at Q. 602.) According to Oki Data, the '934 application states repeatedly that its operations are performed "on" the image data, and does not say that its operations are performed "with" the image data. (Citing RX-19 at ¶ 75.)

Ricoh's Position: Ricoh contends that the '934 application fails to anticipate the asserted claims. (Citing CX-308 at Q. 237.)

Ricoh notes that the claims require that the host computer be able to perform a "plurality

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of operations on the image data.” According to Ricoh, the ‘934 application only discloses the ability to perform a single operation on the image data – storing an image. (Citing Tr. at 673:14-19.) Ricoh claims that the only other operations disclosed are viewing functions, such as enlarging, reducing, and scrolling. (Citing RX-19 at Fig. 8.) Ricoh argues that these functions are not functions on the image data because they don’t change the character of the image data, where its located, and how its formatted. (Citing Tr. at 674:6-15; CX-308 at Q. 240.)

Staff’s Position: Staff contends that the ‘934 application anticipates the asserted claims. Staff argues that Ricoh’s argument that the ‘934 application does not disclose a “plurality of operations on the image data” is incorrect, as Mr. Weadock’s opinion fails to adequately explain why storing qualifies as an “operation on the image data,” but viewing does not. (Citing Tr. at 674.) Staff further argues that even if Mr. Weadock is correct that the ‘934 application only discloses one operation, the “plurality” limitation is satisfied because “plurality” has been construed to mean one or more. (Citing *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1335 (Fed. Cir. 2001).)

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to provide clear and convincing evidence that the ‘934 application anticipates the asserted claims of the ‘771 patent.

The ‘934 application discloses an image scanner that allows a user to input instructions for scanning an image at the scanner itself, thereby relieving the user of having to input instructions at both the scanner and a host computer. The ‘934 patent explains:

It is the object of the present invention to improve the ease of use of an image scanner by allowing instructions for scanning an image with the image scanner and instructions for storing, enlarging, reducing or scrolling a scanned image to be performed based solely on operations performed at the image scanner.

(RX-19 at ¶ 5.)

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Each of the asserted claims requires that the image input device be able to transmit a “plurality of operations on the image data” to the host computer. (JX-2 at claims 1, 7, and 13.) To put it another way, the user must be able to select from a “plurality of operations on the image data” to be performed by the host computer. Ricoh and its expert assert that the ‘934 application fails to disclose this limitation because it only discloses the ability to select one operation on the image data.

Before addressing the ‘934 application, it is important to understand the meaning of “plurality” in the context of the asserted claims. The Federal Circuit has explained that “[i]n accordance with standard dictionary definitions, we have held that ‘plurality,’ when used in a claim, refers to two or more items, absent some indication to the contrary.” *Dayco Prods., Inc. v. Total Containment, Inc.*, 258 F.3d 1317, 1327-1328 (Fed. Cir. 2001). I see no “indication to the contrary” in the intrinsic evidence, and thus find that the term “plurality” in the asserted claims means “two or more.”

Staff claims that “plurality” means “one or more.” The case that Staff relies on is factually distinguishable from the current situation. *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1334-1335 (Fed. Cir. 2001). In that case, the term plurality appeared in the specification, and not the claims. The claims at issue required “a material object,” yet there was reference to “a plurality of blank material objects” in the specification. The court determined that even though there was reference to a plurality in the specification, the rest of the intrinsic evidence made clear that the claims were not to be limited to two or more. The court stated that “[a]ccordingly, we hold that the entirety of the specification dictates that the reference to a plurality be understood to refer to a ‘supply’ of blank material objects, and that the supply can consist of one material object.” *Id.* at 1335. Here, Staff has not cited to anything in the intrinsic

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evidence that would compel a conclusion that “plurality” should be interpreted to mean “one or more.”

The ‘934 application discloses a scanner with function keys for “storing, enlarging, reducing or scrolling the images[.]” (RX-19 at ¶ 11.) Mr. Weadock testified that while “storing” is considered an operation performed “on the image data,” the other recited functions in the ‘934 application are not operations performed “on the image data.” (CX-308 at Q. 240.) Mr. Weadock stated that the functions of enlarging, reducing or scrolling “do not change the character of the image data itself” because they are merely viewing functions. (*Id.*) According to Mr. Weadock, when performing these viewing functions, “the image data is not changed, reformatted, repurposed, relocated, or opened in a different program.” (*Id.*; *see also* Tr. at 674:6-15, 733:14-734:1.)

Oki Data and its expert take the opposite view. Dr. Baroody testified that the enlarging and reducing functions of the ‘934 application constitute operations “on the image data” because the computer must start with the original pixels and the enlarging/reducing ratio, and calculate new set of pixels to form the enlarged/reduced image. (RX-33C at Q. 602.)

After reviewing the testimony of the parties’ respective experts, I find Mr. Weadock’s testimony persuasive, and find that the ‘934 application fails to clearly and convincingly disclose a “plurality of operations on the image data.” The functions of enlarging, reducing or scrolling are not operations performed “on the image data.” These are merely viewing functions, and they do not change the character of the image data. (CX-308 at Q. 240.) I find that these operations cannot serve as clear and convincing evidence of a plurality of operations on the image data. Based on the foregoing, I conclude that Oki Data has failed to offer clear and convincing evidence that the ‘934 application anticipates the asserted claims.

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2. Obviousness

a. Level of Ordinary Skill in the Art

Oki Data's Position: Oki Data contends that a person of ordinary skill in the art of the '771 patent would have a bachelor of science degree or the equivalent in computer science, electronic/electrical engineering, or computer engineering, and 5-10 years of experience working with electronics and/or software coding. According to Oki Data, to possess ordinary skill, one would have to have experience and familiarity with the systems architecture and design of network scanning and printing systems, software development, and network protocols. (Citing RX-33C at Q. 120-121, 479-481.) While Oki Data submits that this is the correct definition of the level of ordinary skill in the art, Oki Data argues that the '771 patent is obvious under either Oki Data's or Ricoh's definitions. (Citing CX-271 at Q. 60-64.)

Ricoh's Position: Ricoh's expert contends that a person of ordinary skill in the art is someone with a technical degree in computer science or engineering and three or more years of experience with computer communications or computer interfaces. (CX-271 at Q. 60.) Ricoh's expert testified that Oki Data's proposed level of skill in the art goes beyond ordinary and would be appropriate for an expert or high level-professional. (CX-308 at Q. 197.)

Staff's Position: Staff states that it concurs with Oki Data's position with respect to ordinary level of skill in the art. Staff claims that an individual with only three years of experience would not have the practical, hands-on experience to be of ordinary skill in the art.

Discussion and Conclusion: Based on the evidence in the record, I find that a person of ordinary skill in the art would have a bachelor of science degree in computer science, electronic/electrical engineering, or computer engineering and at least three years of experience with computer communications or computer interfaces. I find that the 5-10 years of experience

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proposed by Oki Data is excessive for someone of ordinary skill in the art. (CX-308 at Q. 197.)

As Mr. Weadock explains, 5-10 years of experience “would be appropriate for an expert or high-level professional,” and not one of ordinary skill in the art. (*Id.*)

b. The ‘934 Application Combined With the ‘724 Application or the ‘134 Patent

Oki Data’s Position: Oki Data contends that if the ‘934 application is not found to disclose a plurality of operations “on” the image data, the combination of the ‘934 application with either the ‘724 application or the ‘134 patent would disclose all of the limitations of the asserted claims. Oki Data notes that the ‘934 application teaches towards a combination by mentioning the possibility of including additional operations. (Citing RX-19.) Oki Data asserts that combining the ‘934 application with at least one of the operations disclosed in either of the ‘724 application or the ‘134 patent would lead to a predictable result with a plain benefit – one less instance of the user having to interact with the host computer.

Ricoh’s Position: Ricoh contends that the combination of the ‘934 application and the ‘134 patent fails to render the asserted claims obvious. Ricoh asserts that Dr. Baroody failed to demonstrate any motivation to combine these references. (Citing RX-33C at Q. 686.) Ricoh claims that even if there was a sufficient motivation to combine, both references fail to disclose the “scanning means” limitation.

Staff’s Position: Staff offers no position on this combination of references.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the asserted combination of references renders claims 1, 7, or 13 obvious.

Oki Data claims that it would have been obvious to add the operations performed “on” the image data disclosed in either the ‘724 application or ‘134 patent to the scanner device

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disclosed in the '934 patent. As I have concluded in the anticipation analysis, the '934 patent does not clearly disclose performing a plurality of operations on the image data. While both the '724 application and the '134 patent disclose a plurality of operations on the image data, Oki Data fails to offer evidence to support a conclusion that one of ordinary skill in the art would have a reason to combine the operations of either the '724 application or '134 patent with the '934 application.

Oki Data relies on Dr. Baroody's testimony to support its obviousness argument, and Dr. Baroody offers his opinion that there would be a motivation to combine the references based on the fact that each reference addresses the same usability problem where a user would need to perform operations at both the scanner device and the host computer. (RX-33C at Q. 658-664, 666, 677-686.) I find that Dr. Baroody's testimony is insufficient to meet the clear and convincing standard. Dr. Baroody never explains why it would be obvious to one of skill in the art to add the operations found in the '724 application or '134 patent into the system disclosed in the '934 application. (*Id.*; see also CX-308 at Q. 261-262, 268, 270, 274.) Furthermore, the fax and copy operations of the '724 application or '134 patent require additional hardware which is not disclosed in the '934 application. (*See generally* RX-19.)

c. The '724 Application Combined With the '934 Application or the '134 Patent

Oki Data's Position: Oki Data contends that if the '724 application is not found to disclose an operation code that represents the contents of a user's instruction, then the combination of the '724 application and either the '934 application or the '134 patent would disclose all of the elements of the asserted claims. Oki Data asserts that there would be a motivation to combine the references because they all relate to the same technical field and address the same problem of attempting to convey a user's instruction to a host computer without

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having the user interact directly with the host computer. (Citing RX-33C at Q. 507, 588-627-629.)

Ricoh's Position: Ricoh contends that the combination of the '724 and '934 applications fails to render the asserted claims obvious. Ricoh asserts that Dr. Barody failed to demonstrate any motivation to combine these references. (Citing RX-33C at Q. 666.) Ricoh claims that even if there was a sufficient motivation to combine, both references fail to disclose the "scanning means" limitation of claims 1 and 7 and the "setting an operation code" limitation of claim 13.

Ricoh contends that the combination of the '724 application and the '134 patent fails to render the asserted claims obvious. Ricoh asserts that Dr. Barody failed to demonstrate any motivation to combine these references. (Citing RX-33C at Q. 676.) Ricoh claims that even if there was a sufficient motivation to combine, both references fail to disclose the "scanning means" and "means for setting" limitations of claims 1 and 7 and the "setting an operation code" limitation of claim 13.

Staff's Position: Staff offers no position on this combination of references.

Discussion and Conclusion: Oki Data's obviousness argument presumes that the '724 application has been found not to anticipate the asserted claims. Because I have concluded that the '724 application anticipates the asserted claims, Oki Data's obviousness argument is inapplicable.

Assuming *arguendo* that the '724 application is found to lack the disclosure of an operation code that represents the contents of a user's instruction, I find that Oki Data has failed to provide clear and convincing evidence of obviousness. Specifically, Oki Data failed to provide a reason regarding why one of ordinary skill in the art would seek to replace the "commands" of the '724 application with the alleged "operation codes" disclosed in either the

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'134 patent or '934 application. (RX-33C at Q. 658-676.)

d. The '134 Patent Combined With the '724 Application or the '934 Application

Oki Data's Position: Oki Data contends that if it is found that the '134 patent does not disclose a host computer as defined by the '771 patent, it would be obvious to one of ordinary skill in the art to combine the device disclosed in the '134 patent with the separate host computer and image input device that are present in both the '724 and '934 applications. Oki Data states that both the '134 patent and '934 applications involve a scanner that works together with a computer to provide scan, fax, and print functionality. Oki Data states that the '934 application similarly addresses the problem of directing a computer through the pressing of keys on a scanner.

Ricoh's Position: Ricoh's contentions regarding the '134 patent are disclosed *supra*.

Staff's Position: Staff contends that the embodiment shown in Figure 3 of the '134 patent renders obvious each of the asserted claims because the sole difference between the claims and Figure 3 is the location of the control system for the MFP device. Staff claims that the location of a scanner control unit is a design choice. (Citing Tr. at 1560.)

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the asserted combination of references renders claims 1, 7, or 13 obvious.

In the section addressing anticipation, I found that the '134 patent failed to anticipate the asserted claims because the '134 patent fails to clearly disclose the "means for setting an operation code" limitation of claim 1, the "code unit for setting an operation code" limitation of claim 7, and the "setting an operation code" limitation of claim 13. This is due to the fact that the control module 22 is the hardware alleged to set the operation code. Oki Data identified

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multifunctional local device 14 as the image input device, but there is no disclosure in the '134 patent that the control module 22 is part of the multifunctional local device 14. (See RX-11.)

Oki Data's obviousness argument fails because Oki Data does not explain how one of ordinary skill in the art would be motivated to modify the structure of the device in the '134 patent to include the control module 22 as part of the multifunctional local device 14. (See RX-33C at Q. 667-686; CX-308 at Q. 266.) Therefore, I find that Oki Data has failed to offer sufficient evidence to demonstrate the obviousness of the asserted claims based on the combination of the '134 patent and one of the other anticipation references.

3. Indefiniteness

Oki Data's Position: Oki Data contends that claims 1, 7, and 13 are each indefinite. According to Oki Data, the specification fails to disclose sufficient algorithms to support the means-plus-function claim elements. Oki Data acknowledges that I found to the contrary in Order No. 29, but respectfully disagrees with this finding.

Ricoh's Position: Ricoh contends that Order No. 29 correctly determined that none of the limitations in asserted claims 1, 7, and 13 are indefinite.

Staff's Position: Staff asserts that the "scanning means" limitation of claims 1 and 7 is indefinite because the specification fails to disclose the necessary algorithm for performing the claimed functions.

Discussion and Conclusion: Based on the evidence in the record, I find that asserted claims 1, 7, and 13 are not indefinite. As detailed in the claim construction analysis, I have construed the disputed terms of the '771 patent and found that each of them are amenable to construction. Thus, because I have been able to construe the terms, I find that the asserted claims are not indefinite. *Energizer Holdings*, 435 F.3d at 1371 ("A claim that is amenable to

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construction is not invalid on the ground of indefiniteness.”).

D. The ‘048 Patent³³

1. Anticipation

a. IBM Technical Disclosure Bulletin, Vol. 38, No. 12

Oki Data’s Position: Oki Data contends that the IBM Technical Disclosure Bulletin, Vol. 38, No. 12 (Dec. 1995) (“the IBM reference”) anticipates each of the asserted claims of the ‘048 patent. (Citing RX-250; RX-337C at Q. 361-439.)

Oki Data states that while the IBM reference was considered during prosecution, the applicant only overcame the IBM reference by submitting a declaration to antedate the IBM reference and remove it from consideration. (Citing JX-8 at RITC 52480-81.) Because Ricoh is precluded from asserting a priority date of earlier than February 9, 1996, Oki Data argues that Ricoh has no rebuttal to the claim that the IBM reference anticipates the asserted claims.

In its reply brief, Oki Data disputes Ricoh’s assertion that the IBM reference fails to disclose a web server. Oki Data argues that during prosecution, Ricoh did not dispute the examiner’s finding that the IBM reference disclosed a web server. (Citing JX-8A at RITC 0001307.) Oki Data claims that Ricoh’s argument is inconsistent with its own expert’s opinion of what comprises a web server. (Citing RX-250; CX-271 at Q. 150-151, 199.)

Ricoh’s Position: Ricoh contends that the IBM reference does not anticipate any of the asserted claims. Ricoh states that the IBM reference does not disclose a web server. According to Ricoh, the reference fails to disclose using the HTTP protocol to access or control the HTML files in the storage peripheral. Ricoh claims that the reference is simply related to using a Web browser to access HTML files. (Citing RX-250; CX-308 at Q. 92.)

³³ Ricoh seeks to revisit the rulings in Order Nos. 20 and 27, which precluded Ricoh from serving supplemental interrogatory responses regarding the invention date for the ‘048 patent. (CIB at 97-98.) This issue has already been adequately addressed in Order Nos. 20 and 27 and I find no reason to disturb those rulings.

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Ricoh claims that the IBM reference discloses nothing more than using a browser to access an HTML file on a storage device. (Citing Tr. at 1653:24-1656:1.) Ricoh claims that this does not amount to the disclosure of a web server because there is no disclosure of using the HTTP protocols. (Citing Tr. at 1652:17-1653:10, 1653:24-1656:12.)

Ricoh argues that the IBM reference fails to disclose other claim limitations. Ricoh argues that the IBM reference does not disclose controlling operations in response to HTTP document requests, as required by claim 1. (Citing RX-337 at Q. 368.) Ricoh argues that the IBM reference fails to disclose a “plurality of requests” as required by claim 19. (Citing RX-337 at Q. 378.) Ricoh argues that the IBM reference fails to disclose the following limitations: “uniform resource locator,” “resource identifier,” “descriptor,” “translating/converts,” “multifunction machine,” and “form.” (Citing RX-250; CX-308 at Q. 99; RX-337 at Q. 408-409.)

Finally, Ricoh argues that the IBM reference is not an enabling disclosure. Ricoh claims that the IBM reference is nothing more than a 25-line “wish list” that requires one of ordinary skill in the art to engage in significant, perhaps endless, amounts of experimentation to implement. Ricoh lists the technical details that it claims the IBM reference fails to disclose.

In its reply brief, Ricoh reiterates that the IBM reference discloses nothing more than a storage device that may provide access to HTML files via a Web browser. Ricoh claims that the device in the IBM reference operates in the same way as a flash drive or networked computer, which are not Web servers. (Citing Tr. at 1652:17-1653:10, 1653:24-1656:12; RX-250.)

Staff’s Position:³⁴ Staff contends that the IBM reference anticipates claims 1, 19, 20, 21, 24, 25, 26, 28, 29, 31, 32, 49, 50, 51, 53, 54, 56, and 57. Staff claims that Mr. Edwards’

³⁴ Staff notes that its anticipation and obviousness analysis is based on Ricoh’s proposed claim constructions. (SIB at 76.)

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testimony demonstrates that the IBM reference discloses each limitation of the listed claims.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the IBM reference anticipates any of the asserted claims of the '048 patent.³⁵

The IBM reference is a brief, one-page technical disclosure bulletin entitled “Disk Drive with Embedded Hyper-Text Markup Language Server.” (RX-250.) The document describes the concept of using HTML to interact with a storage peripheral such as a magnetic disk drive. As the IBM reference explains, “it is possible that storage peripherals...could provide their own ‘web page’ that a user of a computer system could use to directly interact with the device.” (*Id.*) The HTML files could be viewed in standard Web Browsers without the need to connect to a “network communications facility.” (*Id.*) The IBM reference also discloses connecting to the peripherals remotely via the Internet. (*Id.*)

Claim 1 of the '048 patent requires: “a server to control peripheral operations of said peripheral directly in response to requests, each of the requests formatted as http document requests[.]” Similarly, claim 33 requires: “a server to control peripheral operations of the peripheral directly in response to requests by translating the requests into commands, each of the requests formatted as a http document request[.]” I find that the IBM reference fails to clearly and convincingly disclose this limitation, as there is no disclosure of the peripherals in the IBM reference operating in response to requests that are formatted as http document requests. Furthermore, I find that there is no clear disclosure in the IBM reference of “translating the requests into commands” as required by claim 33. Mr. Edwards’ testimony does not explain how these limitations are disclosed in the IBM reference, as Mr. Edwards fails to identify the

³⁵ While much of Mr. Weadock’s expert testimony regarding the IBM reference was excluded, it does not follow that I must accept the expert testimony of Oki Data’s expert, Mr. Edwards. *See Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 174 F.3d 1374, 1379 (Fed. Cir. 1998).

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“http document requests” disclosed in the IBM reference. (RX-337C at Q. 368, 413.)

Claims 19, 24, and 49 each include limitations describing how a server and a device use resource identifiers and/or descriptors to communicate. Mr. Edwards’ testimony does not identify the disclosure of resource identifiers and descriptors in the IBM reference, or how the peripheral or the controlling device use resource identifiers and/or descriptors. (RX-337C at Q. 377-380, 389-395, 420-423.) I find that this testimony does not amount to clear and convincing evidence that the IBM reference anticipates claims 19, 24, and 49.

Because all of the asserted dependent claims are dependent on claims 19, 24, or 49, I find that the IBM reference does not anticipate the dependent claims for the same reasons as described *supra*. See *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974). Thus, I find that Oki Data has failed to offer clear and convincing evidence that the IBM reference anticipates any of the asserted claims.

b. “Australia’s Telerobot On The Web” & “A Telerobot On The World Wide Web”

Oki Data’s Position: Oki Data contends that claims 1, 19, 20, 21, 23, 24, 25, 26, 28, 29, 31, 32, 33, 49, 50, 51, 53, 54, 56, and 57 of the ‘048 patent are anticipated by two references describing a networked “telerobot,” which are entitled “Australia’s Telerobot On The Web” and “A Telerobot On The World Wide Web.” (collectively “the Taylor references”). (Citing RX-280; RX-281.)

Oki Data claims that the Taylor references address the same issues as identified in the ‘048 patent, as the references describe the use of a web accessible robotic system comprising a robot arm, two cameras, and a web server. (Citing Tr. at 717:8-718:19.) Oki Data asserts that the references describe the benefits of incorporating a web server into their system to enable access and control by remote users via the Internet. (Citing RX-280; RX-281; RX-337C at Q.

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443; Tr. at 715:12-721:2.) Oki Data asserts that Ricoh's arguments against invalidity are without merit.

In its reply brief, Oki Data argues that the Taylor references are not like the prior art discussed in the '048 patent because the remote computer used to control the peripheral does not have drivers. (Citing RX-280 at Fig. 1; Tr. at 1658:23-1661:11.) Oki Data argues that the webcam disclosed in the Taylor references provides access to interconnected online documents. Oki Data notes that the only embodiment disclosed in the '048 patent is a webcam, thus meaning that if Ricoh's assertion is true, then the '048 patent would be invalid under § 112, ¶ 1. (Citing Tr. at 717:20-23; RX-337C at Q. 443.) Oki Data asserts that Ricoh's argument that the Taylor system is not a single integrated peripheral is contradicted by Mr. Wolff's own statement in the prosecution history. (Citing JX-8A at RITC 0001324.)

Ricoh's Position: Ricoh contends that the Taylor references do not anticipate any of the asserted claims. Ricoh claims that the Taylor references fail to disclose a peripheral device comprising a server because there is no server on the robot arm or either webcam. (Citing Tr. at 1650:1-10.) Instead, the alleged server is a computer that is separate from the robot arm and cameras. (Citing Tr. at 1646:16-1650:10.)

Ricoh argues that the Taylor references do not disclose that the robot arm or cameras provide access to any documents, much less interconnected online documents. (Citing CX-308 at Q. 122; RX-280; RX-281.) Ricoh argues that the peripherals of the Taylor references are not directly connected to a network because they are connected through an intervening PC. (Citing CX-308 at Q. 123.) Ricoh asserts that the Taylor references do not disclose a peripheral that can respond to HTTP document requests because the robot server can respond to such requests, but the robot itself cannot. (Citing CX-308 at Q. 124.) Finally, Ricoh argues that the system

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comprising a robot arm, two cameras, and a robot server cannot constitute a “single integrated peripheral.” (Citing CX-208 at Q. 124.)

Staff’s Position: Staff contends that the Taylor references anticipate at least the following claims: 1, 24, 25, 26, 28, 29, 31, 32, 49, 50, 51, 53, 54, 56, and 57.

Staff states that the robot arm, cameras, and server PC comprise the “peripheral” in the Taylor references. (Citing Tr. at 716-717.) Staff argues that the fact that the robot arm, cameras, and PC are housed in a single enclosure does not change the fact that they constitute a “peripheral.” (Citing RX-280; RX-281.) Staff argues that the separate components could even be considered a “single integrated peripheral” as required by claims 19 and 21.

In its reply brief, Staff notes that Mr. Wolff stated that his “WebCam comprises several different pieces. However, from the user’s perspective, the WebCam consists of a single, integrated unit, the individual components of which are unimportant, and confusing.” (Citing JX-8A at RITC 0001324.) Staff states that this passage supports the position that a “single, integrated peripheral” does not require the peripheral to be constrained to a single box or housing.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has offered clear and convincing evidence that the Taylor reference (RX-281) anticipates claims 1, 24, 25, 26, 28, 29, 31, 32, 33, 49, 50, 51, 53, 54, 56, and 57.

Oki Data offers two separate references that both describe a “Telerobot” project designed by Ken Taylor and James Trevelyan of the University of Western Australia. (RX-280; RX-281.) Because Oki Data offers them as anticipatory references, it is improper to rely on a combination of the references to prove invalidity under § 102. *In re Skvorecz*, 580 F.3d 1262, 1266 (Fed. Cir. 2009) (“Anticipation requires that all of the claim elements and their limitations are shown in a

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single prior art reference.”) Thus, I focus on RX-281, which is the primary reference analyzed by Mr. Edwards. (RX-337C at Q. 443.)

Ricoh argues that the Taylor reference fails to disclose a “peripheral” because the alleged “peripheral” is made up of a robot arm and two cameras attached to a server PC. According to Ricoh’s interpretation of “peripheral,” all of the components must be housed together. I do not concur. Ricoh has not identified any intrinsic evidence to support a requirement that a “peripheral” be contained in a single housing. To the contrary, other claims of the ‘048 patent expressly require a “single integrated peripheral,” strongly implying that a “peripheral” does not necessarily need to be a single integrated device. *Phillips*, 415 F.3d at 1314 (“[T]he claim in this case refers to ‘steel baffles,’ which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel.”) I find nothing in the intrinsic evidence requiring a “peripheral” to be contained together in a single unit or housing. I find that the “peripheral” of the Taylor reference is comprised of the robot server, the robot arm, and the cameras. (RX-281 at ¶ 1.2.)

Ricoh argues that Mr. Edwards admitted that the system disclosed in Taylor is identical to the prior art shown in Figure 1 of the ‘048 patent. Figure 1 of the ‘048 patent depicts a prior art configuration where a host computer loaded with driver software is connected to a peripheral and controls the operations of the peripheral. (JX-3 at 2:40-55, Fig. 1.) Ricoh points to Mr. Edwards’ testimony that there must be specialized software loaded on the robot server PC in the Taylor reference to control the robot arm and cameras. (Tr. at 1647:16-1651:4.) According to Ricoh, this demonstrates that the Taylor reference is identical to the admitted prior art because the robot server PC, i.e. the “host computer,” needs specialized software in order to communicate with the “peripherals,” i.e. the robot arm and cameras.

I find that Ricoh’s argument misses the mark, as the “host computer” of the Taylor

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reference is not the robot server PC. Instead, the computer that a user interacts with to control the peripheral is a remote client computer that can connect to the robot server via the Internet. (RX-281.) Mr. Edwards testified that the remote client computer would not need special driver software to be able to communicate with the robot server. (Tr. at 1658:23-1661:11; RX-281.)

Mr. Weadock also offers the opinion that a robot system such as the one disclosed in Taylor is not a peripheral because the term “peripheral” is used to “described I/O devices such as printers, scanners, fax machines, joysticks, external modems, and so forth.” (CX-308 at Q. 126.) I construed “peripheral” to mean “a device coupled to a network that is capable of receiving directions from a computer on a network and performing the actions that were directed, whereby the device does not need a host computer loaded with driver software to direct it to perform any of the device’s functions.” Nothing in this construction limits the meaning of “peripheral” to include devices such as printers or scanners and exclude the robot system found in Taylor. Further, the specification states that “[t]he present invention may be applied to a variety of peripheral devices,” thereby indicating the patentee’s intent to use the invention with a broad array of peripheral devices. (JX-3 at 9:16-17.)

I find that Oki Data has offered clear and convincing evidence that the Taylor reference anticipates claim 1. (RX-281; RX-337C at Q. 448-449.) The Taylor reference discloses “[a] peripheral for use with a network providing access to interconnected, on-line documents in response to document requests[.]” (RX-337C at Q. 444-445; RX-281.)³⁶ The peripheral of the Taylor reference includes “a server to control peripheral operations of said peripheral directly in response to requests, each of the requests formatted as http document requests, such that the peripheral can be coupled directly to said network.” (RX-281; RX-337C at Q. 446-447.)

³⁶ I note that a portion of Question 445 in RX-337C has been excluded. My ruling does not rely on that excluded testimony.

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I find that Oki Data has not offered clear and convincing evidence that the Taylor reference anticipates claims 19, 20, 21, and 23. Each of these claims requires “a single integrated peripheral” that includes, *inter alia*, a server. Ricoh argues that the robot server, robot arm, and two cameras cannot be considered a “single integrated peripheral” because they are four separate components. I concur, and find that the separate components of Taylor do not constitute a “single integrated peripheral.” (CX-308 at Q. 124; RX-281.)

Oki Data and Staff point to a portion of the prosecution history that they claim support the assertion that the separate components of Taylor are a “single integrated peripheral.” In Mr. Wolff’s invention disclosure document, he stated the following:

In current technology, the WebCam comprises several different pieces. However, from the user’s perspective, *the WebCam consists of a single, integrated unit*, the individual components of which are unimportant, and confusing. The user simply plugs the WebCam in, and immediately starts viewing pictures...

(JX-8A at RITC 0001324) (emphasis added).

I find that this passage does not support Oki Data’s and Staff’s argument. I find that this passage indicates that the WebCam described in the invention disclosure is made up of “several different pieces” that are contained in a “single, integrated unit.” This is not the same as the robot system of Taylor, which is comprised of separate components that always remain separate and never form to become a single integrated unit.³⁷

I find that Oki Data has offered clear and convincing evidence that the Taylor reference anticipates claim 24. (RX-337C at Q. 485-486; RX-281.) The Taylor reference discloses “[a] method of controlling a peripheral coupled to a network with a device coupled to the network.” (*Id.* at Q. 475-476.) The method of the Taylor reference includes “the device selecting one of a

³⁷ I note that besides the arguments concerning the limitations “peripheral” and “single integrated peripheral” addressed *supra*, Ricoh offers no additional arguments to rebut Oki Data’s invalidity assertions with respect to the Taylor reference. (CIB at 89-91.)

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plurality of resource identifiers to select one of a plurality of operations to be performed by the peripheral, each of the plurality of operations being invoked individually by a user specifying a descriptor defining a resource and its location, such that the peripheral is responsive to a plurality of descriptors to control its operation.” (*Id.* at Q. 477-479.) The method of the Taylor reference includes “generating a request to the peripheral in response to the one resource identifier being selected.” (*Id.* at Q. 480-482.) Finally, the method includes “directly controlling the peripheral by the one resource identifier, wherein the request is handled using a server on the peripheral.” (*Id.* at Q. 483-484.)

Claims 25, 26, 28, 29, 31, and 32 are directly or indirectly dependent on claim 24. Ricoh does not raise any arguments unique to these dependent claims. I find that Oki Data has offered clear and convincing evidence that claims 25, 26, 28, 29, 31, and 32 are anticipated by the Taylor reference. (RX-281; RX-337C at Q. 488-499.)

Claim 25 recites “[t]he method defined in claim 24 wherein directly controlling the peripheral comprises contacting the peripheral directly to retrieve a document.” The Taylor reference explains that “[w]hen a user (operating a Web client program such as Mosaic or Netscape) requests information, the server sends a page containing two images of the robot (from the cameras), a diagram, explanatory text, and a number of information fields.” (RX-281 at 3.) I find that this is a clear and convincing disclosure of claim 25, a finding that is supported by Mr. Edwards’ testimony. (RX-337C at Q. 489.)

Claim 26 recites “[t]he method defined in claim 25 wherein the document comprises a previously created document stored in the peripheral.” Mr. Edwards testifies that “the Taylor reference describes a series of web pages that displayed to control the devices.” (RX-337C at Q. 491.) Mr. Edwards notes that at page 8 of the reference, it “discloses the use of storage in the

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server to store the images that the server provides upon request to the network.” (*Id.*) Based on this testimony, I find that there is clear and convincing evidence that the Taylor reference meets claim 26.

Claim 28 recites “[t]he method defined in claim 24 wherein directly controlling the peripheral comprises translating the request into at least one control parameter that causes the peripheral to operated [*sic*] in a predetermined manner.” Mr. Edwards testifies that the Taylor reference discloses this limitation through its discussion of how a user may issue an instruction to the robot system. (RX-337C at Q. 493.) Based on this testimony, I find that there is clear and convincing evidence that the Taylor reference meets claim 28.

Claim 29 recites “[t]he method defined in claim 24 wherein directly controlling the peripheral comprises handling the request using a server on the peripheral.” Mr. Edwards testifies that the requests to the peripheral are handled by the robot server. (RX-337C at Q. 495.) Based on this testimony, I find that there is clear and convincing evidence that the Taylor reference meets claim 29.

Claim 31 recites “[t]he method defined in claim 24 wherein further comprising interacting with an interface displayed on the device.” Mr. Edwards testifies that the interface displayed on the device is the web page used to control the robot system: “Figure 1 clearly shows an example of a page originating from the peripheral, namely the web page through which the user interacts with the system, and the actual form boxes and associated submission buttons can be plainly seen.” (RX-337C at Q. 497.) Based on this testimony, I find that there is clear and convincing evidence that the Taylor reference meets claim 31.

Claim 32 recites “[t]he method defined in claim 31 wherein the interface comprises a form originating from the peripheral.” Mr. Edwards states that “Figure 1 clearly show [*sic*] an

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example of a page originating from the peripheral, namely the web page thru which the user interacts with the system.” (RX-337C at Q. 499.) Based on this testimony, I find that there is clear and convincing evidence that the Taylor reference meets claim 32.

I find that Oki Data has offered clear and convincing evidence that the Taylor reference anticipates claim 33. (RX-281; RX-337C at Q. 506-507.) The Taylor reference discloses “[a] peripheral for use with a network providing access to interconnected, on-line documents in response to document requests.” (*Id.* at Q. 500-501.) The peripheral of the Taylor reference includes “a server to control peripheral operations of the peripheral directly in response to requests by translating the requests into commands, each of the requests formatted as a http document request such that the peripheral can be coupled directly to said network.” (*Id.* at Q. 502-503.) The peripheral of the Taylor reference also includes “a memory to maintain objects that the server serves onto the network in response to requests.” (*Id.* at Q. 504-505.)

I find that Oki Data has offered clear and convincing evidence that the Taylor reference anticipates claim 49. (RX-281; RX-337C at Q. 515-516.) The Taylor reference discloses “[a] method of controlling a peripheral coupled to a network with a device coupled to the network.” (RX-337C at Q. 509-510.) The method includes the step of “the peripheral receiving a request relating to a resource identifier selecting one of a plurality of operations to be performed by the peripheral, each of the plurality of operations being invoked individually by a user specifying a descriptor defining a resource and its location, such that the peripheral is responsive to a plurality of descriptors to control its operation.” (*Id.* at Q. 511-512.) The method further includes the step of “directly controlling the peripheral by the one resource identifier, wherein the request is handled using a server on the peripheral which converts the request into at least one command.” (*Id.* at Q. 513-514.)

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Claims 50, 51, 53, 54, 56, and 57 are directly or indirectly dependent on claim 49. Ricoh does not raise any arguments unique to these dependent claims. Claims 50, 51, 53, 54, 56, and 57 add limitations identical to the limitations found in claims 25, 26, 28, 29, 31, and 32, respectively. For the reasons discussed *supra* with respect to claims 25, 26, 28, 29, 31, and 32, I find that Oki Data has offered clear and convincing evidence that claims 50, 51, 53, 54, 56, and 57 are anticipated by the Taylor reference. (RX-281; RX-337C at Q. 488-499, 518-529.)

c. U.S. Patent No. 5,742,845

Oki Data's Position: Oki Data contends that U.S. Patent No. 5,742,845 (“the ‘845 patent”) anticipates all of the asserted claims of the ‘048 patent.

Oki Data claims that Ricoh’s only basis for claiming that the ‘845 patent does not anticipate is that the peripherals do not include servers. (Citing CX-308 at Q. 81, 87.) Oki Data states that Ricoh’s position relies on the fact that the ‘845 patent calls the web server a “client.” (Citing CX-308 at Q. 87.) According to Oki Data, the peripheral of the ‘845 patent includes a server that performs the functionality associated with a server, even if it referred to as a “client” in the patent. (Citing RX-337C at Q. 285.) Oki Data claims that the patentee in the ‘845 patent exercised his right to define his invention in the terms of his own choosing, and that should not preclude a finding that the disclosed peripheral includes a server.

Ricoh's Position: Ricoh contends that the ‘845 patent does not anticipate any of the asserted claims.

Ricoh claims that the I/O devices described in the ‘845 patent are clients and not servers. (Citing CX-308 at Q. 80; RX-252.) Ricoh claims that Mr. Edwards is wrong to assert that the “clients” of the ‘845 patents actually function as servers. (Citing RX-337 at Q. 289, 300; RX-260; RX-252.)

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Ricoh argues that the '845 patent does not disclose a peripheral responsive to HTTP requests or interconnected online documents. Ricoh states that just because peripherals disclosed in the '845 patent can "speak" HTTP does not mean that they provide access to interconnected online documents. (Citing CX-308 at Q. 84; RX-252.) Ricoh asserts that there is no disclosure in the '845 patent that any local HTML files on the I/O devices include links to any other documents or can be accessed by any other device on the network. (Citing RX-337 at Q. 287; RX-252.)

Staff's Position: Staff contends that the '845 patent anticipates claims 1, 19, 20, 21, 23, 25, 26, 28, 29, 31, 32, 50, 51, 53, 54, 56, and 57.

Staff argues that the '845 patent uses the term "client program" with respect to peripheral devices in the same manner as the inventor of the '048 patent uses the term "server," i.e. a component of the peripheral that enables it to access the Internet directly and to communicate and to receive communications, including instructions, over the Internet. (Citing RX-337 at Q. 289; RX-252.) Staff notes that Mr. Weadock admitted that "the specification of the '845 patent discloses that the 'clients' are also 'servers' with the ability to process HTTP messages, take inputs from individuals, send messages via HTTP messages using the Internet to either a web server, or between any server designated as the receiving server." (Citing Tr. at 724-725.)

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the '845 patent anticipates any of the asserted claims of the '048 patent.

The '845 patent provides the following overview:

The present invention provides transaction and data systems which may be implemented on an open network such as the Internet. The system comprises a server for communicating in an open network protocol and a plurality of input/output (I/O) devices coupled to the server through an open network, the I/O

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devices communicating with the server in the extended open network protocol that supports communication with non-standard I/O devices over the open network. The system of the present invention provides a server with the capability of communicating with a number of I/O devices useful in transaction and data systems which heretofore have been unsupported on an open network system such as the Internet.

(RX-252 at 5:35-47.)

The '845 patent describes the I/O devices, i.e. the peripherals, as clients: “[t]he system of the present invention is implemented by extending present open network communication protocols and data message formats to communicate with non-standard I/O devices either coupled to an open network as a client or coupled to an open network through a client, such as a PC, credit card terminal, screen phone, or PDA.” (RX-252 at 5:48-53.) The '845 patent describes that each of the I/O devices includes a client program: “a plurality of I/O devices coupled to said server through an open network, each said I/O device includes a client program for communicating with said server in an extended open network protocol for communicating data between non-standard I/O devices and said server.” (*Id.* at 21:61-65.)

As the parties acknowledge, the '845 patent discloses a Web server and a number of I/O devices connected to the Web server through the Internet. (RX-252 at 9:58-10:9, Fig. 1.) The parties agree that the I/O devices are the “peripherals.” (RX-337C at Q. 289; CX-308 at Q. 87.) Even though the '845 patent describes the I/O devices as clients, Oki Data asserts that the I/O devices function as servers. Mr. Edwards provided the following opinion:

The I/O device contains what the inventors call a client program. It is important to understand that the functions of this client program are not limited to the typical use of the word “client” which often simply refers to a computer that interacts with a network. Instead, the client program of the '845 patent is in fact a “server” that is able to cause action within the I/O device in response to requests from the network, or itself, and to serve requests from the I/O device to the network.

(RX-337C at Q. 289.) To support this opinion, Mr. Edwards cites to a portion of the '845 patent

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that explains that the I/O device can react to a URL request and respond by providing an HTML file from local memory. Mr. Edwards opines that this is without a doubt the functionality of a “server.” (*Id.*; RX-252 at 14:16-21.)

Mr. Weadock offered the opinion that the I/O devices in the ‘845 patent do not perform the functions of a server. (CX-308 at Q. 87.) He provided the following testimony:

[T]he fact that an I/O device (peripheral) can understand HTTP and HTML and act upon it, does not make the device a server. To elaborate on this point, it is very common, in my experience, for clients (workstations) to respond to requests from the network, for example for inventory purposes, or for software installation, or any number of other operations. That does not change their basic character as “clients” on the network...Under the reasoning used by Oki Data’s expert Mr. Edwards, even a Web browser would be considered a server, because a Web browser can understand HTTP and HTML and act upon it. Browsers, however, are universally regarded as clients, not servers.

(CX-308 at Q. 87.)

Based on Mr. Weadock’s credible testimony, I cannot conclude that there is clear and convincing evidence that the I/O devices of the ‘845 patent are “servers” as required by the ‘048 patent. Because each of the asserted claims requires a peripheral that includes a server, I find that Oki Data failed to present clear and convincing evidence that the ‘845 patent anticipates any of the asserted claims.

d. U.S. Patent No. 5,657,448

Oki Data’s Position: Oki Data contends that U.S. Patent No. 5,657,448 (“the ‘448 patent”) anticipates claims 19, 21, 23, 24, 25, 26, 28, 29, 31, 49, 50, 51, 53, 54, and 56 of the ‘048 patent. (Citing RX-337C at Q. 141-210; RX-343C.)

Oki Data claims that Ricoh is incorrect in asserting that the ‘448 patent does not disclose a “single integrated peripheral.” (Citing CX-308 at Q. 63.) Oki Data cites to a portion of the reference to support its position that the ‘448 patent discloses this limitation. (Citing RX-249 at

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4:6-9, Fig. 1.)

Oki Data claims that Ricoh is incorrect in asserting that the '448 patent does not disclose control of the peripheral directly by selecting a resource identifier via an object being viewed by a user of the device. (Citing CX-308 at Q. 63.) Oki Data claims that Mr. Weadock confirmed on cross examination that the '448 patent clearly identifies identifying resources and locations. (Citing Tr. at 703:4-708:11; RX.-249; RX-337C at Q. 158-160, 173-175.)

In its reply brief, Oki Data claims that Ricoh has offered new arguments in its initial post-hearing brief that are not found in its pre-hearing brief. Specifically, Oki Data states that Ricoh now casts its arguments in terms of all asserted claims, whereas previously, its responses were limited to claims 1, 20, 32, 33, 50, and 57. (Citing CPHB at 255.)

Ricoh's Position: Ricoh contends that the '448 patent does not anticipate any of the asserted claims of the '048 patent. Ricoh argues that the examiner considered a substantively identical patent during prosecution of the '048 patent, thus meaning that Oki Data's burden to prove anticipation is particularly heavy. (Citing Tr. at 1656:13-1658:4; CX-308 at Q. 70-71; CDX-120; CDX-121; CDX-122; RX-249; RX-253.)

Ricoh claims that the '448 patent does not disclose the "resource identifier" and "descriptor" claim elements. (Citing Tr. at 1658:5-14; CX-308 at Q. 63, 65.) Ricoh states that this is not surprising, because the '448 patent is not related to Web technologies, and does not even mention the HTTP protocol. (Citing Tr. at 1658:5-14; CX-308 at Q. 63, 65; RX-249; RX-253.)

Staff's Position: Staff contends that each of claims 19, 21, 23, 24, 25, 26, 27, 28, 29, 31, 50, 51, 53, 54, and 56 of the '048 patent is anticipated by the '448 patent.

According to Staff, the '448 patent describes a Network Expansion Board ("NEB") that is

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designed to be installed or integrated with a peripheral such as a printer. Staff states that Mr. Weadock opines that the printer with the NEB installed into a slot in the printer is not “integrated.” (Citing Tr. at 690-691, 694-695.) Staff states that Mr. Weadock does admit, however, that the NEB is installed into a printer, and allows the printer to communicate with a network, and acts as a printer server. (Citing Tr. at 692-693.) Staff argues that the figures and specification of the ‘448 patent clearly show and state that the NEB and printer are “integrated.” (Citing RX-249; RX-308 at Q. 148.)

Staff asserts that the specification of the ‘448 patent discloses the presence of communications mechanisms and the use of descriptors. (Citing RX-249 at 6:57-59, 7:27-32; RX-308 at Q. 150, 153.) Staff states that the ‘448 patent describes the use of resource and location identifiers. (Citing RX-249; RX-208 at Q. 158; Tr. at 706-707, 711-712.)

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the ‘448 patent anticipates any of the asserted claims of the ‘048 patent.

Oki Data asserts that the ‘448 patent anticipates claims 19, 21, 23, 24, 25, 26, 28, 29, 31, 49, 50, 51, 53, 54, and 56. The ‘448 patent discloses the use of a Network Expansion Board (“NEB”) that can be installed into peripherals such as printers to provide enhanced functionality.

As the patent explains:

The Network Expansion Board 2 installed in the printer 4 provides many advantages and enhanced flexibility over the network peripheral control entities discussed above. In particular, the NEB-embedded controller offers RPRINTER, PSERVER and LPR (Line Printer Remote) functionality (through CRPRINTER, CPSERVER and CLPR programs to be discussed in section 3d below). There is an initialization program named CPINIT (to be discussed in section 4h below) which allows the network administrator's PC 14 complete control over the configuration of NEB features. Due to its embedded nature and the open architecture of printer 4, the NEB will have the ability to offer a wide variety of status and control features to the network. That is, verbose amounts of status

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information may be provided from the printer 4 to the LAN 6, and a great deal of control information may be provided from the LAN 6 to the printer 4 (for example, exercising printer front panel functions from the PC 14).

(RX-249 at 6:22-39.)

Claims 19, 21, and 23 each require the following limitation: “a server coupled to the communications mechanism to handle a plurality of requests, each of the requests being invoked by a user specifying *a resource identifier defining a resource and its location*” (emphasis added). The claims further require: “a device coupled to the network, wherein *a user of the device selects one of the resource identifiers to access the peripheral*, such that the device controls the peripheral directly by selecting the resource identifier via an object being viewed by a user of the device.” (emphasis added). Ricoh argues that the ‘448 patent fails to disclose the “resource identifier” limitation.

In an attempt to prove that this limitation is disclosed in the ‘448 patent, Oki Data relies on Mr. Edwards’ testimony. Mr. Edwards states that:

One of skill in the art reading the ‘448 patent recognizes that each of the requests I just discussed, by definition, must be made using a request that specifies a resource and its location. For example, Figure 2 and the text that describes this figure starting at column 7, lines 33, disclose using the NEB-embedded printer in a Wide Area Network or WAN. The example of a WAN most people are familiar with is the Internet. As we discussed in the context of the Internet, requests must include a resource and a location in order to find what one is looking for and act upon it accordingly.

(RX-337C at Q. 158.) Mr. Edwards then cites to a portion of the ‘448 patent in column 33 that he claims includes a discussion of a request comprising a resource and its location. (*Id.*)

I find that Oki Data has not offered clear and convincing evidence that the ‘448 patent discloses the “resource identifier” limitation. Mr. Edwards states that the ‘448 patent discloses that the invention may be used on a WAN, and that the most common WAN is the Internet. Mr. Edwards explains that requests made over the Internet must include a resource and a location.

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(RX-337C at Q. 158.) I find that this testimony makes assumptions about facts that are not found in the '448 patent, mainly that the invention of the '448 patent may be used over the Internet. There is no disclosure of this fact, as Mr. Edwards merely states that the Internet is the "WAN most people are familiar with[.]" (*Id.*) Such testimony does not suffice when clear and convincing evidence is necessary.

Further, I find that the example from the '448 patent that Mr. Edwards cites to does not disclose a "resource identifier." The example describes the ability of a system administrator to configure a printer through a separate PC. The example states that the following settings may be adjusted by the system administrator: (1) logging information, (2) NEB name, and (3) application type. Mr. Edwards does not explain how this example discloses the "resource identifier" limitation. (RX-337C at Q. 158.)

Claims 24, 25, 26, 28, 29, 31, 49, 50, 51, 53, 54, and 56 each require the "resource identifier" limitation, as well as the following limitation: "each of the plurality of operations being invoked individually by a user specifying *a descriptor defining a resource and its location*, such that the peripheral is responsive to a plurality of descriptors to control its operation." (emphasis added). Ricoh argues that the '448 patent does not disclose the "descriptor" limitation.

I find that Mr. Edwards' testimony does not demonstrate that the '448 patent clearly discloses a "descriptor." (RX-337C at Q. 170-173, 193-194.) I find that Mr. Edwards fails to describe where in the '448 patent it is disclosed that a user specifies a descriptor, wherein the descriptor defines a resource and its location. (*Id.*) This finding is supported by expert testimony from Mr. Weadock. (CX-308 at Q. 65.)

Based upon the foregoing, I find that Oki Data has failed to offer clear and convincing

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evidence that the '448 patent anticipates any of the asserted claims of the '048 patent.

e. U.S. Patent No. 5,784,622

Oki Data's Position: Oki Data contends that U.S. Patent No. 5,784,622 ("the '622 patent") anticipates claims 19, 21, 23, 24, 25, 26, 28, 29, 31, 49, 50, 51, 53, 54, and 56 of the '048 patent/ (Citing RX-337C at Q. 211-281; RX-344C.) Oki Data claims that Ricoh does not offer any rebuttal specifically addressing the '622 patent, instead relying on the arguments presented with respect to the '448 patent. Oki Data claims that to the extent that Ricoh is allowed to rely on its arguments addressing the '448 patent, those arguments fail for the reasons addressed in Oki Data's analysis of the '448 patent.

Ricoh's Position: Ricoh addresses the '448 patent and '622 patent together. Thus, Ricoh's position regarding the '448 patent, described *supra*, applies to the '622 patent.

Staff's Position: Staff does not offer a position regarding the '622 patent.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the '622 patent anticipates any of the asserted claims of the '048 patent.

While the '622 and '448 patents did not derive from related applications, the patents share many similarities. Each patent lists the same inventors, was filed on the same day, and is assigned to the same company. (RX-249; RX-253.) The patents both describe the use of a peripheral that includes a Network Expansion Board ("NEB"). (*Id.*) Mr. Edwards testified that the patents are "similar" and that his witness statement does not identify any differences between the two patents. (Tr. at 1656:13-1657:10.)

For the '622 patent, Mr. Edwards provides testimony related to the "resource identifier" and "descriptor" claim limitations that is substantively identical to his testimony regarding the

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'448 patent. (RX-337C at Q. 228, 240-243, 263-264.) This is because Mr. Edwards relies on the same disclosures in the specifications of the '622 and '448 patent to meet these claim limitations.

(Compare RX-337C at Q. 228, 240-243, 263-264 with RX-337C at Q. 158, 170-173, 193-194.)

Thus, for the reasons stated with respect to the '448 patent, I find that the '622 patent fails to clearly disclose the "resource identifier" and "descriptor" claim limitations, and thus fails to anticipate any one of claims 19, 21, 23, 24, 25, 26, 28, 29, 31, 49, 50, 51, 53, 54, and 56.

Based upon the foregoing, I find that Oki Data has failed to offer clear and convincing evidence that the '622 patent anticipates any of the asserted claims of the '048 patent.

2. Obviousness

a. Level of Ordinary Skill in the Art

Oki Data's Position: Oki Data contends that a person of ordinary skill in the art would have at least a bachelor's degree in mathematics, physics, electrical engineering or computer science and at least 5, more likely 8-10 years of experience in computer networking, computer control of devices, and computer systems administration. Oki Data asserts that to possess ordinary skill, one would require experience and familiarity with systems architecture, the design of network scanning and printing systems, software development and network protocols. (RX-337C at Q. 34.)

Ricoh's Position: Ricoh contends that a person of ordinary skill in the art of the '048 patent would possess a technical degree in computer science or engineering and three or more years of experience with networking and Internet technologies. (CX-271 at Q. 57.)

Staff's Position: Staff contends that a person of ordinary skill in the art of the '048 patent would have at least a bachelor's degree in mathematics, physics, electrical engineering or computer science and at least five, and more likely eight to ten, years of experience in computer

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networking, computer control of devices, and/or computer systems administration. (Citing RX-337C at Q. 34.) Staff states that such a person would have experience and familiarity with systems architecture, the design of network scanning and printing systems, software development and network protocols. (*Id.*) Staff states that an individual satisfying Ricoh's proffered level of skill would be an individual generally acting under the direction of others, and is not an individual who is free to improvise.

Discussion and Conclusion: Based on the evidence in the record, I find that a person of ordinary skill in the art of the '048 patent would have at least a bachelor's degree in electrical engineering, computer engineering, or computer science and at least five years of experience in computer networking, computer control of devices, and computer systems administration. (RX-337C at Q. 34.) The parties' positions on this issue are close, with the main difference being that Oki Data and Staff assert that at least five years of experience are required while Ricoh assert that at least three years of experience are required. I find that Oki Data's and Staff's proposal is more reasonable in light of the subject matter described and claimed in the '048 patent. (*Id.*)

b. The '622 Patent In Combination With The IBM Reference

Oki Data's Position: Oki Data contends that the combination of the '622 patent and the IBM reference renders each of the asserted claims obvious. Oki Data relies on Mr. Edwards' expert testimony to support its position. (Citing RX-337C at Q. 211-281, 361-439, 582-593; RX-344C; RX-256C.) Oki Data asserts that Mr. Edwards' testimony on this issue is unrebutted.

Ricoh's Position: Ricoh contends that the combination of the '622 patent and the IBM reference does not render any of the asserted claims obvious. Ricoh claims that Oki Data failed to demonstrate that a person of ordinary skill in the art would be motivated to combine the references. Ricoh argues that the two references are in very different fields of inquiry dealing

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with different issues, problems, goals and technologies. (Citing CX-308 at Q. 160-163; RX-253.)

Staff's Position: Staff offers no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the combination of the '622 patent and the IBM reference renders any of the asserted claims obvious.

In the anticipation analysis, I have already concluded that the IBM reference does not anticipate any of the asserted claims, and that the '622 patent does not anticipate claims 19, 21, 23, 24, 25, 26, 28, 29, 31, 49, 50, 51, 53, 54, and 56. Mr. Edwards does not offer an explanation regarding how certain elements of one reference would be combined with certain references of the other reference; he reiterates his opinion that the '622 patent and the IBM reference are both anticipatory references. (RX-337C at Q. 585-586.) In Section IV.D.1 *supra*, I found that both of these references were missing multiple claim limitations from the asserted claims. I find that merely offering the combination of the references, without any explanation regarding how the claim limitations missing from both references are disclosed by the combination, is insufficient to prove clear and convincing evidence of obviousness. *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1373-1374 (Fed. Cir. 2010) (upholding finding of non-obviousness based on the fact that there was substantial evidence that the asserted combination of references failed to disclose a claim limitation); *Velandar v. Garner*, 348 F.3d 1359, 1363 (Fed. Cir. 2003) (explaining that a requirement for a finding of obviousness is that "all the elements of an invention are found in a combination of prior art references").

c. The '622 Patent In Combination With The '845 Patent

Oki Data's Position: Oki Data contends that the combination of the '622 patent and the

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'845 patent renders each of the asserted claims obvious. Oki Data relies on Mr. Edwards' expert testimony to support its position. (Citing RX-337C at Q. 211-281, 282-360, 570-581; RX-344C; RX-342C.) Oki Data claims that Mr. Edwards provided a detailed explanation of the requisite motivation to combine the two references. (Citing RX-337C at Q. 570-581.)

Ricoh's Position: Ricoh contends that the combination of the '622 patent and the '845 patent does not render any of the asserted claims obvious. Ricoh acknowledges that, at a superficial level, both the '845 patent and the '622 patent concern themselves with I/O devices. (Citing CX-308 at Q. 156-159; RX-252; RX-253.) Ricoh argues that this common trait does not present the motivation to combine the references, as the '845 patent addresses online transaction processing using Web technologies in a wide area network, while the '622 patent relates to a circuit board to be inserted into a printer on a local area network. (Citing CX-308 at Q. 156-159.)

Staff's Position: Staff offers no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the combination of the '622 patent and the '845 patent renders any of the asserted claims obvious.

I have found in Section IV.D.1 *supra* that the '845 patent does not clearly and convincingly disclose peripheral devices that include servers. The '622 patent, on the other hand, discloses a peripheral device that includes a server. (RX-337C at Q. 227.) I find that Oki Data has not offered sufficient evidence to demonstrate a reason why one of ordinary skill in the art would look to references such as the '845 patent that do not clearly disclose the use of a peripheral with an included server. (RX-337C at Q. 577-581.)

This is especially important given that the inclusion of a server in the peripheral is a key

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aspect in solving the problem addressed by the '048 patent – removing the need for peripherals to be connected to host computers that are running special driver software. (See JX-3 at 2:34-58, 3:1-6, 3:43-51.) Therefore, I conclude that Oki Data has not offered a sufficient reason to combine the '622 and '845 patents. *Fresenius*, 582 F.3d at 1300-1301 (“[I]t remains appropriate for a post-*KSR* court considering obviousness ‘to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.’”) (citation omitted). Based on that finding, I conclude that Oki Data has not offered clear and convincing evidence of obviousness regarding the combination of the '622 patent and the '845 patent.

d. The '622 Patent In Combination With The Taylor References

Oki Data's Position: Oki Data contends that the combination of the '622 patent and the Taylor references renders each of the asserted claims obvious. Oki Data relies on Mr. Edwards' expert testimony to support its position. (Citing RX-337C at Q. 211-281, 440-530, 594-605; RX-344C; RX-257C.) Oki Data asserts that Mr. Edwards' testimony on this issue is unrebutted.

Ricoh's Position: Ricoh contends that the combination of the '622 patent and the Taylor references does not render any of the asserted claims obvious. Ricoh argues that there is no motivation to combine the references. Ricoh states that the '622 patent concerns itself primarily with management of printers in a LAN using Novell network technologies and an installable printed circuit board. (Citing CX-308 at Q. 164-167.) Ricoh states that the Taylor references related to controlling an industrial robot over a WAN. (Citing CX-308 at Q. 164-167.) According to Ricoh, these two areas are very different, especially since Ricoh does not consider a robot to be a computer peripheral. (Citing CX-308 at Q. 164-167.)

Staff's Position: Staff contends that the Taylor references render claims 19 and 21 obvious. Staff states that the Taylor references do not disclose a physically integrated peripheral

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device. Staff asserts that “[h]owever, integration was in vogue during the relevant time period.” Thus, Staff claims that it would have been obvious to modify these references to result in a single integrated peripheral.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the combination of the ‘622 patent and the Taylor references renders any of the asserted claims obvious.

Ricoh argues that there is no motivation to combine the references. (CIB at 96.) The experts offer conflicting testimony regarding motivation to combine. (RX-337C at Q. 601-604; CX-308 at Q. 164-167.) Mr. Weadock testifies that one of ordinary skill in the art would not have been motivated to combine the references because of the vast differences between the subject matter of the references. (CX-308 at Q. 165.) Specifically, Mr. Weadock testifies that the Taylor references concern themselves with providing the ability to control a robot over a Wide Area Network (i.e. the Internet and World Wide Web), while the ‘622 patent concerns management of printers with integrated NEBs in a Local Area Network using Novell network software. (CX-308 at Q. 165.) I find that this credible testimony precludes a finding that there is clear and convincing evidence of a reason to combine the Taylor references and the ‘622 patent. Based on the foregoing, I conclude that Oki Data has not demonstrated that the combination of Taylor references and the ‘622 patent renders any of the asserted claims obvious. *Fresenius*, 582 F.3d at 1300-1301.

e. The ‘448 Patent In Combination With The ‘219 Patent

Oki Data’s Position: Oki Data contends that the combination of the ‘448 patent and U.S. Patent 5,732,219 (“the ‘219 patent”) renders each of the asserted claims obvious. Oki Data relies on Mr. Edwards’ expert testimony to support its position. (Citing RX-337C at Q. 141-210,

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538-569; RX-343C.)

Oki Data states that Mr. Weadock testifies that one of ordinary skill in the art would not be motivated to combine the references because they are in non-analogous arts and do not address the same problems. (Citing CX-308 at Q. 145-146, 148, 153-155.) Oki Data argues that, contrary to Mr. Weadock's opinions, the '448 patent and '219 patent are directed to the same technology and to addressing the same problems. (Citing RX-337C at Q. 141-210, 538-547.)

Ricoh's Position: Ricoh contends that the combination of the '448 patent and the '219 patent does not render any of the asserted claims obvious. Ricoh states that the '448 patent relates to a circuit board coupled to a local area network peripheral. (Citing RX-249 at 1:11-15.) Ricoh states that the '219 patent relates to computer editing systems for editing electronic documents. (Citing RX-251; CX-308 at Q. 145-155.) Ricoh asserts that although the two patents deal with networks, they attempt to solve completely different problems. Thus, Ricoh argues that there is no motivation to combine the references.³⁸

Staff's Position: Staff offers no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to offer clear and convincing evidence that the combination of the '448 patent and the '219 patent renders any of the asserted claims obvious.

In Section IV.D.1 *supra*, I found that the '448 patent did not clearly disclose the "resource identifier" and "descriptor" limitations of these claims. In arguing obviousness, Oki Data relies on the '448 patent alone to meet these claim limitations. (See RX-337C at Q. 543, 555-556, 560-561; RX-343C.) Based on the reasoning articulated with respect to the

³⁸ Ricoh also offers a nonobviousness argument based on secondary considerations. (CIB at 96-97.) As Ricoh's brief acknowledges, the argument is based on evidence that was not admitted during the hearing. Thus, I find that Ricoh's argument lacks merit. See *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1581 (Fed. Cir. 1989) ("Attorneys' argument is no substitute for evidence.")

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anticipation analysis of the '448 patent, I find that Oki Data has not offered clear and convincing evidence that the combination of the '448 patent and the '219 patent discloses the “resource identifier” and “descriptor” limitations. Because Oki Data has not offered clear and convincing evidence that the asserted combination discloses all of the claim elements, I find that Oki Data has not demonstrated that the combination of the '448 patent and the '219 patent renders claims 19, 20, 21, 23, 24, 25, 26, 28, 29, 31, 32, 49, 50, 51, 53, 54, 56, and 57 obvious.

Claims 1 and 33 remain. Ricoh argues that there is no motivation to combine the references. (CIB at 94-95.) The experts offer conflicting testimony regarding motivation to combine. (RX-337C at Q. 544-549; CX-308 at Q. 148, 153-155.) Mr. Weadock testifies that one of ordinary skill in the art would not have been motivated to combine the references because of the vast differences between the subject matter of the references. (CX-308 at Q. 148.) Specifically, Mr. Weadock testifies that the '219 patent addresses editing documents for developing online services such as e-commerce, electronic publishing, etc. (*Id.*) Mr. Weadock states that the '219 patent does not include any disclosure of peripherals, and “merely discloses a server that is compatible with a remote editing system[.]” (*Id.*) Mr. Weadock testifies that the “two patents both deal with networks, but beyond that very broad common ground, they concern themselves with complete different problems.” (*Id.*) I find that this credible testimony precludes a finding that there is clear and convincing evidence of a reason to combine the '448 patent and the '219 patent. Based on the foregoing, I conclude that Oki Data has not demonstrated that the combination of the '448 patent and the '219 patent renders any of the asserted claims obvious. *Fresenius*, 582 F.3d at 1300-1301.

3. Indefiniteness

Oki Data's Position: Oki Data contends that the terms “server” and “communications

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mechanism” are indefinite because the ‘048 patent specification does not disclose adequate structure that performs the claimed functions.

Ricoh’s Position: Ricoh contends that the terms “server” and “communications mechanism” are not indefinite. Ricoh asserts that the terms are not means-plus-function terms.

Staff’s Position: Staff contends that the terms “server” and “communications mechanism” are indefinite because the ‘048 patent specification does not disclose adequate structure that performs the claimed functions.

Discussion and Conclusion: Based on the evidence in the record, I find that the terms “server” and “communications mechanism” are not indefinite.

Oki Data’s and Staff’s arguments are premised on a finding that “server” and “communications mechanism” are means-plus-function terms. (RIB at 97-102; SIB at 87-88.) In Sections III.D.1 and III.D.2 *supra*, I found that “server” and “communications mechanism” are not means-plus-function terms. By construing the terms without reference to § 112, ¶ 6, I have necessarily rejected Oki Data’s and Staff’s indefiniteness arguments. Based on the reasoning expressed in Sections III.D.1 and III.D.2 *supra*, I conclude that Oki Data and Staff have not demonstrated that the terms “server” or “communications mechanism” are indefinite.

E. The ‘343 Patent

1. Anticipation

a. U.S. Patent No. 5,587,551

Oki Data’s Position: Oki Data contends that claims 18 and 19 of the ‘343 patent are invalid as anticipated, because Dr. Fraser established by clear and convincing evidence that all elements of claims 18 and 19 are present in U.S. Patent No. 5,587,551 (“the ‘551 patent”). (RX-62). (Citing RX-85C at Q. 67, 68.) Oki Data avers that Ricoh concedes that all but three

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elements of claim 18 are present. Oki Data says the first element in dispute is “a wide-width part facing the side seals.” Oki Data says that Ricoh’s argument is based on Ricoh’s expert’s opinion that the elastic blocks 8b disclosed in the ‘551 patent are not “side seals” as claimed by the ‘343 patent, which is based “solely on the fact that the ‘551 patent calls a different component a ‘side seal.”” (Citing Tr. at 170:3-14, 199:5-7; CX-305 at Q. 37.)

Oki Data argues that the law is clear that simply having a different name does not disqualify the elastic blocks 8b from meeting this claim element. (Citing *Akzo N.V. v. U.S. Int’l Trade Comm’n*, 808 F.2d 1471, 1479 n.11 (Fed. Cir. 1986); *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716 (Fed. Cir. 1984).) Oki Data asserts that the ‘551 patent discloses that elastic blades 8b satisfy all requirements of the “side seals” in the ‘343 patent. Oki Data contends that claims 18 to 21 require only that developing device have side seals that are “arranged at longitudinal ends of the toner exit so as to contact outer circumferential surfaces of longitudinal ends of the roller part of the developing roller” and that the side seals “face” the longitudinal ends of the wide width part of the blade. (Citing JX-4 at claims 18-21.) Oki Data says that Dr. Stauffer admitted on cross-examination that elastic blocks 8b have each of these characteristics. (Citing Tr. at 199:8-19; RX-85C at Q. 72, 75-78.) Oki Data states that Dr. Stauffer also admitted that elastic blocks 8b perform the function of the side seals in the ‘343 patent. (Citing Tr. at 199:20-24; RX-85C at Q. 72.)

Oki Data asserts that the second element that Ricoh contends is absent from the ‘551 patent is the “location of the step part downstream of a contact point.” Oki Data argues that Ricoh errs in attempting to limit the ‘551 patent to a preferred embodiment, when the disclosure of the ‘551 patent is not limited to its preferred embodiment. (Citing *In re Benno*, 768 F.2d 1340, 1346 (Fed. Cir. 1985); *Rocep Lusol Holdings Ltd. v. Permatex, Inc.*, 470 F. Supp. 2d 448,

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458 (D. Del. 2007).)

Oki Data contends that there is no evidence in the record, however, that a person of skill in the art understands contact points and contact nips in the fashion described by Ricoh's expert. Oki Data argues, first, a contact nip is "the area of contact when a resilient roller touches a plane surface[,]” such as a developing blade. (Citing Tr. at 1347:24-1348:1.) Oki Data says that within the contact nip, there are many points of contact. (*Id.* at 1348:19-1349:12.) Oki Data reasons, therefore, that the first contact point between developing roller and blade occurs at the upstream side of the contact nip, closest to the edge or end of the developing blade. (Citing Tr. at 1338:13-20; 1351:6-15; RX-85C at Q. 82.)

Oki Data asserts that both parties' experts testified that claim 1 of the '551 patent describes a "bent portion" of the blade comprised of a first flat portion tangent to the surface of the developing roller. (Citing Tr. at 206:2-208:8; RDX-247; RX-85C at Q. 82.) Oki Data says that both experts confirmed that this first flat portion (shown in yellow and green in RDX-247) is the contact area between blade and roller, and they confirmed that the recess described by the '551 patent encompasses this first flat portion. (Citing Tr. at 207:7-24; RX-85C at Q. 81, 82; Tr. at 205:1-3; RX-62 at 5:65-6:2.)

Oki Data argues that with regard to locating the step part downstream of a contact point as required by claim 18 of the '343 patent, Dr. Stauffer admitted that the first flat portion can extend back into (or even past) the contact nip between the developing roller and blade. (Citing Tr. at 207:7-24; RDX-247; RX-85C at Q. 82.)

Oki Data says that the third element that Ricoh contends is absent from the '551 patent is the "direction orthogonal element." Oki Data argues that the presence or absence of this claim element depends on the location of the step part and contact area. Oki Data contends that if the

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step part falls within the contact area, then there will be bending in the narrow-wide part of the developing blade. (Citing RX-85C at Q. 74; CX-305 Q. 40; RX-62.) Oki Data adds that if Ricoh is limited to its original construction of this claim element – a “90 degree L-shaped bend” in the developing blade – then the ‘551 patent clearly discloses such a bend. (Citing Tr. at 203:13-15; RX-85C at Q. 74; RX-62 (Fig. 2 & 4:66-67).)

Oki Data continues that Ricoh also contends that the ‘551 patent does not anticipate claim 19, because the narrow-wide part of the developing blade is no wider than the interval between the side seals disclosed in the ‘551 patent. Oki Data says this contention is dependent on Ricoh’s assertion that the elastic blocks 8b are not side seals as described by the ‘343 patent. Oki Data argues that if the elastic blocks 8b are side seals as claimed by the ‘343 patent, then the undisputed evidence from Dr. Fraser is that the narrow-wide part of the blade disclosed in the ‘551 patent is wider than the interval between elastic blocks 8b. (Citing RX-85C at Q. 83.)

In its reply brief, Oki Data argues that Ricoh relies on its discussion of a preferred embodiment of the ’551 patent, an approach that is demonstrably wrong. (Citing CIB at 23.) Oki Data concludes that Ricoh also misrepresents Dr. Fraser’s testimony on this point, because he did not admit that the recess fails to include this flat contact region, as a review of the entirety of his testimony illustrates. (Citing Tr. at 1332:12-1335:13, 1329:1-1330:20.)

Ricoh’s Position: Ricoh contends that the ’551 patent fails to disclose the following elements of claim 18 of the ’343 patent: (1) “the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively”; (2) the blade is “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit”; (3) “a step part forming a boundary between the wide-width part and the

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narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.” Ricoh adds that the ‘551 patent also “lacks the additional element of claim 19.”

Ricoh argues that claim 18 of the ’343 patent requires that “the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively.” (Citing JX-4 at 25:16-18.) Ricoh asserts that column 5, beginning at line 14 of the ’551 patent, cited by Oki Data’s expert, Dr. Fraser demonstrates the opposite: there is clearance between the side seal and the blade. Ricoh states that the blade and side seals are next to each other in side-by-side relation; the blade does not face the side seals. (Citing RX-62 at 5:20-21; CX-305 at Q. 34-37.) Ricoh says that Figures 5, 6, and 7 of the ’551 patent show the blade (part 8) and side seals (part 20) in side-by-side relation. (Citing RX-62 at Figs. 5, 6 & 7; CX-305 at Q. 34-37.) Ricoh concludes that the longitudinal ends of the wide-width part of the blade do not face the side seals, as the asserted claims of the ’343 patent require.

Ricoh contends that claim 18 of the ’343 patent requires that the narrow-width portion of the blade be “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit.” (Citing JX-4 at 25:19-23.) Ricoh notes that Dr. Fraser contends that this claim limitation is found in several places in the ’551 patent. (Citing RX-85C at Q. 80.) Ricoh argues that Dr. Fraser’s opinion is “based on the misconception that the bending to which this claim limitation refers is the plastically bent piece that creates the L-type shape in the bottom part of the blade.” Ricoh asserts that the claim limitation actually refers to the bending (or flexing) of the narrow-width part of the blade above the contact point. (Citing JX-4 at 15:12-16.) Ricoh says that according to basic mechanics, the blade will remain essentially

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tangent to the surface of the developing roller as it applies pressure on the blade, and exerts a normal force at the point of contact. Ricoh concludes that in the '343 patent, this will result in the bending of the narrow-width part of the blade in a direction that is orthogonal to a longitudinal direction of the developing roller. (Citing CX-305 at Q. 40.)

Ricoh says that while the blade disclosed in the '551 patent may flex in an orthogonal direction, it is the wide-width part, not the narrow-width part, that can be bent. Ricoh asserts that only the wide-width part of the blade is between the contact point on the roller and the support member for the blade. (Citing CX-305 at Q. 38-40; RX-62 at 3:1-9, Figs. 1, 2, 5, 6 & 7; CDX-129; CDX-130.) Ricoh contends that Oki Data has not shown that the narrow-width part of the blade disclosed in the '551 patent is or can be bent in an orthogonal direction under the proper understanding of the claim term.

Ricoh argues that claim 18 of the '343 patent requires “a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller”. (Citing JX-4 at 25:23-28.) Ricoh says that Dr. Fraser contends that several portions of the '551 patent show a step part between the wide-width and narrow-width parts of the blade. (Citing RX-85C at Q. 81-82.) Ricoh asserts that in the '551 patent, this part is called the “recess.” Ricoh says the recess is not disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller. Rather, it is upstream. (Citing CX-305 at Q. 41; CDX-131.)

Ricoh argues that reliance on 1, 21 and 22 of the '551 patent is misplaced, because those claims do not mention the recess disclosed elsewhere in the '551 patent. (Citing RX-62 at 6:4-25, 8:6-30.) Ricoh contends that the recess is a modification of the preferred embodiment that is

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introduced at column 5, lines 14-32 of the '551 patent and is not specifically addressed in those claims. (Citing RX-62.)

Ricoh contends that the '551 patent specification expressly teaches that the recess is upstream of the contact point between the developing blade and developing roller. Ricoh recites that the specification states that the “recess 8a is formed at each opposite end of the bent portion 8y.” (Citing RX-62 at 5:15-16.) Ricoh says the bent portion 8y, in turn, is upstream of the contact point between the blade and roller. (Citing RX-62 at 3:1-6, 3:6-8, 3:28-30; RX-62 at Fig. 2.) Ricoh says that Dr. Fraser admitted that no part of the bent portion 8y contacts the roller. (Citing Tr. at 1332:14-16.)

Ricoh adds that the '551 patent teaches not only that the recess be located on the bent piece upstream of the contact point, but also that it be sufficiently upstream to avoid digging into the roller. (Citing RX-62 at 5:21-24, 5:27-32; RX-58 at 5:31-33, 5:37-43.) Ricoh says at trial, Dr. Fraser admitted that the recess is “away from the roller in the upstream direction.” (Citing Tr. at 1326:12-22.) Ricoh concludes that the express teachings of the specification are consistent with the depiction of the recess in Figures 5, 6 and 7 of the '551 patent. (RX-62 at Figs. 5, 6 & 7.)

Ricoh argues that because the '551 patent does not disclose all of the limitations of claim 18, it cannot anticipate claim 19. Ricoh adds that the '551 patent fails to disclose the following additional limitation in claim 19: “the length of the narrow-wide part is made longer than an interval between inside surfaces of the side seals such that, when the blade is pressed by the developing roller, the narrow-wide part bends toward a rear side of the toner exit by pressure of the developing roller even after the wide-width part contacts the side seals.” Ricoh argues that the portion of the specification upon which Dr. Fraser relies for his opinion teaches that there is

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clearance between the wide-width part of the blade and the side seals. Ricoh argues that the narrow-width part by definition is even shorter than the wide-width part, so there must be clearance between the narrow-width part and the side seals as well. (Citing RX-62 at 5:20-21; CX-305 at Q. 42-43.) Ricoh adds that Figures 5 and 6 of the '551 patent clearly show the length of the narrow-width part of the blade to be significantly less than the distance between the inside surfaces of the side seals. (Citing RX-62 at Figs. 5-6; CX-305 at Q. 42-43.)

In its reply brief Ricoh asserts that Oki Data misunderstands Ricoh's argument as turning solely on the nomenclature used in the patents. (Citing RIB at 18-19, 25.) Ricoh says it is not simply that the elastic blocks on which Oki Data relies are called something different from what the patents call "side sealing." Rather, the elastic blocks are attached to the blade specifically to close a gap between the blade and the side seals. (Citing RX-62 at 5:14-32.) Ricoh says the elastic blocks cannot be the side seals claimed in the '343 patent because they are not "arranged at longitudinal ends of the toner exit so as to contact outer circumferential surfaces of longitudinal ends of the roller part of the developing roller." (Citing JX-4 at 25:5-8.) Ricoh concludes that is what the side sealing 20 does in the '551 patent, not the elastic blocks 8*b* relied on by Oki Data. (Citing RX-62 at 5:14-32.)

Ricoh contends that Oki Data seriously mischaracterizes Ricoh's expert's testimony when Oki Data claims that Dr. Stauffer "admitt[ed] that the recess described in the '551 patent includes the contact area." (Citing RIB at 24, (citing Tr. at 207:7-24).) Ricoh asserts that Dr. Stauffer simply testified that the area colored brown by Oki Data's counsel in RDX-247 – upstream of the contact area – is the bent corner of the blade. (Citing Tr. at 207:7-24.) Ricoh concludes that Oki Data's counsel identified the recess as being in the blue area of his demonstrative, and this blue area is also upstream of the contact point. (Citing Tr. at 208:18-21;

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RDX-247.)

Staff's Position: Staff offers no position on this issue.

Discussion and Conclusion: Based upon the evidence in the record, I find that Oki Data has failed to show by clear and convincing evidence that the '551 patent anticipates claims 18 or 19 of the '343 patent.

Claim 18 of the '343 patent teaches, *inter alia*, as follows:

side seals arranged at longitudinal ends of the toner exit so as to contact outer circumferential surfaces of longitudinal ends of the roller part of the developing roller;

a blade ...

wherein the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively and a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller and configured to have a length that enables the the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit, and a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.

(JX-4 at 25:5-8, 25:9, 25:15-29.)

The three points of contention regarding whether or not the '551 patent anticipates claim 18 are: (1) whether or not the blade described in the '551 patent includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively; (2) whether or not the blade described in the '551 patent is "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit;" and (3) whether or not the blade described in the '551 patent has a step part forming a boundary between the wide-width part and the narrow-width part that is disposed downstream of a contact point of the blade

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and the roller part of the developing roller in the rotation direction of the developing roller.

To resolve the first dispute, it is necessary to determine whether or not the “elastic block 8b,” contemplated for example at column 5, lines 17 through 21 of the ‘551 patent and Figures 5 and 6, constitutes a side seal as described in claim 18 of the ‘343 patent.

Ricoh’s expert, Dr. Stauffer, testified at CX-305 at Q. 34-37, that the ‘551 patent reveals side seals; but that the wide-width portion of the blade does not face the side seals. Rather, he said, the side seals and the blade are in side by side relation to each other. He demonstrated this relationship in CDX-129. Dr. Stauffer’s testimony is consistent with the language of the ‘551 patent, which in describing Figures 5 and 6, states in relevant part:

Referring to FIGS. 5 and 6, a modification is shown. In this modification, the regulation member 8 has a recess 8a formed at each opposite end of the bent portion 8y so as to pressure fittingly insert an elastic block 8b ... in the recess 8a, as best shown in FIG. 6, so as to conceal and prevent toner from flowing through the clearance between side sealing 20 and the side edge of the regulation member 8.

(RX 62 at 5:14-21.)

On cross-examination at the hearing, Dr. Stauffer reaffirmed his opinion that the elastic block is a separate part described in the ‘551 patent which, when assembled, stops toner from leaking through the gap between the blade and the side seal. (Tr. at 198:21-200:3.)

While Oki Data is correct when it says that simply having a different name does not disqualify the elastic blocks 8b from meeting this claim element, Oki Data is incorrect in its assertion that elastic blocks 8b satisfy all requirements of the “side seals” in the ‘343 patent. In fact, a portion of the function of the side seals in the ‘343 patent is served by the side seals 20 described at column 5, line 20 of the ‘551 patent. The elastic block is specifically included in response to the fact that the blade (i.e. regulation member) does not face the side seals, and the

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elastic block is designed to prevent leakage through the gap that exists between the blade and the side seals.

The '343 patent, by contrast, teaches that the wide-width portion of the blade is wide enough so that longitudinal ends thereof face the side seals respectively. I find Dr. Stauffer's opinion to be credible and well-founded. Oki Data has failed to show by clear and convincing evidence that the '551 patent teaches a blade that includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively.

Turning to the second point of contention, I begin with the meaning of the term "orthogonal." In Order No. 25, I found nothing in the specification to indicate that this term should be given anything other than its plain and ordinary meaning. I found that in this circumstance, it is appropriate to use dictionary definitions when determining the plain meaning of claim terms. *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1351 (Fed. Cir. 2006) (examining dictionary definitions of the claim term "scanner"). The word "orthogonal" is defined as "intersecting or lying at right angles." MERRIAM WEBSTER'S COLLEGIATE DICTIONARY, pg. 821 (10th ed. 1997). The word "longitudinal" is defined as "placed or running lengthwise; of or relating to length or the lengthwise dimension." MERRIAM WEBSTER'S COLLEGIATE DICTIONARY, pg. 687 (10th ed. 1997). Thus, "a direction orthogonal to a longitudinal direction of the developing roller" refers to a direction that is at a right angle to a **lengthwise direction** of the developing roller rather than at a radial angle to its surface.

The import of the foregoing distinction is illustrated in the '343 patent's specification, where it explains, "... by attaching both end parts of the blade holder 42 to the blade mounting surface 44, the blade holder 42, the blade 17 and the supporting plates 43 can be support by the outer wall 41 without causing a curvature in the longitudinal direction, and thereby the blade 17

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can contact the developing roller 15 with the contact line between the blade 17 and the developing roller 15 made straight.” (JX-4 at 14:4-10, Figs. 8a, 8b.) By contrast the specification describing the same embodiment teaches, “[t]he blade 17 includes a bent piece 52 that is bent in a L shape at a lower end of the blade 17, and thereby it is avoided that an edge of the end of the blade 17 contacts a surface of the developing roller 15.” (*Id.* at 12:14-17, Fig. 5.)

Ricoh argues persuasively that Dr. Fraser’s opinion is “based on the misconception that the bending to which this claim limitation refers is the plastically bent piece that creates the L-type shape in the bottom part of the blade.” Ricoh’s expert, Dr. Stauffer, testified credibly that the claim limitation actually refers to the bending (or flexing) of the narrow-width part of the blade above the contact point. (Citing JX-4 at 15:12-16.) Dr. Stauffer testified that, according to basic mechanics, the blade will remain essentially tangent to the surface of the developing roller as it applies pressure on the blade, and exerts a normal force at the point of contact, and that in the ’343 patent, this will result in the bending of the narrow-width part of the blade in a direction that is orthogonal to a longitudinal direction of the developing roller. (Citing CX-305 at Q. 40.)

Ricoh’s expert, Dr. Stauffer, testified credibly that while the blade disclosed in the ’551 patent may flex in an orthogonal direction, it is the wide-width part, not the narrow-width part, that can be bent. The ’551 patent describes, “[r]eferring to FIGS. 5 and 6 ... the regulation member 8 has a recess 8a formed at each opposite end of the bent portion 8y ...” Figure 5 shows that the bend in the blade occurs at or downstream of the recess that serves to narrow the blade (i.e. a bend in the wide-width portion). (CX-305 at Q. 39; RX-62 at 5:14-16, Figs. 5, 6; CDX-129.) Oki Data has failed to show by clear and convincing evidence that the ’551 patent teaches a blade that includes a narrow-width part “... configured to have a length that enables the

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narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller ...”

Considering the third, and final disputed issue, I find that Oki Data has failed to prove by clear and convincing evidence that the ‘551 patent discloses “a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.” First, the ‘551 patent describes and illustrates a “recess” that is a continuous curved narrowing of the width of the blade ending at its lower edge. There is no “step portion” that forms a “boundary” as taught in the ‘343 patent. Second, I have already found that the bend in the blade disclosed in the ‘551 patent occurs at or downstream of the recess that serves to narrow the blade (i.e. a bend in the wide-width portion). Inasmuch as the bend results in a sharp L shaped angle that takes the edge of the blade, and the recess, away from the roller, it follows that the entire narrowing portion of the blade does not contact the roller. The illustration of Figure 5 of the ‘551 patent demonstrates that the “bend” is the first possible contact point of the blade on the roller. Hence, the bend is located at or upstream of the contact point. (RX-62 at 5:14-32, Fig. 5; RDX 247.)

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the ‘551 patent anticipates claim 18 of the ‘343 patent.

A patent is presumed to be valid, and each claim of a patent shall be presumed valid even though dependent on an invalid claim. 35 U.S.C. § 282. If I determined claim 18 to be anticipated and invalid, I could still find that claim 19, which depends from claim 18, is valid. Since, however, I have found claim 18 to be *not* anticipated, claim 19 is necessarily not anticipated, because it depends from claim 18 and necessarily contains all of the elements of

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claim 18. See *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974); see also *In re Sernaker*, 702 F.2d 989, 991 (Fed. Cir. 1983) (when argued together, dependent claims stand or fall with the independent claims from which they depend).

b. Japanese Application No. S61-185772

Oki Data's Position: Oki Data contends that Dr. Fraser's direct witness statement established by clear and convincing evidence that all elements of claims 18 and 19 are present in Japanese Application No. S61-185772 ("the '772 application"). (Citing RX-85C at Q. 135-147.) Oki Data alleges that Ricoh concedes that all but two elements of claim 18 are present. Oki Data says that Ricoh first contends that the step part is not located downstream of a contact point between the developing roller and blade, based on testimony by Dr. Stauffer that there is only one contact point within a contact region or contact nip and that that contact point is located at the downstream edge of the contact region. Oki Data argues that Dr. Stauffer is wrong, and that there are many contact points within a contact region, and that the first point of contact between developing roller and blade occurs at the upstream edge of the contact area. (Citing Tr. at 1351:1-24 (describing RDX-250); RX-85C at Q. 145.)

Oki Data says that Ricoh also contends the "direction orthogonal element" is missing. Oki Data contends that the presence or absence of this claim element also depends on the location of the step part and contact area. Oki Data asserts if the step part falls within the contact area, then there will be bending in the narrow-wide part of the developing blade. Oki Data adds if Ricoh is limited to its original construction of this claim element – a "90 degree L-shaped bend" in the developing blade, then the '551 patent clearly discloses such a bend. (Citing RX-52C (Figs. 5-6); RX-85C at Q. 143.)

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Regarding claim 19, Oki Data says Ricoh contends that the interval between the side seals is less than the disclosed width of the narrow-wide part of the developing blade. Oki Data avers that Dr. Fraser testified that the disclosure of the side seals being pressure fitted into the notched area of the developing blade demonstrates that the '772 application meets this claim element. (Citing RX-85C at Q. 147.) Oki Data argues that Ricoh's expert validates this testimony, "because he cites the fact that the Oki developing blade is fitted between the side seals under pressure to demonstrate (in his view) infringement of claim 19." (Citing CX-267, Q. 202.) Oki Data says for the '772 application Ricoh's expert supported his opinion primarily by a visual examination of the drawings. (Citing CX-305 at Q. 59.) Oki Data contends that Ricoh's expert also stated, in error, that the '772 application did not attempt to stop toner leakage in the longitudinal direction of the developing roller. (Citing RX-52C at OKI 008381584.)

In its reply brief, Oki Data cites paragraph 8 of the embodiments portion of the '772 application to expressly state that the tip of the notched portion K is in contact with the roller:

both ends of the tip portion E are notched back as identified by K to the nip portion G over an appropriate width, the tip of said notch portion K not being suspended above the circumferential surface of developing roller 34 as are the other parts of tip portion E but approaching the circumferential surface of developing roller 34 and contacting it with a thin developer layer interposed in between just like the nip portion G.

(RX-52C at OKI0088381583.) Oki Data argues that this disclosure places the step part at least coincident with the contact region.

Oki Data asserts that Dr. Fraser testified at trial that the contact nip begins in the narrow-width part of the step part in the '772 application before the notched tip or stop part. (Citing Tr. at 1349:13-1352:18 (discussing RDX-250).)

Oki Data responds to Ricoh's claim that Dr. Fraser impermissibly relies on the drawings of the '772 application to show that the step part is not just coincident with the contact region,

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but also downstream of a contact point as required by the claims. Oki Data asserts that the '772 application describes the location of the contact region relative to the step part (or notch) in its specification, and the "quantitative relationship" (e.g., the precise dimensions) of the '772 application drawings (which illustrate this relationship) is not at issue. (Citing RX-52C at OKI0088381583.) Oki Data argues that *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956 (Fed Cir. 2000), was not properly cited by Ricoh. Oki Data says in *Hockerson-Halberstadt*, the patentee's arguments about the meaning of the relevant claim language turned on the precise dimensions of a groove; but the precise dimensions of the contact region are not at issue in the '772 application.

Oki Data concludes that claim 18 requires "a" contact point, and the law is clear that such usage indicate one or more points of contact are possible. Oki Data says the '343 patent only requires that the step part occur downstream of "a" contact point, and the '772 application expressly discloses the step part occurring downstream of the first point of contact within the contact nip or region.

Ricoh's Position: Ricoh argues that claim 18 of the '343 patent requires a blade where the narrow-width part is "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller." (Citing JX-4 at 25:19-23.) Ricoh says that Dr. Fraser identifies one of the embodiments of the '772 application, in which the blade has an L-shaped fold at the end as purportedly disclosing this claim element. (Citing RX-85C at Q. 143.) Ricoh contends that, in this embodiment, the fold is in the wide-width part of the blade and the point of contact with the development roller is on the wide-width part. Ricoh asserts that the narrow-width part extends out past the point of contact with the developing roller. Ricoh reasons that, because the point of contact is on the wide-width

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part, the narrow-width part cannot be bent in the orthogonal direction as claimed in the '343 patent. (Citing RX-52 at OKI008381583-84; RX-52 at Figs. 2-3, 5-6; CX-305 at Q. 53.)

Ricoh avers that claim 18 of the '343 patent requires the blade to have “a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.” (Citing JX-4 at 25:23-28.) Ricoh argues that in the '772 application, the point of contact between the blade and the developing roller is at the wide-width part of the blade, putting the step part upstream of the contact point. (Citing RX-52 at OKI008381583-84; RX-52 at Figs. 2-3, 5-6; CX-305 at Q. 54-56.)

Ricoh says the location of the step part upstream of the contact point in the '772 application is most clearly demonstrated in paragraph 8 of the “Embodiments of the Invention.” That paragraph describes the tip of the notched portion K as “approaching the circumferential surface of the developing roller 34 and contacting it with a thin developer layer interposed in between just like the nip portion G.” Ricoh reasons that the contact between the blade and developing roller does not occur until the step part is already upstream. (RX-52 at OKI008381583.)

Ricoh argues that the '772 application teaches that the tip of notched portion K “approach[es]” the developing roller. (Citing RX-52 at OKI008381583; CX-305 at Q. 56.) Ricoh asserts that this means the step part still would not be downstream of the contact area between the blade and the roller. Ricoh says, at best, the step part would run along the contact area against the roller, and only the wide-width part of the blade would lie downstream of the contact point.

Ricoh contends that the '772 application does not support Dr. Fraser's opinion that

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“Figures 2, 3, and 5 show that the point of contact begins before the step part.” (Citing RX-85C at Q. 145.) Ricoh argues that to the extent Dr. Fraser bases his opinion on the ambiguous appearance of relative length dimensions in the figures, the Federal Circuit has warned against drawing such conclusions from patent figures. (Citing *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956 (Fed. Cir. 2000).) Ricoh adds that the ’772 application contradicts Dr. Fraser’s opinion because it states that “both ends of the tip portion E are notched back as identified by K to the nip portion G over an appropriate width.” (Citing RX-52 at OKI008381583; CX-305 at Q. 56.)

Ricoh says that the ’772 application fails to disclose the following additional limitation in claim 19: “the length of the narrow-wide part is made longer than an interval between inside surfaces of the side seals such that, when the blade is pressed by the developing roller, the narrow-wide part bends toward a rear side of the toner exit by pressure of the developing roller even after the wide-width part contacts the side seals.” Ricoh argues that there is no teaching in the ’772 application that “the narrow-wide part bends toward a rear side of the toner exit by pressure of the developing roller even after the wide-width part contacts the side seals.” (Citing RX-52.) Ricoh adds that Figures 3, 5, and 6 of the ’772 application show the length of the narrow-width part of the blade, where it is notched, to be less than the distance between the inside surfaces of the side seals. (Citing RX-52 at Figs. 3, 5 & 6; CX-305 at Q. 57-59.)

In its reply brief, Ricoh contends that Oki Data errs in arguing that the upstream edge of the contact nip is the first point of contact between the blade and the developing roller. Ricoh says that Dr. Stauffer explained that, in the field of mechanical engineering, not every point in the contact nip is a point of contact with the roller. Rather, the contact nip is the region where toner migrates toward the contact point between the blade and the roller. (Citing Tr. at 217:25-

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219:1.) Ricoh says that one of skill in the art would understand that the contact point between the blade and roller is the downstream, and not the upstream, edge of the contact nip. (Citing CX-305 at Q. 69; CDX-133.)

Ricoh argues that the '772 application discloses that toner enters from the notched portion K. Ricoh says as a result, there must be some clearance between the upstream end of the notched portion K and the developing roller, otherwise, the cross-hatched area would not denote a contact nip; instead it would be a toner dam. Ricoh says the notched portion K is coextensive with the nip portion G. (Citing RX-52C at OKI008381583-84.) Ricoh concludes that the upstream edge of the contact nip cannot, as Oki Data contends, be in contact with the developing blade.

Staff's Position: Staff offers no position on this issue.

Discussion and Conclusion: Based upon the evidence in the record, I find that Oki Data has failed to show by clear and convincing evidence that the '772 application anticipates claims 18 or 19 of the '343 patent.

Claim 18 of the '343 patent teaches, *inter alia*, as follows:

a blade that is formed with a thin metal plate having elasticity and that is configured such that a lower edge thereof contacts the roller part of the developing roller so as to seal a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller,

wherein the blade includes ... a wide-width part ... and a narrow-width part extended from the wide-width part toward upstream of a rotation direction from the developing roller and configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller ... and a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.

(JX-4 at 25:9-29.)

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Ricoh's argument that the location of the step part is upstream of the contact point in the '772 application is not persuasive. Ricoh quotes only a part of paragraph 8 of the embodiment. A more complete quote reveals that the '772 application discloses, "... both ends of the tip portion E are notched back as identified by K to the nip portion G over an appropriate width, the tip of said notch portion K not being suspended above the circumferential surface of developing roller 34 as are the other parts of tip portion E but approaching the circumferential surface of developing roller 34 and contacting it with a thin developer layer interposed in between just like the nip portion G." Thus a complete reading of the passage reveals that the tip of the notch portion K is in contact with the roller just like the nip portion G. The '772 application makes clear, too, that the tip portion is notched "*to* the nip portion G," which indicates that the ends of the narrow-width portion of the blade are, in fact, in contact with the roller. (RX-52C at OKI008381583.)

Nevertheless, Ricoh argues correctly that the step part still would not be downstream of the contact area between the blade and the roller. Because the ends of the tip portion E are notched back "*to* the nip portion G," rather than beyond nip portion G or through nip portion G, it follows that the contact of the narrow-width portion of the blade does not extend downstream. The nip portion G is actually downstream of the narrow-width portion of the blade. (RX-52C at OKI008381583.)

Oki Data asserts persuasively that, if the step part falls within the contact area, then there will be bending in the narrow-wide part of the developing blade. In section IV.E.1(a), *supra*, I discussed the proper application of the language of claim 18 of the '343 patent describing "... configured to have a length that enables the the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller ..." I will not repeat that

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discussion here; but incorporate it by this reference. The '772 application teaches that only the nip portion G elastically contacts under pressure the circumferential surface of said developing roller 34 in a roughly tangential manner. The tip E located further distally beyond said nip portion G is suspended above and away from the circumferential surface of said developing roller 34 so as to form a widening cross-sectionally bell mouth shaped opening between the developing roller and the tip portion E. (RX-52C at OKI008381579, OKI008381583.) While this does not specifically describe a "bend," it is certainly implied by the description of the relative positions of the portions of the blade. A further indication of an elastic bend under pressure is the fact that the quoted portions of the embodiment reference Figures 1 through 4 and Figure 8, none of which shows an L shaped bend in the blade. I note, too, that the '772 application describes that the nip portion contacts the circumferential surface of the developer carrier body in the longitudinal direction; but falls short of disclosing that the elastic bend must be "orthogonal" to the longitudinal direction of the roller.

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the '772 application anticipates claim 18 of the '343 patent.

A patent is presumed to be valid, and each claim of a patent shall be presumed valid even though dependent on an invalid claim. 35 U.S.C. § 282. If I determined claim 18 to be anticipated and invalid, I could still find that claim 19, which depends from claim 18, is valid. Since, however, I have found claim 18 to be *not* anticipated, claim 19 is necessarily not anticipated, because it depends from claim 18 and necessarily contains all of the elements of claim 18. See *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974); see also *In re Sernaker*, 702 F.2d 989, 991 (Fed. Cir. 1983) (when

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argued together, dependent claims stand or fall with the independent claims from which they depend).

c. European Patent Publication No. EP-0813122 A2

Oki Data's Position: Oki Data contends that Dr. Fraser's direct witness statement established by clear and convincing evidence that all elements of claims 18, 20, and 21 are present in European Patent Publication No. EP-0813122 A2 ("the '122 application"). (Citing RX-85C at Q. 164-173, 175-183.) Oki Data says that Ricoh contends that the wide-width part of the developing blade disclosed in RX-67 does not face the surface of the wide-width part of the developing blade, but Ricoh's expert looked only at the Figures of the '122 application, and the '122 application in fact expressly discloses this claim element. (Citing RX-85C at Q. 170; RX-67 at 13:57-14:1, 14:10-31.) Oki Data says that the parts of RX-67 that Ricoh mentions are consistent with the disclosure in columns 13 and 14. (Citing RX-67 at claims 7 and 8.)

Oki Data says that Ricoh also asserts that the '122 application has no step part and, therefore, that the step part is not positioned downstream of the contact point between the developing roller and blade. Oki Data argues that this position is based on Ricoh's assertion that the ordinary and customary meaning of step part requires "an interval, a transition from one likeness to another" or, in other words, a "repeated feature" in the wide- and narrow-width parts of the blade. (Citing CX-305 at Q. 68.) Oki Data contends that these requirements have no basis in the '343 patent or prosecution history, and "just came from [Ricoh's expert's] head." (Citing Tr. at 163:5-7.) Oki Data asserts that Figure 12 of the '343 patent (the figure that is used to illustrate the step part) does not contain this "like to like" repeated geometric feature described by Dr. Stauffer and instead discloses a step part that connects and forms a boundary (as is required by the claim) between two unlike shapes. (Citing JX-4 at Fig. 12.) Oki Data says that

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Ricoh's original domestic industry analysis and Ricoh's opening expert report interpreted the curved radius between two unlike shapes in Ricoh's developing blade as the "step part forming a boundary." (Citing Tr. at 163:13-167:6; CX-27; CX-122:32-33; RDX-245; RDX-246.)

Oki Data argues that its expert, Dr. Fraser, applied the ordinary and customary meaning of "step part forming a boundary" in his opinions, which is that it is a transitional feature that forms a boundary between the narrow – and wide – width parts of the developing blade. Oki Data contends that RX-67 discloses an "arc-like" step part in Figure 4 and a diagonally shaped step part shown in Figure 3. (Citing RX-85C at Q. 173.) Oki Data says the '122 application discloses that its "step part" may take any shape so long as the distance from the upstream edge of the contact nip to the free end edge of the developing blade is gradually reduced in the step part. (Citing RX-67 at 13:42-49.) Oki Data concludes that the "narrow-wide part" begins not just at the very end of the developing blade, but rather, as described above and as shown in Figure 4, after the end of the curvature in the step part of the blade.

Ricoh's Position: Ricoh argues that the '122 application does not anticipate claim 18, 20 or 21 of the '343 patent, because it fails to disclose the following limitations: (1) a blade "wherein the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively;" (2) a blade where the narrow-width part is "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller;" and (3) "a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller."

Ricoh contends that claim 18 of the '343 patent requires a blade "wherein the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals

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respectively.” (Citing JX-4 at 25:16-18.) Ricoh asserts that the ’122 application clearly states that the end seal is in contact with the longitudinal end surfaces of the blade. Ricoh argues that the blade and side seals are, therefore, in side-by-side relation to each other; the blade does not face the side seals. (Citing RX-67 at 13:29-49; CX-305 at Q. 64.) Ricoh adds that Figure 5 of the ’122 application and its accompanying text demonstrate the same point. (Citing RX-67 at Fig. 5, 13:50-14:23.)

Ricoh argues that claim 18 of the ’343 patent requires a blade where the narrow-width part is “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller.” (Citing JX-4 at 25:19-23.) Ricoh asserts that, in the ’122 application, the bending that is relevant to the ’343 patent occurs in the wide-width part, not the narrow-width part, of the blade. (Citing RX-67 at Figs. 1-3, 5-6; CX-305 at Q. 66, 69; CDX-133.)

Ricoh asserts that claim 18 of the ’343 patent requires “a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.” (Citing JX-4 at 25:23-28.) Ricoh says that the blade of the ’122 application “becomes continuously shorter to the narrow-width part; it does not have a step part but instead inclines to nothing.” (Citing RX-67 at Figs. 3, 5, 6.) Ricoh argues that a step indicates an interval, a transition from one likeness to another. Ricoh says that one of ordinary skill in the art would understand that a step indicates two repeated features, not just a transition to nothing. Ricoh concludes that only a blade with a step boundary between the wide-width and narrow-width parts can anticipate claim 18, and the ’122 application does not disclose this feature. (Citing CX-305 at Q. 68.) Ricoh adds that the transition part in the ’122 application is not

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disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller; it is upstream. (Citing RX-67 at Figs. 3, 5, 6; CX-305 at Q. 69; CDX-133.)

In its reply brief, Ricoh contends that Oki Data admits that the '122 application's purported "'step part' may take any shape so long as the distance from the upstream edge of the contact nip to the free end edge of the developing blade is gradually reduced in the step part." (Citing RIB at 28.) Ricoh continues that Oki Data effectively concedes that the purported "step part" does not "form[] a boundary" between the wide-width and narrow-width parts of the blade as the '343 patent requires. Rather, the alleged "step part" simply continues out all the way to the free end edge of the blade. (Citing RX-67 at 12:19-28.)

Staff's Position: Staff offers no position on this issue.

Discussion and Conclusion: Based upon the evidence in the record, I find that Oki Data has failed to show by clear and convincing evidence that the '122 application anticipates claims 18, 20 or 21 of the '343 patent.

Claims 18, 20 and 21 of the '343 patent contain identical language that teaches, in relevant part, as follows:

side seals arranged at longitudinal ends of the toner exit so as to contact outer circumferential surfaces of longitudinal ends of the roller part of the developing roller;

a blade ...

wherein the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively and a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller and configured to have a length that enables the the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit, and a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of

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the developing roller in the rotation direction of the developing roller.

(JX-4 at 25:5-8, 25:9, 25:15-29; 25:47-40, 25:51, 25:57-26:3, 26:15-18, 26:19, 26:25-38.)

The three points of contention regarding whether or not the '122 application anticipates claims 18, 20 and 21 are: (1) whether or not the blade described in the '122 application includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively; (2) whether or not the blade described in the '122 application is "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit;" and (3) whether or not the blade described in the '122 application has a step part forming a boundary between the wide-width part and the narrow-width part that is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.

Regarding the first point of contention, Ricoh's expert, Dr. Stauffer, testified credibly that claims 7 and 8 of the '122 application, upon which Dr. Fraser relies, disclose that the side seal is adjacent to a side surface of the blade. He concludes, therefore, that the blade and side seal are in side-by-side relation to each other, and the blade does not face the side seals. Dr. Stauffer's testimony is supported by the description of an embodiment of the '122 application, which describes "... as illustrated in Figure 3, the lateral surface of the end seal 19 is placed in contact with the longitudinal end surface of the elastic blade 7 surface ..." The '122 application describes another, similar, embodiment which includes "... a pressing member 21 is disposed on the outward side of the end seal 19 placed in contact with an elastic blade 22. The other structural elements are the same as those described in the preceding embodiment. This pression

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member presses the end seal 19 toward the longitudinal end surface of the elastic blade 7.”

Claims 7 and 8 of the ‘122 application, cited by Oki Data, actually support Ricoh’s argument.

Claim 7 describes “An apparatus according to claim 6, wherein said end seal is provided adjacent to a side surface of said elastic blade.” Claim 8 teaches “An apparatus according to claim 7, further comprising an urging member for urging said end seal toward said elastic blade.” Clearly the evidence supports a finding that the side seal and elastic blade in the ‘122 application do not overlap and face one another. Oki Data has failed to show by clear and convincing evidence that the ‘122 application teaches a blade that includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively.

The testimony of Oki Data’s expert, Dr. Fraser, regarding the second disputed element is equivocal at best. First, he opines that the requirement is indefinite. Second, he contends that, if the term is not indefinite, then Figures 1 and 2 of the ‘122 application show the blade being bent across the width of the blade toward the toner exit. (RX-85C at Q. 172.) Dr. Stauffer testifies that the bending of the elastic part of the blade by the developing roller, as shown in Figures 1 and 2 of the ‘122 application, occurs in the wide-width portion of the blade, not the narrow-width portion as required by claims 18, 20 and 21 of the ‘343 patent. (CX-305 at Q. 66.)

A review of the ‘122 application did not reveal any language that discusses a blade “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit.” In fact, I saw no discussion of a bend in the blade at all. Figures 1 and 2 appear to disclose an elastic bend in the blade 7; but there is no showing regarding the location of the bend relative to the wide-width or narrow-width portion of the blade. Oki Data has failed to show by clear and convincing evidence that the ‘122 application teaches a blade that includes a

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narrow-width part "... configured to have a length that enables the the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller ..." (RX-67 at Figs. 1-3, 5-6.)

Regarding the third disputed element, while Oki Data describes the varying width of the blade as a "step part," I find no reference to such a feature in the '122 application. The description of that feature in the preferred embodiments speaks in terms of the depth of the nip portion decreasing gradually toward the longitudinal end. This is illustrated in Figure 3, in which the width of the blade gradually narrows in a straight line from a point at the downstream boundary of the nip to the edge of the blade. This particular change in width is also the subject of claim 4 of the '122 application. (RX-67 at 11:47-55, 15:28-30, Fig. 3.)

The '122 application also contains an alternate description of the narrowing of the width of the blade that essentially corresponds to the narrowing feature described in the '551 patent. Claim 5 teaches "An apparatus according to claim 1, wherein the upstream end of said elastic blade is curved where the distance continuously increases." Figure 4 of the '122 application provides an illustration of this feature. (RX-67 at 15:32-34, Fig. 4.)

First, the '122 application describes and illustrates changes in blade width that are continuous in nature. There is no "step portion" that forms a "boundary" as taught in the '343 patent. Second, I have already found that the '122 application fails to teach a bend in the narrow portion of the blade, because there is no showing regarding the location of a bend relative to the wide-width or narrow-width portion of the blade. Oki Data has failed to prove by clear and convincing evidence that the '122 application discloses "a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the

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blade and the roller part of the developing roller in the rotation direction of the developing roller.”

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the ‘122 application anticipates claims 18, 20 or 21 of the ‘343 patent.

d. U.S. Patent No. 6,144,820

Oki Data’s Position: Oki Data argues that Dr. Fraser’s direct witness statement established by clear and convincing evidence that all elements of claims 18, 20 and 21 are present in U.S. Patent No. 6,144,820 (“the ‘820 patent”). (Citing RX-85C at Q. 219-236.) Oki Data alleges that Ricoh concedes that all but two elements of claims 18, 20, and 21 are disclosed by the ‘820 patent.

Oki Data says that Ricoh argues that the ‘820 patent does not anticipate the ‘343 patent because it does not contain a step part under Dr. Stauffer’s “new” claim construction. (CX-305 at Q. 68.) Oki Data argues that this construction has no basis in the ‘343 patent or prosecution history. Oki Data adds that the ‘820 patent does, at Figure 3 and at column 6 line 10, disclose the same step part between the wide-width and narrow-width parts claimed in the ‘343 patent. (Citing RX-65; RX-85C at Q. 228; CX-267 at Q. 254.) Oki Data concludes the ‘820 patent thus also discloses a step part “disposed downstream.” (Citing RX-85C at Q. 228.)

Ricoh’s Position: Ricoh argues that the ‘820 patent does not anticipate claim 18, 20 or 21 of the ‘343 patent, because it fails to disclose the following limitations: (1) a blade where the narrow-width part is “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller;” and (2) “a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the

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rotation direction of the developing roller.” Ricoh says that the arguments concerning whether the ’820 patent discloses these limitations are very similar to those discussed for the ’122 application.

Ricoh begins with the assertion that the “orthogonal” limitation is not met. Ricoh says that Oki Data argues that the bending shown in Figures 1 and 2 of the ’122 application meets this limitation. (Citing RPHB at 58.) Ricoh counters that the bending that is relevant to the ’343 patent occurs in the wide-width part, not the narrow-width part, of the blade. (Citing RX-65 at Figs. 1-3; CX-305 at Q. 88; CDX-133.)

Ricoh asserts that the “step part...downstream” limitation is missing. Ricoh says that Oki Data contends that Figure 3 and column 6, line 10 of the ’820 patent disclose this limitation. (Citing RPHB at 58.) Ricoh contends that the blade of the ’820 patent does not contain a step for the same reasons identified above with respect to the ’122 application. (Citing RX-65 at 6:10-16, Fig. 3; CX-305 at Q. 89; CDX-133.) Ricoh says that, like the ’122 application, the transition is not disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller; it is upstream. (RX-65 at Fig. 3; *see also* CX-305 at Q. 89; CDX-133.)

In its reply brief, Ricoh includes the ’820 patent when arguing that Oki Data has admitted that the transition from the wide portion to the narrow portion of the blade does not include a “step part” and does not “form a boundary” between the wide part and the narrow part of the blade, because it is a continuous narrowing of the blade to its edge.

Staff’s Position: Staff offers no position on this issue.

Discussion and Conclusion: Based upon the evidence in the record, I find that Oki Data has failed to show by clear and convincing evidence that the ’820 patent anticipates claims 18,

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20 or 21 of the '343 patent. The relevant language of claims 18, 20 and 21 of the '343 patent is set forth in Section IV.E.1(c), *supra*, and will not be repeated here.

Ricoh's expert, Dr. Stauffer, testified that Figures 1 and 2 of the '820 patent show the wide-width part to be bent. He said the narrow-width part, which is the free end edge of the blade, is sticking out past the point of contact and not flexed. He also testified that, as shown in Figure 3 of the '820 patent, the blade only has a gradual transition from the wide-width part to the narrow-width part with no step part. He added that the transition is not disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller; it is upstream. (CX-305 at Q. 88-89; RX-65 at Figs. 1-3.)

Figures 1 and 2 provide no clear indication of the location of the contact nip in relation to the wide-width portion of the blade and the narrow-width portion of the blade. Figure 3 shows that at least a portion of the contact nip is "downstream" from at least a portion of the transition from the wide-width portion to narrow-width portion of the blade. Nevertheless, contrary to Dr. Fraser's assertions, the '820 patent makes clear that the transition of its blade from a wide-width portion to a narrow-width portion is a gradual transition, rather than a "step part" as taught in the '343 patent. Figure 3 of the '820 patent, to which reference is made at RX-65, 6:11-16, demonstrates this fact clearly. Thus, the transition forms no "boundary" as required by the '343 patent. Oki Data has failed to prove by clear and convincing evidence that the '820 patent discloses "a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller."

Finally, inasmuch as, the narrow-width part of the blade in the '820 patent is limited to its free end edge, as shown in Figure 3, it follows that it fails to meet the requirement that it have a

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“narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller and configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller.” Oki Data has failed to show by clear and convincing evidence that the ‘820 patent teaches a blade that includes a narrow-width part “... configured to have a length that enables the the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller ...”

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the ‘820 patent anticipates claims 18, 20 or 21 of the ‘343 patent.

e. U.S. Patent No. 5,210,575

Oki Data’s Position: Oki Data argues that Dr. Fraser established by clear and convincing evidence that all elements of claims 18 and 19 are present in U.S. Patent No. 5,210,575 (“the ‘575 patent”). (Citing RX-85C at Q. 187-199.) Oki Data contends that “despite looking different, the developing blade in the ‘575 patent is functionally the same as the ‘343 patent’s developing blade.” (*Id.* at Q. 187; CX-305 at Q. 77.)

Oki Data asserts that the ‘575 patent discloses a blade that includes “a narrow-width part[.]” Oki Data says Figure 7 discloses a narrow-width part of the blade near the contact region of the blade with the developing roller, which is upstream from the wide-width part of the blade. (Citing RX-85C at Q. 196.) Oki Data alleges that the “semi-circular component of the blade is itself not as wide as the blade, as shown in Figures 5 and 6.” (*Id.*) Oki Data concludes that this semi-circular component is also extended from the wide-width part in a direction upstream of a rotation direction of the developing roller. (*Id.*)

Oki Data states that the ‘575 patent discloses the “direction orthogonal” claim limitation under Ricoh’s original definition of this claim limitation, provided that this claim limitation is

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not indefinite. (Citing RX-85C at Q. 197.) Oki Data says that the narrow-width part is also shown to “extend in a direction between the seals 38c or 48c and, based on the geometry, also extends between the side seals described in column 9, starting at line 16.” (*Id.*) Oki Data asserts that this configuration is in a direction orthogonal to “several of the possible longitudinal directions of the developing roller.” (*Id.*) Oki Data adds that, under Ricoh’s “second interpretation” of this claim element, the claim element does not exist because col. 5, line 14, describes pressing the blade against the developing roller, which actually causes bending of a thin-plate spring blade made of materials such as phosphor bronze as is used in the ‘575 patent. (*Id.*) Oki Data refers to “other locations in the ‘575 patent that discuss pressing the blade against the roller in column 5, beginning at line 8, and in column 9.” (*Id.*)

Oki Data alleges that the ‘575 patent also discloses a blade with “a step part” in two different ways. Oki Data asserts that Figure 7 shows a step-part that is “very similar” to the step-part disclosed in Figure 12 of the ‘343 patent. (Citing RX-85C at Q. 198.) Oki Data says, in the other embodiment of the invention, shown in Figures 5 and 6, the step part occurs between the flat blade and the part 38b. (*Id.*) Oki Data asserts that the transition here is at a right angle, and in that way is similar to the Oki Data blade configuration. Oki Data concludes that in both cases Figure 1 shows that the step part is downstream of the contact point between the blade and the roller in the rotation direction of the developing roller. (*Id.*)

Finally, Oki Data argues that the ‘575 patent discloses “the length of the narrow-wide part in claim 19.” Oki Data refers to Figure 5, and says when the blade is brought into contact with the developing roller, these seals are compressed to “prevent toner from moving in the longitudinal direction of chip 38b when the chip 38b is pressed in contact with the roller 12[,]” as explained in column 8, beginning at line 36. (Citing RX-85C at Q. 199.) Oki Data adds that

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column 8 discloses that the seal and the blade both can be pressed into the developing roller, which by its nature forces the blade to be bent toward the rear side of the toner exit. (*Id.*) Oki Data concludes this is confirmed by the blade is position in Figure 1. (*Id.*)

In its reply brief, Oki Data says that Ricoh's discussion of the '575 patent is based upon Ricoh changing its claim construction. Oki Data asserts that previously, Ricoh stated that the '575 patent was not an anticipating reference because claim 18 required bending between the side seals. Oki Data says that now, to avoid Oki Data's domestic industry arguments, Ricoh has changed its construction to only require that the blade be "capable of being bent[.]" (Citing CIB at 32.)

Oki Data argues, whichever construction is adopted, the '575 patent anticipates. Oki Data says that Ricoh claims, for example, that the narrow part of the plate-like portion cannot be included within the narrow-width part of the blade, but provides no reason why not. Oki Data contends that Ricoh also admits that the chip extends in a "perpendicular" direction, thereby satisfying the orthogonal direction claim element under Ricoh's original claim construction.

Ricoh's Position: Ricoh argues that the '575 patent does not anticipate claim 18, because it fails to disclose the following limitations: (1) a blade with "a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller;" (2) a blade where the narrow-width part is "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller;" and (3) "a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller." Ricoh adds that the '575 patent lacks the additional element of claim 19.

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Ricoh argues that the blade in the '575 patent is very different than the other prior art blades, because it consists of the typical elastic plate material but also includes a “chip,” which is a strip of semi-circular (or elliptical) rubber or resin material molded a distance from the bottom edge of the elastic plate and in from the outer side edges. Ricoh says that ideally, the bottom of the chip is mounted 0.5-2 mm from the free end edge and 2-15 mm from each outer side edge. Ricoh contends that a person of ordinary skill would understand this chip component to be part of the blade because it is the means for the blade to contact the developing roller and help regulate toner onto the developing roller. Rico adds that a person of ordinary skill would understand that the seal members are not part of the blade. Ricoh says although they are assembled onto the blade instead of the cartridge wall, they serve the same function as the other side seals: to prevent toner from leaking at the ends of the developing roller. (Citing RX-57 at 8:20-9:43; CX-305 at Q&A 77.)

Ricoh contends that the '575 patent fails to disclose a blade with “a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller.” Ricoh argues that neither of the two embodiments upon which Oki Data relies meets the limitation. Ricoh says one embodiment is the blade depicted in Figures 5 and 6, with the flexible metal part 38a as the wide-width part and the chip 38b as the alleged narrow-width part. (Citing RX-57 at Figs. 5-6.) Ricoh states, in this case, the alleged narrow-width part (the chip) is extended from the wide-width part in a direction that is perpendicular to the upstream direction, at least 0.5-2mm up from the bottom end edge. (Citing RX-57 at 8:60-9:4; CX-305 at Q. 78.) Ricoh asserts that in the other embodiment, shown in Figure 7, the length of the flexible metal part 48a tapers from a wide-width part to a shorter length at the bottom; but the alleged narrow-width part is still the chip, which is shorter still. Ricoh says for the reason stated above, it does

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not extend towards the upstream direction. (Citing RX-57, 9:21-43; CX-305, Q&A 78.)

Ricoh argues that the '575 patent fails to disclose a blade where the narrow-width part is “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller.” Ricoh asserts that in the '575 patent, it is the metal plate part (wide-width part) that is capable of being bent, not the alleged narrow-width part (the chip). Ricoh says the asserted claims also require the narrow-width part to be bent between the side seals, requiring the possibility of relative motion between the two parts; but because the side seals are attached to ends of the blade, the chip is not capable of being bent between the side seals. (Citing RX-57 at 5:8-21, 9:21-38; CX-305 at Q. 79.)

Ricoh continues, saying that the '575 patent fails to disclose “a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.” Ricoh asserts that Figure 7 presents one embodiment where the blade's spring plate tapers from a wide-width part to a shorter length; but this is not the narrow-width part; it is the chip. Ricoh says, to the extent Oki Data argues that the bottom of the seal member completes the step boundary in Figure 7, this feature belongs to the seal, not the blade. Ricoh adds that the alleged step part is at the contact point between the blade and the developing roller, not downstream as required by the asserted claims. Referring to the other embodiment cited by Oki Data, Ricoh says that Figures 5 and 6 show no step part, and Figure 1 shows that what Oki Data alleges to be the step part is not downstream. (Citing RX-57 at Figs. 1, 5-6; CX-305 at Q. 77, 80-82; CDX-134; CDX-135.)

Ricoh argues that the '575 patent also fails to disclose the following additional limitation in claim 19: “the length of the narrow-wide part is made longer than an interval between inside

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surfaces of the side seals such that, when the blade is pressed by the developing roller, the narrow-wide part bends toward a rear side of the toner exit by pressure of the developing roller even after the wide-width part contacts the side seals.” Ricoh refers to column 8 and Figures 1 and 5 of the ‘575 patent, saying that none of these references shows that the chip is longer than an interval between the inside surfaces of the side seals. Ricoh adds that, when the blade is pressed by the developing roller (which occurs when the springs 24 pivot the baffle plate 21 about the pivot shaft 23), the blade’s spring plate bends but the chip remains stationary. Ricoh concludes that the design in the ’575 patent has a side seal that is attached to the blade, and the chip does not bend independently of the side seals. (Citing CX-305 at Q. 83-84.)

Staff’s Position: Staff offers no position on this issue.

Discussion and Conclusion: Based upon the evidence in the record, I find that Oki Data has failed to show by clear and convincing evidence that the ‘575 patent anticipates claims 18 and 19 of the ‘343 patent. The relevant language of claims 18 and 19 of the ‘343 patent is set forth in section IV.E.1(a), *supra*, and will not be repeated here.

Dr. Fraser, Oki Data’s expert, testified that Figure 7 of the ‘575 patent discloses a narrow-width part of the blade near the contact region of the blade with the developing roller, which is upstream from the wide-width part. Dr. Fraser also testified that Figures 5 and 6 of the ‘575 patent show that the semi-circular component of the blade is itself not as wide as the blade. He said this semi-circular component is also extended from the wide-width part in a direction upstream of a rotation direction of the developing roller. (RX-85C at Q. 196.)

Dr. Stauffer, Ricoh’s expert, testified that the blade design in the ‘575 patent is significantly different than those of the other prior art references. Dr. Stauffer noted that the blade is comprised of the typical elastic plate material but additionally includes a “chip,” which

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is a strip of semi-circular (or elliptical) rubber or resin material molded a distance from the bottom edge of the elastic plate and in from the outer edge sides. Dr. Stauffer concedes that a person of ordinary skill in the art would understand this chip to be a part of the blade.

Referring to Figures 5 and 6, Dr. Stauffer testified that the chip (i.e. the narrow-width part) is extended from the wide-width part in a direction that is perpendicular to the upstream direction, at least 0.5-2mm up from the bottom end edge. When examining Figures 5 and 6 it is readily apparent that the so called “narrow-width” portion of the blade (the chip) is actually the means for the blade to contact the developing roller. While it appears to be located upstream of the wide-width portion of the blade, it protrudes in a direction perpendicular from the blade. It does not “extend” in a direction upstream of the wide-width portion of the blade. (CX 305 at Q. 76-78; RX-57 at Figs. 5 and 6.)

Addressing Figure 7 of the ‘575 patent, Dr. Stauffer noted that the length of the flexible metal part 48a tapers from a wide-width part to a shorter length at the bottom; but the narrow-width part is still the “chip,” which is shorter still. He opined that it did not extend towards the upstream direction from the contact point because it, too, is located perpendicular to the contact point. Figure 7 of the ‘575 patent shows a blade that tapers from its wide-width portion to a narrow-width portion, and which does include the “chip” as the narrowest width portion. Inasmuch as, the chip is the portion in contact with the developing roller, it is located perpendicular to the contact point and cannot be defined as being upstream of the contact point.³⁹ (CX-305 at Q. 78; RX-57 at Fig. 7.) Oki Data has failed to prove by clear and convincing evidence that the ‘575 patent discloses a blade with “a narrow-width part extended from the

³⁹ I note too, that RX-57 at 9:59-63 discloses that this embodiment may include one in which the position of blade 18 is “with” the direction of rotation of the developing roller 12, rather than “against” that direction. That reversal of orientation does not change the finding here, because the narrow-width portion is perpendicular to the contact point rather than upstream or downstream from it.

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wide-width part toward upstream of a rotation direction of the developing roller.”

Regarding the second disputed element, Dr. Stauffer testified credibly that the ‘575 patent’s blade is capable of being bent only on the metal plate (i.e. wide-width) part, not on the narrow-width (chip) part. He also said that the ‘343 patent requires that the narrow-width part be bent between the side seals, which is possible because the side seals are attached to the cartridge wall. But in the ‘575 patent, the design calls for the side seals to be attached to the blade, and the chip is not capable of being bent between the side seals. I find Dr. Stauffer’s testimony on this point to be logical and credible. Oki Data has failed to prove by clear and convincing evidence that the ‘575 patent discloses “a blade where the narrow-width part is “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals.” (CX-305, Q. 79.)

Turning to the final element in contention, Oki Data’s expert testified that Figure 7 shows a step-part that is “very similar” to the step-part disclosed in Figure 12 of the ‘343 patent. He describes a “diagonal boundary” between the wide-width portion and the narrow-width portion of the blade. Dr. Fraser says, in the other embodiment of the invention, shown in Figures 5 and 6, the step part occurs between the flat blade and the part 38b. He concludes that the transition here is at a right angle, and in that way is similar to the Oki Data blade configuration. Dr. Fraser adds in both cases Figure 1 shows that the step part is downstream of the contact point between the blade and the roller in the rotation direction of the developing roller. (RX-85C at Q. 198.)

First, I find that if one uses the chip to represent the narrow-width portion of the blade, Figure 7 may be said to disclose a step part forming a boundary between the wide-width portion of the blade and the narrow-width portion of the blade. In that case there would be a clear delineation between the two portions of the blade. Nevertheless, using the chip portion of the

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blade to represent the narrow-width portion of the blade results in a finding that the step part is neither upstream nor downstream of the contact point, since the chip is the contact point.⁴⁰ (RX-57 at Figs. 5, 6 and 7.) Oki Data has failed to prove by clear and convincing evidence that the '575 patent discloses "a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller."

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the '575 patent anticipates claim 18 of the '343 patent.

A patent is presumed to be valid, and each claim of a patent shall be presumed valid even though dependent on an invalid claim. 35 U.S.C. § 282. If I determined claim 18 to be anticipated and invalid, I could still find that claim 19, which depends from claim 18, is valid. Since, however, I have found claim 18 to be *not* anticipated, claim 19 is necessarily not anticipated, because it depends from claim 18 and necessarily contains all of the elements of claim 18. See *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974); see also *In re Sernaker*, 702 F.2d 989, 991 (Fed. Cir. 1983) (when argued together, dependent claims stand or fall with the independent claims from which they depend).

2. Obviousness

Oki Data's Position: Oki Data asserts that clear and convincing evidence establishes that "the above references" render claims 20 and 21 obvious "in light of well known art in the field that strongly favored the packaging developing devices into a process cartridge for use in an image forming apparatus." Oki Data alleges that Dr. Fraser identified "numerous prior art

⁴⁰ I note, too, that if one were to determine that the metal portion of the blade is the sole focus of the narrowing of the blade, then there would be no boundary and no step-part, because the blade would narrow in a continuous taper from its wide-width part to its end edge (i.e. narrow-width part).

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references that disclose the use and features of process cartridges as described by claim 20 of the '343 patent and image forming apparatuses as described by claim 21 of the '343 patent.” (Citing RX-85C at Q. 85-88, 119-123; RX-56; RX-63; RX-64; RX-65.) Oki Data avers that Dr. Fraser also testified that, when combined with references that disclose all of the elements of claim 18, these references render claims 20 and 21 obvious. (Citing RX-85C at Q. 239, 240.) Oki Data says that Dr. Fraser further testified that it would have been obvious to persons of skill in the art to incorporate any developing device into both a process cartridge and an image forming apparatus, because developing devices had one main purpose (use in image forming apparatuses), because developing devices were normally deployed in process cartridges due to materials wear-out problems and increased consumer convenience. (Citing RX-85C at Q. 89, 122, 150.)

Oki Data contends that Ricoh's primary argument against obviousness of claims 20 and 21 is that a person of skill in the art would not be motivated to use the structures disclosed in any of the references that anticipate claim 18 in the process cartridge of claim 20 or the image forming apparatus of claim 21 because “[o]nly the authors of the '343 patent were motivated to prevent toner leakage during normal operation and due to handling when not in operation.” (Citing CX-305 at Q. 46; Tr. at 219:18-220:2.)

Oki Data argues that Dr. Stauffer evaluated obviousness and motivation to combine references under the wrong legal standard. Oki Data cites *KSR*, in which the Supreme Court held that the Federal Circuit had erred “by holding that courts and patent examiners should look only to the problem the patentee was trying to solve.” 550 U.S at 420. Oki Data says that the Supreme Court said, “[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining

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the elements in the manner claimed.” *Id.* Oki Data argues there is no dispute that problems of toner leakage – including during periods of non-use – were well-known by persons of skill in the art. (Citing Tr. at 220:12-17.)

Oki Data asserts that the Supreme Court acknowledged, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” *KSR*, 550 U.S. at 421. Oki Data alleges that the undisputed testimony establishes that persons of skill in the art working on developing device design “were cognizant of leakage problems during use and handling of the developing devices,” and that process cartridges were well-known devices to address consumer concerns and to increase consumer convenience. (Citing RX-85C at Q. 8, 87-89; 121-123, 205, 222, 240.) Oki Data argues that the undisputed testimony further establishes that the overall geometry of developing devices was common and well-known. (*Id.* at Q. 240.) Oki Data concludes that under these circumstances, a person of skill in the art would be amply motivated to combine the anticipating features of any of RX-52C, RX-58, RX-62 with a process cartridge and image forming apparatus. Oki Data cites *Rentrop v. Spectranetics Corp.*, 550 F.3d 1112, 1118 (Fed. Cir. 2008) to say that a finding of a teaching, motivation, or suggestion may come from “common knowledge, or common sense of the person of ordinary skill in the art, without any specific hint or suggestion in a particular reference.”

Oki Data adds that each of the anticipating references notes in one form or the other that it was “widely practiced” to use the devices described therein in image forming apparatuses like copying machines or in combination with photoconducting drums in a process cartridge. (Citing RX-85C at Q. 86, 120, 150, 151.)

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In its reply brief, Oki Data asserts that Ricoh has dropped any claim that the elements of claims 20 and 21 are not disclosed in the prior art references discussed by Dr. Fraser and in Oki Data's Post-Trial Brief. Oki Data says that Ricoh's only remaining argument deals with motivation to combine; but as demonstrated in Oki's Post-Trial Brief its analysis uses the wrong legal test. Oki Data concludes that the post-*KSR* decisions uniformly provide that motivation to combine references need not be express.

Ricoh's Position: Ricoh argues that Oki Data's obviousness contentions depend entirely on proof of anticipation by one or more of its asserted prior art references. (RPHB at 59-66.) Ricoh asserts that, as described above in the section treating anticipation, several claim elements are missing from all of Oki Data's asserted prior art references. Therefore, Ricoh concludes, Oki Data cannot prove any invalidating combination of prior art references. Ricoh adds that Oki Data has not shown any motivation to combine the elements of the asserted claims even if they could have been found in the prior art. (Citing CX-305 at Q. 93-95.) Ricoh contends that the '343 patent inventors were focused on a problem unaddressed by Oki Data's prior art references: preventing toner leakage during shipping and handling, and not just during operation. Ricoh asserts that solving this problem calls for a different configuration of the blade and end seals; hence the novel and non-obvious design of the '343 patent. (Citing CX-305 at Q. 94.)

In its reply brief, Ricoh argues that Oki Data's obviousness argument expressly requires a finding that at least one of Oki Data's five asserted prior art references anticipates claim 18. (Citing RIB at 31-34.) Ricoh reiterates that none of these references anticipates claim 18. Ricoh concludes that Oki Data has not proven by clear and convincing evidence that claim 20 or 21 is obvious.

Staff's Position: Staff offers no position on this issue.

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Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to prove by clear and convincing evidence that exhibits RX-55, RX-56, RX-63, RX-64 and RX-65, when combined with any or all of the references discussed in Section IV.E.1, *supra*, render the asserted claims of the 343 patent obvious.

Oki Data's expert testified that a number of references demonstrated that configuring a process cartridge with the developing device packaged with a photoconductive drum and associated components was well known in the prior art. He referred to RX-55, RX 56, RX 63, RX 64, and RX 65 to illustrate this point. Oki Data's argument is that claims 20 and 21 of the '343 patent are obvious in light of various examples of prior art "when combined with references that disclose all of the elements of claim 18." Dr. Fraser opines, too, that "if there were to be a finding that any of the claims were not anticipated then [he] believe[s] they would be obvious to the extent there are any alleged differences." Dr. Fraser provides no discussion of any specific reasons for the latter expressed opinion. (RX-85C, Qs. 86, 87, 239.)

Assuming *arguendo* that a person having ordinary skill in the art would be motivated to combine the references contained in RX-55, RX-56, RX-63, RX-64 and RX-65 with any or all of the anticipatory references cited and discussed in Section IV.E.1, *supra*, the combined references would still not render claims 18, 19, 20 or 21 of the '343 patent obvious. This is true because Oki Data uses the prior art discussed in Section IV.E.1 as the source of disclosure of all of the elements of claims 18, 19, 20 or 21 of the '343 patent, except the application of the invention to process cartridges. Specifically, none of the prior art references discussed in Section IV.E.1 were shown by clear and convincing evidence to disclose: (1) a blade that includes a narrow-width part "... configured to have a length that enables the the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller;" (2) "a step part forming

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a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller;” or (3) a blade that includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively. *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1373-1374 (Fed. Cir. 2010) (upholding finding of non-obviousness based on the fact that there was substantial evidence that the asserted combination of references failed to disclose a claim limitation); *Velandier v. Garner*, 348 F.3d 1359, 1363 (Fed. Cir. 2003) (explaining that a requirement for a finding of obviousness is that “all the elements of an invention are found in a combination of prior art references”).

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that exhibits RX-55, RX-56, RX-63, RX-64 and RX-65, when combined with any or all of the references discussed in Section IV.E.1, *supra*, render the asserted claims of the 343 patent obvious.

3. Indefiniteness

Oki Data’s Position: Oki Data argues that Order No. 25 was in error when it denied Oki Data’s Motion for Summary Determination on indefiniteness of the claim limitation “direction orthogonal to the longitudinal direction of the developing roller.” To preserve its ability to petition for review, Oki makes the following statement:

Both parties’ experts agree that the phrase “longitudinal direction of the developing roller” refers to the long-direction between the two ends of the roller. Both parties’ experts agree that there are an infinite number of possible locations of the longitudinal direction within the roller. (Citing Tr. at 157:19-161:13; RX-85C at Q. 57, 62-64.)

Oki Data asserts that the longitudinal direction of a cylindrically shaped object, like the

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developing roller, is any line drawn between the two ends of the cylinder and parallel to the axis or one side of the cylinder, (Citing Tr. at 157:25-158:6). Oki Data argues that the '343 patent “does not define which of the longitudinal directions to use as a reference point.” Oki Data says because a “longitudinal direction of the developing roller” does not have a single location in the developing roller and instead could be located at any of an infinite number of positions, both experts agree that the “direction orthogonal” to a longitudinal direction of the developing roller could point in many different directions, depending on where the longitudinal direction is located. (Citing Tr. at 157:19-161:13; RX-85C at Q. 57, 62-64.) Oki Data avers that Dr. Fraser thus concluded that this claim language does not inform a skilled artisan of the bounds of the alleged invention and, as a result, that this claim language is indefinite. (Citing RX-85C at Q. 57.) Oki Data cites *Haemonetics*, 2010 U.S. App. LEXIS 11122, at *16-17; *Union Pac. Res. v. Chesapeake Exploration LP*, 236 F.3d 684, 689 (Fed. Cir. 2001) to support its position on indefiniteness.

Oki Data argues that indefiniteness is measured against whether the claims read in light of the specification “reasonably apprise” those skilled in the art of the scope of the invention. (Citing *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 705 (Fed. Cir. 1998).) Oki Data contends that whether the specification reasonably apprises one of skill in the art of the meaning of “longitudinal direction” of the developing roller is illustrated by the practical experiences of Dr. Stauffer, who reached a conclusion similar to that adopted in Order No. 25⁴¹ only after reading Dr. Fraser's invalidity expert report. Oki Data says that before that time, Dr. Stauffer read the '343 patent multiple times before first opining on the meaning of this claim limitation, a meaning he recanted in his rebuttal expert report on invalidity. (Citing CX-

⁴¹ Oki Data actually cited Order No. 30 at this point; but that order did not treat this issue, and I will treat this reference as a reference to Order No. 25, which Oki Data cites repeatedly in this section.

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305 at Q. 29, 30, 66, 79; RX-85C at Q. 62-64.) Oki Data says the meaning Dr. Stauffer employed to perform his infringement analysis in his opening expert report was that the claim limitation referred to an L-shaped plastic deformation of the narrow-width portion of the blade described in column 12 of the '343 patent.

Oki Data argues that the construction adopted in Order No. 25 still permits the blade to bend in an infinite number of directions, depending on how the blade makes contact with the developing roller. (Citing Tr. at 157:19-161:13; RX-85C at Q. 57, 62-64.) Oki Data says that this means the blade could be pushed any number of possible directions, including toward at least the topside or the rear side of the toner exit – all depending on “how the developing blade is oriented in accordance with the balance of the claim.” (*Id.*)

Ricoh’s Position: Ricoh contends that Oki Data has argued that the asserted claims are indefinite based on the “direction orthogonal to a longitudinal direction of the developing roller” limitation discussed in the infringement section. Ricoh asserts that Order No. 25 correctly resolved this dispute in Ricoh’s favor, denying Oki Data’s motion for summary determination on indefiniteness.

Staff’s Position: Staff states that Order No. 25 determined that the phrase “a direction orthogonal to a longitudinal direction” is not indefinite. Staff says, in reaching that determination, I found that the phrase at issue is definite because both “a longitudinal direction” and “a direction orthogonal to a longitudinal direction” are easily identifiable, irrespective of the fact that the number thereof may be infinite. (Citing Order No. 25 at 9-10.)

Staff argues that one of ordinary skill in the art is able to determine whether a given direction is longitudinal to the developing roll and whether a direction is orthogonal to that longitudinal direction as stated in Order No. 25. However, the Staff submits that, where, as here,

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the number of longitudinal lines and orthogonal directions is infinite, the resulting scope of the claim is boundless, and hence, indefinite. Staff continues, however, to say the longitudinal direction of a cylindrically shaped object, like the developing roller, is any line drawn between the two ends of the cylinder and parallel to the axis or one side of the cylinder. Staff continues, “[t]he ‘343 patent does not define which of the longitudinal *directions* to use as a reference point.” Staff contends without knowing which reference point to use, it is not possible to determine where the direction orthogonal to the longitudinal direction is pointing. (Citing Tr. at 160-61; RX-85C at Q. 57; *Haemonetics*)

Discussion and Conclusion: Based on the evidence in the record, I conclude that there is not clear and convincing evidence that the phrase “a direction orthogonal to a longitudinal direction” is indefinite.

First, both Oki Data and the Staff incorrectly quote Order No. 25. In Order No. 25 I found that, while there may be an infinite number of *lines* that run in a longitudinal direction of the developing roller, a longitudinal *direction* of the developing roller is easily identifiable. Likewise, a direction orthogonal to a longitudinal direction is easily identifiable. Thus, I found that one of ordinary skill in the art would be capable of determining whether or not a product includes “a narrow-width part...configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller[.]” Because the meaning of this claim language is discernable, I found that it is not indefinite. *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001)..

More specifically, in Order No. 25 I used the plain meaning of the claim terms in dispute. None of the parties asserted that these words are given special meanings in the ‘343 patent, and I found nothing in the specification to indicate that terms should be given anything other than their

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plain and ordinary meanings. In this circumstance, it is appropriate to use dictionary definitions when determining the plain meaning of claim terms. *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1351 (Fed. Cir. 2006) (examining dictionary definitions of the claim term “scanner”). The word “orthogonal” is defined as “intersecting or lying at right angles.” MERRIAM WEBSTER’S COLLEGIATE DICTIONARY, pg. 821 (10th ed. 1997). The word “longitudinal” is defined as “placed or running lengthwise; of or relating to length or the lengthwise dimension.” MERRIAM WEBSTER’S COLLEGIATE DICTIONARY, pg. 687 (10th ed. 1997). In fact, in arguing the motion that resulted in Order No. 25, the parties agreed that the longitudinal direction of a cylinder is “any chord, or line, drawn between the two ends of the cylinder and parallel to the axis or one side of the cylinder.” (Oki Data Mot. at 6; Ricoh Resp. at 4; Staff Resp. at 5.) Thus, “a direction orthogonal to a longitudinal direction of the developing roller” refers to a direction that is at a right angle to a lengthwise direction of the developing roller.

After a thorough review of the record and considering the arguments of all of the parties, I reaffirm the foregoing findings of Order No. 25 and conclude that the phrase “a direction orthogonal to a longitudinal direction” is not indefinite.

F. The ‘690 Patent

1. Invalidity Under 35 U.S.C. § 101

Oki Data’s Position: Oki Data notes that the ’690 patent is directed to “[a] toner image fixing method.” (Citing JX-5 at 11:21.) Oki Data says that fixing toner to paper using heated fuser rollers (the subject of the first four elements of independent claim 1) was admittedly known before the ’690 patent. (Citing Tr. at 235:20-25, 426:8-428:14.) Oki Data asserts that the allegedly novel aspect of this method is the setting of a range for an adhesion constant ratio,

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which is based on contact angle data generated by testing the surface of at least one of the fuser rollers. (Citing JX-5 at 11:32-48; CX-306C Q. 83.)

Oki Data argues that one would be required to make the fuser roller and then measure contact angles and perform the necessary calculations on that fuser roller to practice the '690 patent's asserted claims. (Citing Tr. at 403:1-7; CX-306 at Q. 25.) Oki Data alleges that Dr. Giacomini admitted that there is no need for the "screening" of surfaces by the indirect measurement of the contact angles and adhesion constant ratio because hot-offset can be directly observed. (Citing Tr. at 374:2-16, 403:5-17; 406:1-10.)

Oki Data contends that the '690 patent lacks utility, because the patent does not establish that the adhesion constant ratio is an effective and reliable predictor of hot-offset or any other printing quality. Oki Data says that in Table 3 of the patent (JX-5), Comparative Example 1 has a ratio of infinity, and although Example 4 has a lower adhesion constant ratio than Example 5, it also has a lower hot-offset temperature, contrary to the teaching of the patent. Oki Data adds that Comparative Examples 1, 2 and 3, which all have ratios outside the claimed range, still have minimum hot-offset temperatures above 150 degrees, which is the "low" hot-offset temperature the '690 patent specifies as problematic. (Citing JX-5 at 2:12-16; RX-123C at Q. 55-56.) Oki Data claims that even surfaces that have ratios that fall outside the claimed range may still perform well and without hot-offset. Oki Data says that the range at the center of claim 1 (*i.e.*, "less than about 8.0") therefore "lacks criticality." Citing *Helene Curtis Indus., Inc. v. Sales Affiliates, Inc.*, 233 F.2d 148, 153 (2d Cir. 1956), Oki Data says that the court explained, "[i]t is only where the selected point corresponds with the physical phenomenon and the patentee has discovered the point at which that physical phenomenon occurs that the maintenance of a patent monopoly is admissible." (Citing also *Dow Chemical Co. v. Halliburton Oil Well Cementing*

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Co., 324 U.S. 320, 329 (1945).)

Oki Data asserts that regardless of hot-offset, the data (and adhesion constant ratios) generated by performing contact angle testing, as described in the '690 specification and required by the claims, are “entirely lacking of any criticality.” Oki Data argues that Dr. Giacomini admitted on cross-examination, and one can readily observe by a simple review of the data, for each and every Oki product tested by Ricoh, that it does not matter if the ratio was inverted, or if only nonpolar or only polar test liquids were used – the ratio *always* comes out to be “less than [a]bout 8.0.” (Citing CX-128:8-13; Tr. at 300:13-308:12.) Oki Data argues that the specificity and alleged criticality of claim 1 are illusory. (Citing RX-123C at Q. 51-53, 55-57.) Oki Data argues that the calculated ratio “gives the illusion of a specific and desired result, but in fact that ratio is no more predictive or correlative to hot-offset temperature than an inverted ratio, or a ratio of polar adhesion constant to polar adhesion constant, or nonpolar to nonpolar.” (Citing Tr. at 303:3-7, 308:8-12.)

Oki Data contends that if the claimed invention of the '690 patent was useful, it would still be invalid, because it merely describes an existing statistical relationship, which is *per se* not patentable under 35 U.S.C. § 101. Oki Data says that the method of the '690 patent is a method of screening or testing fuser rollers to determine their suitability for use in fixing, in reality claim 1 is drawn to, *inter alia*, a method of fixing a thermofusible toner image using a fuser roller that has certain surface characteristics. (Tr. at 236:6-12; JX-5.)

Oki Data contends that the '690 patent “leaves no doubt that the equation of claim 1 is based on the inherent characteristics of the fuser roller’s surface.” (Citing JX-5 at 11:32-48 (“ θ_b is a receding [contact] angle of a *surface* of at least one of the fixing members . . . and θ_s is a static contact angle of the *surface*”)) (emphasis added).) Oki Data says that the “adhesion

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constant ratio” is derived from an inherent characteristic of an existing, known substance. Oki Data argues even assuming *arguendo* that the equation revealed something that was not known about the surfaces of fuser rollers, it would still not be patentable. Oki Data cites *Parker v. Flook*, 437 U.S. 584, 593 (1978) in support, in which the Court found a method unpatentable because a claimed mathematical formula merely “reveal[ed] a relationship that has always existed.” Oki Data argues that the Supreme Court explained in *Flook*, “mere recognition of a theretofore existing phenomenon or relationship carries with it no rights to exclude.” *Id.* at 593. Oki Data insists that, even if the equation produced a result that delineated the surfaces having good hot-offset performance from those having poor hot-offset performance, it would not be patentable because the relationship between the relevant surface characteristic(s) of the fuser roller (as revealed through contact angle measurement) and hot-offset performance, if that relationship exists at all, existed prior to the ’690 patent. *Id.* Oki Data continues saying once the claimed equation “is assumed to be within the prior art,” as it must be because it reveals only inherent characteristics of existing products, the patent “considered as a whole, contains no patentable invention.” *Id.* at 594. (Citing also *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir. 1989).) Oki Data concludes the asserted claims of the ’690 patent are invalid because they do not contain patentable subject matter under 35 U.S.C. § 101.

In its reply brief, Oki Data begins by saying that Ricoh did not include in its Post-Trial Brief any response to Oki Data’s argument that the ’690 patent is invalid under 35 U.S.C. § 101. Oki Data argues that under Ground Rule 11.1, allowing Ricoh to respond for the first time in its reply brief would be unfair to Oki Data and the Court.

Ricoh’s Position: In its reply brief, Ricoh argues that until now, the focus of the ’690 patent has been on infringement and validity. Ricoh says this was true for the parties’ discovery

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efforts, prehearing briefs, and trial. Ricoh asserts that Oki Data's post-hearing brief now focuses on the weakest of patent defenses – utility under 35 U.S.C. § 101. Ricoh avers that no testimony was given at the hearing on this issue, and it received only cursory treatment in Oki Data's prehearing brief.

Ricoh contends that Section 101 is a rarely asserted defense, because its requirements are easily met and the law is well settled. It broadly defines an expansive range of patent-eligible subject matter intended by Congress to “include anything under the sun that is made by man.” (Citing *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (citing S. Rep. No. 82-1979, at 5 (1952); H.R. Rep. No. 82-1979, at 6 (1952)).) Ricoh concludes that the method of printing claimed in the '690 patent clearly passes muster under Section 101.

Staff's Position: Staff states that claim 1 of the '690 patent and the other asserted claims depending therefrom provide for a ratio of adhesion constants that is “less than about 8.” Staff repeats Oki Data's argument in its prehearing brief that the formulae set forth in the fifth element claim 1 of the '690 patent merely recognize the inherent characteristics of existing fuser rollers. Staff then says recognition of a pre-existing characteristic, however, is not patentable. (Citing *EMI Group North America, Inc. v. Cypress Semiconductor Corp.*, 268 F.3d 1342, 1350-51 (Fed. Cir. 2001); *In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986); *Tol-O-Matic, Inc. v. Proma Produktund Marketing Gesellschaft m.b.H.*, 945 F.2d 1546, 1552 (Fed. Cir. 1991).)

Staff adds that the fifth element of claim 1 – “ratio of a first adhesion constant to a second adhesion constant, $s-b(1)/s-b(2)$, of the surface that contacts the thermofusible toner image on the image supporting material is less than about 8.0” – lacks criticality because the evidence shows that the ratio will always be less than 8, regardless of how the ratio is determined. (Citing Tr. at 299-303; CX-128; *Brenner v. Manson*, 383 U.S. 519, 534-35 (1966); *In re Fisher*, 421

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F.3d 1365, 1371 (Fed. Cir. 2005).) Staff asserts that the evidence shows that the '690 patent provides neither "specific utility" nor a "well-defined and particular benefit to the public."

Staff adds that acceptance of Ricoh's proposed construction that the "softening point" is the glass transition temperature would also result in invalidity under § 101 because the evidence demonstrates that toners cannot be "fixed" when they are at their glass transition temperature. Staff says that at their glass transition temperature, the toners begin to lose their crystalline structure and begin to get soft. (Citing Tr. at 328.) Staff contends that the glass transition temperature of a toner is below the temperature at which it begins to melt. (*Id.* at 329.)

Discussion and Conclusion: Based on the evidence in the record, I find that there is not clear and convincing evidence that the '690 patent is invalid pursuant to 35 U.S.C. § 101.

The '690 patent is directed toward a method for producing a fixed image having good image qualities without hot offset even when toner having a relatively low fixing temperature is employed by an image forming apparatus. One problem it addresses is avoidance of "hot offset" which occurs when melted toner image is transferred to the heat fixing roller and subsequently retransferred to another region on the image supporting material (e.g. paper) or to a following image supporting material. (JX-5 at Abstract, 1:36-42.)

Oki Data is not persuasive when it contends that the '690 patent lacks utility, because the patent does not establish that the adhesion constant ratio is an effective and reliable predictor of hot-offset or any other printing quality. Dr. Giacomini, Ricoh's expert, testified credibly that the invention of the '690 patent, among other things, is a new class of toner fusers, whose adhesion constant ratio $\left(\mu_{s-h(1)} / \mu_{s-h(2)} \right)$, is less than about 8.0. (CX-268C, Q. 68 (*see also discussion leading to that conclusion at Qs. 44-67.*))

Oki Data also fails to convince when it argues that the range at the center of claim 1 (*i.e.*,

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“less than about 8.0”) “lacks criticality.” At the hearing, Dr. Giacomini testified that, while the values of most of the items tested and discussed with him at the hearing showed values of less than about 8.0, there were some results that fell outside of that limit. He did not testify that the ratio *always* comes out to be “less than [a]bout 8.0” as Oki Data asserts. Moreover, he testified credibly that, when one is making a toner fuser surface, there is significant improvement in the minimum hot offset temperature when the adhesion ratio falls below 8. (Tr. at 300:13-308:12, 363:1-11.)

Oki Data appears to confuse the threshold requirement that the subject matter of the process be within patentable subject matter under § 101 with the separate requirements that the invention be novel and nonobvious under §§ 102 and 103. Oki Data’s argument is that the invention is not patentable because the relationship between the relevant surface characteristic(s) of the fuser roller (as revealed through contact angle measurement) and hot-offset performance existed prior to the ’690 patent. Oki Data also asserts once the claimed equation “is assumed to be within the prior art,” the patent “considered as a whole, contains no patentable invention.”

In *Diamond v. Diehr*, 450 U.S. 175 (1981), the Supreme Court found that a process for curing synthetic rubber which includes in several of its steps the use of a mathematical formula and a programmed digital computer is patentable subject matter under 35 U.S.C. § 101. In ruling on patentability of the claimed process, the Court noted the difference between patentability under § 101 and invalidity because a claimed process fails to satisfy the statutory conditions of novelty under § 102 or nonobviousness under § 103. The Court said, “[a] rejection on either of these grounds does not affect the determination that respondents’ claims recited subject matter which was eligible for patent protection under § 101.” *Id.* at 191.

In determining the eligibility of a claimed process for patent protection under § 101, the

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claims must be considered as a whole. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made. The “novelty” of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter. *Diehr*, 450 U.S. at 188-189.

The fact that claim 1 of the ‘690 patent contains a mathematical formula does not render the patent unpatentable under § 101, either. The Supreme Court said “[w]hile a scientific truth, or the mathematical expression of it, is not a patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.” *Diehr*, 450 U.S. at 188 (citing *Mackay Radio & Telegraph Co. v. Radio of America*, 306 U.S. 86, 94 (1939).) In this case, the process includes a number of steps, one of which is application of a formula, to arrive at a product that has an adhesion ration of less than about 8. This result produces a toner fuser that meets the ‘690 patent’s stated objective of achieving a fixed image having good image qualities without hot offset even when toner having a relatively low fixing temperature is employed by an image forming apparatus. Oki Data has failed to prove by clear and convincing evidence that claim 1 of the ‘690 patent is unpatentable subject matter under § 101 or that the fifth element of that claim lacks criticality.

Based upon the foregoing, I find that there is not clear and convincing evidence that the 690 patent is invalid under 35 U.S.C. § 101.

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2. Anticipation

a. OL400e Product

Oki Data's Position: Oki Data argues that if the accused products are found to infringe the asserted claims of the '690 patent, then necessarily the '690 patent is invalid as anticipated under 35 U.S.C. § 102 by the prior art Oki products. Oki Data asserts that it has presented clear and convincing evidence that the Oki OL400e and OL1200 were sold in the United States prior to the '690 patent critical date. Oki Data alleges that the prior art Oki products are, in all relevant ways, identical to the allegedly infringing Oki products. (Citing RX-112C at Q. 14; *Peters v. Active Mfg. Co.*, 129 U.S. 530, 537 (1889) (“That which infringes, if later, would anticipate, if earlier.”); *Upsher-Smith Laboratories, Inc. v Pamlab, LLC*, 412 F.3d 1319, 1322 (Fed. Cir. 2005).)

Oki Data argues that it has established by clear and convincing evidence that claims 1, 5, 9 and 13 of the '690 patent are anticipated under 35 U.S.C. § 102(b) by the Oki OL400e LED printer (the “OL400e”). Oki Data asserts that its expert testified that each and every element of these claims is met by the prior art Oki OL400e product, and provided included detailed claim charts summarizing same. (Citing RX-123C at Q. 90-105, 144-173, 178-217; RX-124C; RX-172; RX-177C; RX-138; RX-139; RX-213C.) Oki Data contends that it has also established that the OL400e was on sale prior to the critical date and has not undergone design changes that would affect surface characteristics since before the critical date. (Citing RX-110C at Q. 1-47; RX-1C at Q. 13-15, 27-28, 38-65, 98-100; RX-109C at Q. 8-22, 25-27.) Oki Data says that Ricoh has only attempted to rebut the clear and convincing evidence of anticipation on two grounds: (i) there is no evidence that the OL400e is prior art, and (ii) the contact angle measurements are defective because they were measured incorrectly. Oki Data argues that it has

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proven by clear and convincing evidence that the OL400e is anticipating prior art to the '690 patent.

Oki Data relies in part on its Director of Marketing, Carl Taylor, who it says is personally responsible for Oki Data America's (ODA's) sales and marketing records, and depends on their reliability, regardless of age. (Citing RX-1C at Q. 1-11, 16-22.) Oki Data argues even if the documents upon which he relies are not themselves sufficient to establish a public use or sale under § 102(b), Mr. Taylor's testimony is sufficient corroboration to establish those facts. (Citing *Sandt Tech., LTD v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1352-53 (Fed. Cir. 2001).)

Regarding the tested OL400e rollers, Oki Data contends that it is required to prove only that they were themselves manufactured prior to the critical date or are the same as those manufactured prior to that date. (Citing *Vanmoor v. Wal-Mart Stores, Inc.*, 201 F.3d 1363, 1365 (Fed. Cir. 2000).) {

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Oki Data asserts that Dr. Giacomini admits that he did not follow the teaching of the patent with respect to measurement of the receding contact angle, because he took the measurement when the “common-line” started to move, and the patent requires taking the measurement after movement begins, when the angle reaches a steady state. (Citing Tr. at 356:14-357:18; CX-268C Q. 89.) Oki Data argues that the evidence demonstrates the manner in which the measurements were made by third-party Kyowa Interface Science, and Dr. Karz’s analysis of those measurements. Oki Data notes that the details of the Kyowa testing were the subject of testimony by Dr. Karz, Oki employee Mr. Oishi, and Kyowa employee Mr. Sato. (Citing RX-123C at Q. 190-197; RX-110C at Q. 20-35; RX-112C at Q. 45-54.) Oki Data argues that Dr. Karz performed his analysis in accordance with the patent teaching. (Citing RX-123C at Q. 115.)

Oki Data argues that the fact that the prior sale documents do not disclose every element of the asserted claims (Citing CIB at 56-57) is irrelevant, because these documents are only offered to prove a date of prior sale. (Citing *Engate, Inc. v. Esquire Deposition Servs., LLC*, 331 F. Supp. 2d 673, 692-93 (N.D. Ill. 2004) (user manual established date of sale under § 102(b)) *aff’d*, 208 Fed. Appx. 946 (Fed. Cir. 2006).) Oki Data says that Ricoh’s arguments about the OL400 and OL1200EX can be ignored, because evidence establishes that “OL400” was likely a typo, and the OL1200EX is not materially different from the OL1200. (Citing CIB at 57; RX-1C Q. 43; RX-112C at Q. 37-38.)

Oki Data argues that the fact that Dr. Karz received the Kyowa test data in PDF format makes no difference, because Dr. Karz testified that he independently checked the data and the

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calculations. (Citing Tr. at 1086:17-1087:6, 1137:14-20.)

Oki Data says that Ricoh argues that product manuals cannot prove the method is practiced as stated in claim 1. (Citing CIB at 59.) Oki Data asserts that this argument was made for the first time in Ricoh's Post-Trial Brief, and therefore it is a violation of Ground Rule 11.1, and has been waived and/or conceded. Setting aside the issue of waiver, Oki Data argues that it has established that the OL400e is prior art to the '690 patent. Oki Data says that the documents relied upon to establish the configuration of the rollers in the OL400e show two rollers in the claimed configuration, describe their function in accord with the claimed method and, therefore, establish that the OL400e practices this limitation.⁴² (Citing RX-162; RX-172; RX-173; RX-123C at Q. 94, 109.)

Ricoh's Position: Ricoh contends that Dr. Karz did not perform, supervise, or witness any tests in this investigation, including the contact angle measurements presented in his testimony and expert report. (Citing Tr. at 1070:22-25, 1086:18-21, 1154:22-25.)

Ricoh asserts that the testing regarding claim 1 of the '690 patent was done away from Dr. Karz and was controlled by Oki Data. {

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Ricoh adds that it has never seen, nor been able to test, the fuser rollers tested {

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In its reply brief, Ricoh argues that Oki Data failed to prove the OL400e had the two claimed “fixing members” before the ’690 date of invention or before its critical date. Ricoh asserts that Oki Data failed to prove by clear and convincing evidence that the OL400e was on sale in the United States prior to the critical date, or that the tested OL400e rollers were the same as those manufactured prior to the critical date.

Ricoh argues that to demonstrate that the OL400e was on sale in the United States prior to the critical date, Oki Data relies solely on the testimony of Mr. Taylor, Mr. Oishi, and four documents dated well after the ’690 patent issued. Ricoh asserts that Mr. Taylor’s and Mr. Oishi’s testimony is uncorroborated. Ricoh says the documents Oki Data cites are not prior art

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and do not disclose the limitations of claim 1. Ricoh contends that it proved that RX-161 and RX-164 were revised as late as 1999. (Citing Tr. at 1424:19-22, 1426:23-1427:6, 1428:8-21.) Ricoh says it also proved that RX-161 relates to the OL400, a different product from the OL400e. (Citing RX-161; RX-164; RX-157; RX-204; Tr. at 1421:5-13.) Ricoh concludes that none of these documents prove sale, offer for sale, or knowledge or use by others before the critical date.

Ricoh argues that RX-204 does not mention the OL400e, and Mr. Taylor did not author that paper. (Citing RX-204 at OKI161096; Tr. at 1429:17-23.) Ricoh argues that RX-157, a purported August 1993 publication of “The Hard Copy Observer,” does not say that the OL400e was on sale. (Citing RX-1C at Q. 65.)

Ricoh argues that Oki Data’s reliance on *Helifix, Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1349-1350 (Fed. Cir. 2000) and *Engate, Inc. v. Esquire Deposition Servs., LLC*, 2004 U.S. Dist. LEXIS 14784, *41-44 (N.D. Ill. July 30, 2004) is misplaced. Ricoh says that in *Helifix*, the court found a sales brochure “provided ‘very strong circumstantial evidence that the [claimed] method was being made available for sale’” because it included a warranty that governed the terms and conditions of sale, and because the patentee’s employees admitted they had distributed the brochure at a trade show. *Helifix*, 208 F.3d at 1349. Ricoh contends that none of the user guides or papers cited by Oki Data are sales brochures, nor do they include any kind of warranty outlining conditions for sale.

Regarding *Engate*, Ricoh asserts that Oki Data cites the unpublished opinion, later amended, in claiming that a “quick reference card” and a user manual established the prior art product was on sale before the critical date. (Citing RIB at 57.) Ricoh acknowledges that the court found that a “quick reference card” prepared more than five years before the critical date

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described the claimed feature and therefore showed the product was on sale prior to the critical date. Ricoh states that missing from the court's published opinion is any reliance on a user manual for its holding. (Citing *Engate, Inc. v. Esquire Deposition Servs., L.L.C.*, 331 F. Supp. 2d 673, 692-693 (N.D. Ill. 2004).) Ricoh adds that it proved that the user manuals Oki Data cites are dated after the '690 patent critical date, and that RX-157 and RX-204 fail to describe the claimed invention. (Citing CIB at 56-57.)

Ricoh argues that Oki Data incorrectly applies the law in claiming that "Mr. Taylor's testimony is sufficient corroboration to establish those facts." (Citing RIB at 58.) Ricoh says that Oki Data has it backwards, because it is Mr. Taylor's testimony that must be corroborated. (Citing *Finnigan Corp. v. Int'l Trade Comm'n*, 180 F.3d 1354, 1366-68 (Fed. Cir. 1999) (oral testimony alone cannot support a finding of prior public use or sale).)

Ricoh argues that in testifying that the OL400e meets the limitations of the asserted claims, Dr. Karz relies solely on RX-172, an excerpt from an "Okidata Service Manual for OL400e/OL410e/OL410e-PS," to support his opinion that the OL400e had two fixing members. (Citing RX-123C at Q. 94.) Ricoh argues that this document is not prior art, because the only date that appears on it is January 5, 2010. Ricoh avers that RX-172 is an excerpt from RX-162, which Ricoh says it proved was revised as late as 1999 and is merely a compendium of individual documents. (Citing Tr. at 1426:23-1427:6; 1424:23-1425:24.)

Ricoh says that Oki Data does not attempt to prove that the tested OL400e rollers are the same as those manufactured before the critical date. Ricoh contends that Oki Data claims that a handful of skeletal design change documents for the OL400e roller are proof of this fact. Ricoh argues that the evidence shows: (1) the specifications for these fuser rollers changed in material respects after the critical date (Citing RX-182C at 3); (2) they do not specify material features of

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roller manufacture (Citing Tr. at 1113:19-22); and (3) Dr. Karz did not know whether either of the fuser rollers purportedly tested by Kyowa or Chemir actually met the fuser specifications (Citing Tr. at 1140:19-1141:14, 1120:16-24; RIB at 52-54.) Ricoh concludes that Oki Data did not even link the rollers tested by Kyowa with any specification.

Staff's Position: Staff says that the evidence demonstrates that the two Oki Data prior art devices, OLE 400 and OLE 1200 were on-sale and in use in the United States several years before the application for the '690 patent was filed on February 5, 1997, claiming earlier priority dates going back to February 9, 1996. Staff asserts that the OL400e was the subject of a paper presented at a conference held October 20 through November 4, 1994 in New Orleans, LA. Staff notes that the record also contains a copy of a service manual for the OL400e prepared by Oki Data America ("ODA"), with a copyright date of 1994, which indicates to Staff that Oki Data America was selling the OL400e from at least 1994. Staff says the record contains copies of a user's guide for the OL400e prepared by ODA for use by purchasers of the device with a copyright date of July 1994, which indicates sales of those devices by that date. Staff concludes that the record contains an article published in August 1993 in a publication named "Hard Copy Observer," which reported that ODA had introduced the OL400e device on August 9, 1993. (Citing RX-1C at Q. 38-43, 48-58, 62-65; RX-204; RX-161; RX-164; RX-157.)

Staff argues that the evidence shows that these prior art devices are identical in every relevant way to the accused Oki Data devices in terms of type of surface coating and surface roughness. Staff believes that Ricoh will contend that the specifications for these devices do not include methods of manufacture, specific percentages of the constituent components of the surface coating, and other parameters, and based thereon, argues that (1) the evidence does not show that the devices as initially sold in the United States were essentially identical to those sold

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throughout the period that they were sold, and, thus, (2) Oki Data cannot demonstrate that the devices anticipate the odd numbered claims.

Staff contends that none of Ricoh's arguments are based on any purported change in Oki Data's surface roughness specification for its prior art fuser rollers. Staff says the evidence demonstrates that the surface roughness specification remained unchanged throughout the period. Staff asserts that the roughness of the surface plays a role in both the static and receding contact angle measurements as well as the surface roughness tests, which are the inputs into the various calculations set forth in the specification of the '690 patent. (Citing Tr. at 1131- 34; RX-182.) {

} Staff

reasons if the accused products satisfy the ratio, the prior art devices, with their smoother surfaces, should also satisfy the ratio. Staff avers that Dr. Karz's testimony is consistent with the disclosures of the '690 patent. Staff states that the specification of the '690 patent teaches that one could use any one of a non-exhaustive list of previously used coatings, a non-exhaustive list of previously used substrate materials for such coatings, and a non-exhaustive list of manufacturing methods. The specification of the '690 patent teaches that any surface material, and method of manufacture would be satisfactory if it results in the requisite surface characteristics, *i.e.*, adhesion constant and surface roughness. (Citing Tr. at 238-241, 244-47; JX-5 at 5:35-55, 56-67, 6:11-19, 20-53.)

Staff contends that none of the alleged changes in the specifications for the OL 400e and OL1200 relied upon by Ricoh relate to the surface roughness specification for those devices. Staff concludes that since the surface roughness specification remained unchanged throughout the entire relevant period, the method of manufacture, the constituent components of the coating,

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and the types of substrate used are irrelevant. Staff continues to the extent that the accused devices are determined to infringe any of the odd numbered claims of the '690 patents, such claims would be anticipated by Oki Data's OL400e and OL1200 prior art devices.

In its reply brief, Staff says Ricoh contends that testimony concerning the on sale dates for the OL 400 and OL 1200 devices and their physical characteristics was not corroborated. Staff disagrees and repeats much of its initial argument, which will not be set forth in detail here.

Staff adds that the documentation (set forth in its initial argument) clearly corroborates Taylor's testimony that the OL400e and OL1200 were on sale, and were sold in the United States prior to the critical date of the '690 patent. (Citing *Zenith Electronics Corp. v. PDI Comm. Sys., Inc.*, 522 F.3d 1348, 1357-58 (Fed. Cir. 2008) (product literature sheet describing features of the product); *Helifix, Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1349-1350 (Fed. Cir. 2000) (indicating that sales brochure would establish sale for the purposes of 102(b)); *Engate, Inc. v. Esquire Deposition Servs., LLC*, 331 F. Supp.2d 673, 693 (N.D. Ill. July 30, 2004) (holding that a "quick reference card" and a user manual established by clear and convincing evidence that the invaliding product "*was on sale* prior to the critical date.") (Emphasis in original).)

Staff adds that Ricoh asserts that there is no way of knowing when or how the OL1200 rollers were made. Staff argues that, unlike the OL400e, there have been no design changes to the OL1200 relevant to the '690 patent since it was first sold in the United States in 1995. Staff concludes that the OL1200 products tested by Kyowa and Chemir are representative of every OL1200 manufactured since that time.

Staff asserts that regarding the OL 400, Dr. Karz reviewed the OL400e design history, and concluded that none of the post-1993 design changes would affect its surface characteristics.

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(Citing Tr. at 1108-09, 1116; RX-123C at Q. 144-173.) Staff argues that the record contains evidence, including corroborating documentary evidence, demonstrating that the OL 400 and OL1200 were on sale in the United States prior to the critical date and that the physical characteristics of the devices that were tested were identical in all relevant respects to those that were on sale prior to the critical date.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to offer clear and convincing evidence that the OL400e product anticipates any of the asserted claims of the '690 patent.

First, Mr. Carl Taylor testified that he has been employed by Oki Data since 1996, and that Oki Data sold its OL400e product since before 1996. Mr. Taylor testified that his assertion is supported by RX-204, which is a copy of a paper submitted to the Society for Imaging Science and Technology for publication at a conference in New Orleans in 1994. Mr. Taylor said that the paper showed that the OL400e was being sold by Oki Data as early as 1994. He conceded that the paper refers to OL400 and not to OL400e; but he said that the "e" was omitted "possibly because of new products that were contemplated or because of oversight." Mr. Taylor said there was no OL400, only the OL400e at that time. (RX-001C, Qs. 11, 13, 14, 40-43.)

Mr. Taylor testified that RX-161 is a product service guide for the OL400e published in 1994, and RX-164 is a user's guide for the OL400e also published in 1994, both of which were produced for purchasers of the OL400e. (RX-001C, Qs. 47-50, 53-56.)

While I do not find Mr. Taylor's testimony regarding RX-204 to be convincing, I do find that RX-161 and RX-164 provide corroboration of Mr. Taylor's testimony that an OL400e product was sold by Oki Data at least by 1994. There is, therefore, clear and convincing evidence that an OL400e product was sold by Oki Data prior to the February 5, 1997 filing date

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of the '690 patent.

Second, Oki Data's expert, Dr. Karz, testified that the Oki Data OL400e product includes each and every element of claim 1 of the '690 patent. He testified that: (1) the OL400e contains a toner image fixing method as shown by RX-172; (2) the OL400e toner image is a thermofusible toner image, quoting, "[a]fter transfer, the toner image is fused to the paper by heat and pressure"; (3) the OL400e includes two fixing members with a nipped section that is formed by pressing the pressure roller to the fusing roller by means of a pressure spring; and (4) the OL400e includes a halogen lamp that provides the thermal energy for heating the fusing roller and the nipped section of the pressure roller. Dr. Karz also said that contact angle measurements performed by { } on the OL400e product, using acetophenone as a liquid with a dipole moment of greater than 3.0 debye and n-heptane as a liquid with a dipole moment of 0.0 debye, using the formula $(\mu_{s-b(1)} / \mu_{s-b(2)})$ resulted in a ratio of less than 8.0. (RX-123, Qs. 91-95, 97.)

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} Dr. Karz thought the toner fusers were in the Washington, DC area at the time he testified in the hearing. He said he was shown some toner fusers “at the hotel.” (Tr. at 1096:13-1097:9.)

Mr. Hubert, an employee { } testified that his company issued RX-213C, which is a report regarding the surface roughness of two print rollers. He testified that his company did not do the testing, it was outsourced to another company; but that the report does not reveal that fact. (Tr. at 1409:16-1411:3.) Regarding the OL400e roller, Mr. Hubert testified that he had custody of it, and soon after January 28, 2010, he shipped it back to Oki Data and has not seen it since. (Tr. at 1412:24-1414:3.)

Ricoh contends it has never been shown or given the opportunity to test the two toner fuser rollers used by Oki Data to establish the surface characteristics of the OL400E and OL1200 toner fusers. It appears that the whereabouts of those two toner fusers is in doubt, and Oki Data has provided no evidence to counter Ricoh’s contention. In addition, the data provided by {

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Based upon the evidence presented, I cannot find that Oki Data has proved by clear and convincing evidence that the OL400e toner fuser rollers practice the 5th or 6th elements⁴³ of claim 1 of the ‘690 patent.

The final point of contention between the parties is whether or not the OL400e about which Dr. Karz testified is the same in all material characteristics as the OL400e produced by

⁴³ Oki Data refers to the 6th element. The 5th and 6th elements are closely tied, and part of Dr. Karz testimony deals with each of the two. (JX-5 at 11:32-:48.)

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Oki Data prior to February 5, 1997. Oki Data frames the issue when it says it is required to prove that the tested OL400e rollers were themselves manufactured prior to the critical date or are the same as those manufactured prior to that date. Based on the evidence before me, however, I cannot find that Oki Data has proved by clear and convincing evidence the actual date of manufacture of the tested OL400e rollers. Oki Data has provided no documentation of the manufacture date, and the rollers themselves were not provided to Ricoh to examine, were not offered into evidence for examination, and their whereabouts is unknown. The case cited by Ricoh is on point; it is settled law that oral testimony alone cannot support a finding of prior public use or sale. *Finnigan Corp. v. Int'l Trade Comm'n*, 180 F.3d 1354, 1366-68 (Fed. Cir. 1999).

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Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that: (1) the tested OL400e product is prior art to the '690 patent; and (2) that the tested OL400e product practices each and every element of claim 1 of the '690 patent.

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Therefore, I find that Oki Data has failed to prove by clear and convincing evidence that the alleged prior use of the tested OL400e product renders claim 1 of the '690 patent invalid as anticipated.

Regarding claims 5, 9 and 13 of the '690 patent, I note that claims 5 and 9 depend directly from claim 1 and claim 13 depends indirectly from claim 1 through claim 5. A patent is presumed to be valid, and each claim of a patent shall be presumed valid even though dependent on an invalid claim. 35 U.S.C. § 282. If I determined claim 1 to be anticipated and invalid, I could still find that claims 5, 9 and 13, which depend from claim 1, are valid. Since, however, I have found claim 1 to be *not* anticipated, claims 5, 9 and 13 are necessarily not anticipated, because they each depend from claim 1 and necessarily contain all of the elements of claim 1. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974); *see also In re Sernaker*, 702 F.2d 989, 991 (Fed. Cir. 1983) (when argued together, dependent claims stand or fall with the independent claims from which they depend).²³⁸

b. OL1200 Product

Oki Data's Position: Oki Data asserts that Dr. Karz testified that each and every element of claims 1, 5, 9 and 13 are met by the prior art OL1200 product, and provided claim charts summarizing his opinion. (Citing RX-123C at Q. 106-143, 178-217; RX-125C; RX-173; RX-178C; RX-144C; RX-145C; RX-213C.) Oki Data contends that it has also established that the OL1200 was on sale prior to the critical date and has not undergone design changes that would affect surface characteristics since before the critical date. (Citing RX-110C at Q. 1-47; RX-1C at Q. 72, 76-79, 81-87; RX-109C at Q. 8-22, 25-27.)

Oki Data asserts that it provided un rebutted clear and convincing evidence that the

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OL1200 was first sold in the United States in 1995, more than one year before the February 5, 1997 U.S. filing date of the '690 patent and prior to the February 9, 1996 priority date. (Citing RX-123C at Q. 5, 90; RX-112C at Q. 12-14, 21, 24; RX-1C at Q. 15, 72, 81-87; RX-166.) Oki Data adds that this date is established by RX-166, a User's Guide for the OL1200. (Citing RX-166; RX-1C at Q. 44-46, 81-87.)

Oki Data argues that, unlike the OL400e there have been no design changes to the OL1200 relevant to the '690 patent since it was first sold in the United States in 1995 and therefore, the OL1200 products tested by Kyowa and Chemir are representative of every OL1200 manufactured since that time. (Citing RX-112C at Q. 21-23; RX-123C at Q. 120-143; RX-200C; RX-192C; RX-194C.) Oki Data says that Mr. Oishi of ODC and Dr. Karz testified that none of the changes in the design history of the OL1200 roller would materially change the surface coating. (Citing RX-112C at Q. 21-23; RX-123C at Q. 120-123.)

Oki Data says that Ricoh argues that product manuals cannot prove the method is practiced as stated in claim 1. (Citing CIB at 59.) Oki Data asserts that this argument was made for the first time in Ricoh's Post-Trial Brief, and therefore it is a violation of Ground Rule 11.1, and has been waived and/or conceded. Setting aside the issue of waiver, Oki Data argues that it has established that the OL1200 is prior art to the '690 patent. Oki Data says that the documents relied upon to establish the configuration of the rollers in the OL1200 show two rollers in the claimed configuration, describe their function in accord with the claimed method and, therefore, establish that the OL1200 practices this limitation. (Citing RX-162; RX-172; RX-173; RX-123C at Q. 94, 109.)

Ricoh's Position: In its reply brief, Ricoh argues that Oki Data failed to prove the OL1200 had the two claimed "fixing members" before the invention date or the critical date.

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Ricoh continues that Oki Data also failed to prove by clear and convincing evidence that the OL1200 was on sale in the United States before the critical date, and that the tested OL1200 or OL1200EX fuser rollers were the same as those manufactured before the critical date.

Ricoh argues that Oki Data relies on the Taylor and Oishi testimony and a document dated well after the '690 patent issued (RX-166) to try to establish an on-sale bar. Ricoh asserts that the testimony is uncorroborated and cannot support a finding of prior public use or sale. (Citing *Finnigan*, 180 F.3d at 1366-68 (Fed. Cir. 1999).) Ricoh adds that RX-166 is not prior art; rather, it is a collection of documents with no consecutive internal page numbers, bears a copyright date of 2010, and was revised at least as of 1998. (Citing Tr. at 1428:8-1429:16; RX-166 at OKI161376.)

Ricoh contends that Dr. Karz relied solely on RX-173, an excerpt from the “OL1200/OL1200PS LED Page Printer Maintenance Manual” to support his opinion that the OL1200 printer had two fixing members. (Citing RX-123C at Q. 94, 109.) Ricoh argues that RX-173 is not prior art, because it bears no date whatsoever.

Ricoh says that Oki Data argues it need only demonstrate the tested rollers are the same as those manufactured prior to the critical date, and that Oki Data claims a pair of design change documents for the OL1200 roller proves this. Ricoh alleges that the specifications for these rollers changed in material respects after the critical date (citing RX-192C; RX-194C), and they do not specify material features of roller manufacture. (Citing Tr. at 1113:19-22.) Ricoh adds that there is no evidence that either of the fuser rollers purportedly tested by Kyowa or Chemir actually meet the fuser specifications. (Citing Tr. at 1140:19-1141:14, 1120:16-24.) Ricoh concludes that, “more importantly, there is no OL1200 or OL1200EX roller in evidence, and Oki Data failed to prove that the OL1200EX roller tested by Kyowa, or the OL1200 roller tested by

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Chemir, were made according to any particular specification.”

Staff’s Position: Staff asserts that the evidence demonstrates that the Oki Data prior art OL 1200 was on-sale and in use in the United States several years before the application for the ‘690 patent was filed on February 5, 1997, claiming earlier priority dates going back to February 9, 1996. Staff says that regarding the OL1200 device, the record contains evidence that it was on sale in the United States in December 1995. Staff says that RX-166 is a user’s guide for the OL1200-PS and the OL810-PS, which are identical except for the fact that the OL1200-PS has Adobe PostScript software and OL810-PS does not. (Citing RX-1C at Q. 81-87; RX-166.)

Staff repeats its argument that the evidence shows that these prior art devices are identical in every relevant way to the accused Oki Data devices in terms of type of surface coating and surface roughness, and its belief about Ricoh’s contentions regarding methods of manufacture, specific percentages of the constituent components of the surface coating, and other parameters.

Staff reiterates that because the surface roughness specification remained unchanged throughout the entire relevant period, the method of manufacture, the constituent components of the coating, and the types of substrate used are irrelevant. Staff concludes to the extent that the accused devices are determine to infringe any of the odd numbered claims of the ‘690 patents, such claims would be anticipated by Oki Data’s OL1200 prior art devices. (Citing *Ecolab, Inc., v. FMC Corp.*, 569 F.3d 1335, 1348 (Fed. Cir. 2009) (“Under well-established law, “[t]hat which would literally infringe if later in time anticipates if earlier than the date of invention,”” citing and quoting from *Lewmar Marine, Inc. v. Bariant, Inc.*, 827 F.2d 744, 747 (Fed. Cir.1987).)

In its reply brief, Staff adds that the documentation (set forth in its initial argument) clearly corroborates Taylor’s testimony that the OL1200 was on sale, and was sold in the United States prior to the critical date of the ‘690 patent. Staff adds that unlike the OL400e, there have

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been no design changes to the OL1200 relevant to the '690 patent since it was first sold in the United States in 1995. Staff concludes that the OL1200 products tested by Kyowa and Chemir are representative of every OL1200 manufactured since that time.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to offer clear and convincing evidence that the OL1200 product anticipates any of the asserted claims of the '690 patent.

First, Mr. Carl Taylor testified that he has been employed by Oki Data since 1996, and that the Oki Data OL1200 was first sold in the United States in 1995, more than one year before the February 5, 1997 U.S. filing date of the '690 patent and prior to the February 9, 1996 priority date. Mr. Taylor refers to RX-166, which he says is the User's Guide for the OL1200-PS and which was copyrighted in 1995 and was published in December 1995. (Citing RX-166 at OKI000161372.) Although the OL1200-PS is not the OL1200, Mr. Taylor testified that the only difference between the two is that the OL1200 does not include the Adobe PostScript software. He testified there are no other differences between the two. (RX-001C, Qs. 72, 73, 81, 82, 85.) Oki Data provided no other documentation to date the "prior use" of the OL1200 product. Whether or not the OL1200 is identical to the OL1200-PS is material to a finding regarding whether or not RX-166 corroborates prior use by the OL1200 product. Oki Data provided no documentation to support Mr. Taylor's testimony that the two products are identical in all respects material to this investigation. I cannot, therefore, find that Oki Data has provided clear and convincing evidence that the OL1200 product was sold by Oki Data prior to the February 5, 1997 filing date of the '690 patent.

Second, Oki Data's expert, Dr. Karz, testified that the Oki Data OL1200 product includes each and every element of claim 1 of the '690 patent. He testified that: (1) the OL1200 contains

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a toner image fixing method as shown by RX-173; (2) the OL1200 toner image is a thermofusible toner image, quoting, “After transfer, the toner image is fused to the paper by heat and pressure”; (3) the OL1200 includes two fixing members with a nipped section that is formed by pressing the pressure roller to the fusing roller by means of a pressure spring; and (4) the OL1200 includes a halogen lamp that provides the thermal energy for heating the fusing roller and the nipped section of the pressure roller. Dr. Karz also said that contact angle measurements performed by Kyowa on the OL1200 product, using acetophenone as a liquid with a dipole moment of greater than 3.0 debye and n-heptane as a liquid with a dipole moment of 0.0 debye, using the formula $(\mu_{s-b(1)} / \mu_{s-b(2)})$ resulted in a ratio of less than 8.0. (RX-123, Qs. 106-110, 112-113.)

Dr. Karz testified at trial that he independently checked the data and the calculations. He found problems in how the data plotted on a graph, the problem was more than just “noise.” Dr. Karz said the data was descending with one noise band and then “suddenly it jumped up and then went for the rest of the measurement at a second noise band. This is unexpected, and he asked for the data to be reanalyzed. (Tr. at 1086:17-1089:21.) Dr. Karz testified that Kyowa did not redo the experiment; instead they took the same data, looked at the pictures one at a time and they measured the angle by hand. (Tr. at 1136:14-1137:4.)

Regarding the surface characteristics of the toner fuser surface for the OL1200 product, RX-213C is the Chemir report on toner fuser roughness. The evidence indicates, however, that the toner fusers sent to Chemir for testing were different than the toner fusers sent to Kyowa for testing. Dr. Karz testified that between Chemir and Kyowa, one group had the “ex” toner fuser and one group had the “e” toner fuser. Dr. Karz thought the toner fusers were in the Washington, DC area at the time he testified in the hearing. He said he was shown some toner

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fusers “at the hotel.” (Tr. at 1096:13-1097:9)

Mr. Hubert, an employee of Chemir, testified that his company issued RX-213C, which is a report regarding the surface roughness of two print rollers. He testified that his company did not do the testing, it was outsourced to another company; but that the report does not reveal that fact. (Tr. at 1409:16-1411:3.) Regarding the OL1200 roller, Mr. Hubert testified that he had custody of it, and soon after January 28, 2010, he shipped it back to Oki Data and has not seen it since. (Tr. at 1412:24-1414:3.)

Ricoh contends it has never been shown or given the opportunity to test the two toner fuser rollers used by Oki Data to establish the surface characteristics of the OL400E and OL1200 toner fusers. It appears that the whereabouts of those two toner fusers is in doubt, and Oki Data has provided no evidence to counter Ricoh’s contention. In addition, the data provided by Kyowa regarding the contact angle measurements and the contact angle ratio, was originally rife with errors and was then reportedly corrected by hand by Mr. Sato. (Tr. at 1136:19-1137:4; RX-110C at Q. 38-43.)

Based upon the evidence presented, I cannot find that Oki Data has proved by clear and convincing evidence that the OL1200 toner fuser rollers practice the 5th or 6th elements⁴⁴ of claim 1 of the ‘690 patent.

The final point of contention between the parties is whether or not the OL1200 about which Dr. Karz testified is the same in all material characteristics as the OL1200 produced by Oki Data prior to February 5, 1997. Oki Data frames the issue when it says it is required to prove that the OL1200 rollers were themselves manufactured prior to the critical date or are the same as those manufactured prior to that date. Based on the evidence before me, however, I

⁴⁴ Oki Data refers to the 6th element. The 5th and 6th elements are closely tied, and part of Dr. Karz testimony deals with each of the two. (JX-5 at 11:32-:48.)

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cannot find that Oki Data has proved by clear and convincing evidence the actual date of manufacture of the tested OL1200 rollers. Oki Data has provided no documentation of the manufacture date, and the rollers themselves were not provided to Ricoh to examine, were not offered into evidence for examination, and their whereabouts is unknown. The case cited by Ricoh is on point; it is settled law that oral testimony alone cannot support a finding of prior public use or sale. *Finnigan Corp. v. Int'l Trade Comm'n*, 180 F.3d 1354, 1366-68 (Fed. Cir. 1999).

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that: (1) the tested OL1200 product is prior art to the '690 patent; and (2) that the tested OL1200 product practices each and every element of claim 1 of the '690 patent. Therefore, I find that Oki Data has failed to prove by clear and convincing evidence that the alleged prior use of the tested OL1200 product renders claim 1 of the '690 patent invalid as anticipated.

Regarding claims 5, 9 and 13 of the '690 patent, I note that claims 5 and 9 depend directly from claim 1 and claim 13 depends indirectly from claim 1 through claim 5. A patent is presumed to be valid, and each claim of a patent shall be presumed valid even though dependent on an invalid claim. 35 U.S.C. § 282. If I determined claim 1 to be anticipated and invalid, I could still find that claims 5, 9 and 13, which depend from claim 1, are valid. Since, however, I have found claim 1 to be *not* anticipated, claims 5, 9 and 13 are necessarily not anticipated, because they each depend from claim 1 and necessarily contain all of the elements of claim 1. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Royka*, 490 F.2d 981, 983-985 (C.C.P.A. 1974); *see also In re Sernaker*, 702 F.2d 989, 991 (Fed. Cir. 1983) (when argued together, dependent claims stand or fall with the independent claims from which they depend).

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c. U.S. Patent No. 3,291,466

Oki Data's Position: Oki Data argues that it has presented un rebutted clear and convincing evidence that claim 1 of the '690 patent is anticipated by U.S. Patent No. 3,291,466 ("the '466 patent"). (RX-115) Oki Data asserts that the '466 patent issued in 1966 and is prior art under 35 U.S.C. § 102(a) and (b). Oki Data says the '466 patent, like the '690 patent, addresses a xerographic fixing device for fixing the thermofusible toner image on the image supporting material by contacting the thermofusible toner image with the heated nipped section of the two fixing members. (Citing RX-115; RX-123C at Q. 175.)

Oki Data alleges that Dr. Giacomini has opined that without knowing the specific grade of PTFE, one cannot know its surface properties. (Citing CX-306C at Q. 109-112.) Oki Data asserts that PTFE is identified in the specification of the '690 patent as "easily satisf[ying]" the claimed adhesion constant ratio. (Citing JX-5 at 5:56-6:11.) Oki Data avers that Dr. Giacomini conceded this point on cross-examination. (Citing Tr. at 243:22-247:10.) Regarding the issue of the importance of the "role of common line motion," Oki Data contends that "the adhesion constant ratio is merely an observation of phenomena already existing in the prior art" and "it is not necessary that a person of skill in the art would have recognized the purported correlation of the 'adhesion constant ratio' with hot-offset existed for it to be inherent." (Citing *EMI Group N. Am. v. Cypress Semiconductor Corp.*, 268 F.3d 1342, 1350-1351 (Fed. Cir. 2001).)

In its reply brief, Oki Data argues that Ricoh's failure to substantively respond to these arguments and its failure to mention the '466 patent (RX-115), one of the anticipating references, violates Ground Rule 11.1. Oki Data contends that Ricoh should not be permitted to offer its first substantive response in a reply to which Oki cannot respond.

Ricoh's Position: In its reply brief, Ricoh contends that Oki Data Oki Data cites no

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evidence that the liquids recited in claim 1, when placed on the fuser rollers described in the '466 patent, would result in an adhesion constant ratio of less than about 8.0. Ricoh argues that the '466 patent does not identify the specific type of PTFE or other Teflon coating it contemplates. Ricoh asserts that the '690 patent demonstrates that PTFE-coated fusers can have an adhesion ratio of less than about 8.0 or more than about 8.0, depending on how they are made. (Citing JX-5 at Examples 1&4, and Comparative Example 2.)

Staff's Position: Staff offered no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to offer clear and convincing evidence that the '466 patent anticipates claim 1 of the '690 patent.

Oki Data alleges generally that the '466 patent anticipates claim 1 of the '690 patent, because the '466 patent addresses a xerographic fixing device for fixing the thermofusible toner image on the image supporting material by contacting the thermofusible toner image with the heated nipped section of the two fixing members. Oki Data then contends that PTFE easily meets the surface roughness requirements of the '690 patent. Oki Data then dismisses the requirements of the 5th and 6th elements of claim 1 of the '690 patent regarding the adhesion constant ratio as "merely an observation of phenomena already existing in the prior art." Oki Data's evidence supporting its position is the testimony of Dr. Karz who stated, in relevant part:

The '466 patent inherently discloses this element of claim 1. In particular, regarding the surface of the fuser roller at col. 6:69-75, the '466 patent discloses a:

heated roll contacting the unfused toner image on the support material, an offset preventing material 826 covers the outer surface of the cylinder 803 of the roll 01. A suitable material may be a coating of a product of tetrafluoroethylene resin sold under the trademark of Teflon by the Du Pont Corporation.

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Given the variability of the adhesion constant ratio measurement, and because the use of tetrafluoroethylene, as disclosed in the '466 patent, and other fluoropolymer resins as fuser roller coatings in toner image fixing technology had been known since the 1960's, one of ordinary skill in the art at the time of the claimed subject matter would have understood and expected that a heated fuser roller as described in claim 1 of the '690 patent coated with tetrafluoroethylene resin, if measured, to fall within the claim limitations of this element. The inherent chemical properties of these materials have not changed. It would have been known to one of ordinary skill in the art that the equation and so-called adhesion ratio stated in this claim element was, at best, an observation of the inherent surface characteristics of a given heated fuser roller material and coating combination.

(RX-123C at Q. 175.)

Oki Data makes no attempt to demonstrate that the '466 patent discloses the requirements of the 5th and 6th elements of claim 1 other than arguing that PTFE meets the surface roughness requirements set forth therein. Upon review of the '466 patent, I find no language that addresses the adhesion constants of the two liquids described in the 5th element of claim 1 or the adhesion constant ratio described in the 6th element of claim 1.

Dr. Giacomini, Ricoh's expert, testified credibly that the invention of the '690 patent is not merely an observation of the inherent surface characteristics of a given heated fuser roller material and coating combination. He testified that the correlation shown in the '690 patent "is unexpected at least because the viscosities of Yamashita's room temperature liquids, polar or nonpolar, are orders of magnitude below the viscosity of hot molten toner." Dr. Giacomini said that Yamashita, the inventor, "invented how to tell if a material is suitable for toner fusers, and used that invention to create a new class of toner fusers; specifically he invented the class of toner fusers whose adhesion constant ratio, $(\mu_{s-h(1)} / \mu_{s-h(2)})$, is less than about 8.0." (CX-268C at Q. 52-69.)

Dr. Giacomini testified that, while the values of most of the items tested and discussed with him at the hearing showed values of less than about 8.0, there were some results that fell

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outside of that limit. He did not testify that the ratio *always* comes out to be “less than [a]bout 8.0” as Oki Data asserts. Moreover, he testified credibly that, when one is making a toner fuser surface, there is significant improvement in the minimum hot offset temperature when the adhesion ratio falls below 8. (Tr. at 300:13-308:12, 363:1-11.)

The difference between claim 1 of the ‘690 patent and the claim discussed in the *Emi Group* case cited by Oki Data, is that the ‘690 patent does not merely recite a purported law of nature. Rather, the ‘690 patent claims “an invention in terms of a structure that achieves a specific claimed result.” *EMI Group*, 268 F.3d at 1352. The result is the aforementioned adhesion constant ratio and improved hot offset resistance at lower temperatures than previously known. (JX-5 at 9:17-28, Tables 2 and 3.)

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the ‘466 patent anticipates claim 1 of the ‘690 patent, because it has not shown that the ‘466 patent discloses the 5th or 6th elements of that claim.

d. U.S. Patent No. 4,935,785

Oki Data’s Position: Oki Data says that U.S. Patent No. 4,935,785 (“the ‘785 patent”) (RX-117) was issued on June 19, 1990, and thus is available as prior art under 35 U.S.C. § 102(a) and (b). Oki Data states that the ‘785 patent, like the ‘690 patent is drawn to an electrophotographic fusing process for thermofusible toner where the fuser roll is charged, similar to the ‘690 patent. (Citing RX-117; RX-123C at Q. 176-177; RX-127C.) Oki Data argues that it has presented clear and convincing evidence that the ‘785 patent anticipates claim 1 of the ‘690 patent. (Citing RX-123C at Q. 176-177; and RX-127C.) According to Oki Data, Dr. Giacomini’s only response is that one cannot know the contact angles of the PTFE or other Teflon (polyfluorinated surfaces) fuser rollers of the ‘785 patent. (Citing RX-117, 6:17-42.) Oki

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Data reiterates that the '690 patent undermines Dr. Giacomini's theory, stating that these materials "easily satisfy" the claimed elements. (Citing JX-5 at 5:56-6:11.)

Ricoh's Position: In its reply brief, Ricoh contends that Oki Data cites no evidence that the liquids recited in claim 1, when placed on the fuser rollers described in the '785 patent, would result in an adhesion constant ratio of less than about 8.0. Ricoh argues that the '785 patent does not identify the specific type of PTFE or other Teflon coating it contemplates. Ricoh asserts that the '690 patent demonstrates that PTFE-coated fusers can have an adhesion ratio of less than about 8.0 or more than about 8.0, depending on how they are made. (Citing JX-5 at Examples 1&4, Comparative Example 2.)

Staff's Position: Staff offered no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data failed to offer clear and convincing evidence that the '785 patent anticipates claim 1 of the '690 patent.

Oki Data's evidence that the '785 patent discloses each and every element of claim 1 of the '690 patent is based upon Dr. Karz's testimony, which states in relevant part:

This claim element purports to describe an equation for evaluating the suitability of a fusing surface based on the wetting behavior of certain fluids with specified polarities, i.e., dielectric values of 0.0 and greater than 3.0, placed against it. It would have been well known to one of ordinary skill in the art that the equation and so-called adhesion ratio disclosed in claim 1 of the '690 patent, was at best, an observation of the inherent surface characteristics of a given heated fuser roller material and coating combination.

(RX-123C at Q. 177.) The foregoing, Oki Data, argues, demonstrates that the 5th and 6th elements of claim 1 are disclosed in the '785 patent.

Upon review of the '785 patent, I find no language that addresses the adhesion constants of the two liquids described in the 5th element of claim 1 or the adhesion constant ratio described

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in the 6th element of claim 1.

Dr. Giacomini, Ricoh's expert, testified credibly that the invention of the '690 patent is not merely an observation of the inherent surface characteristics of a given heated fuser roller material and coating combination. He testified that the correlation shown in the '690 patent "is unexpected at least because the viscosities of Yamashita's room temperature liquids, polar or nonpolar, are orders of magnitude below the viscosity of hot molten toner." Dr. Giacomini said that Yamashita, the inventor, "invented how to tell if a material is suitable for toner fusers, and used that invention to create a new class of toner fusers; specifically he invented the class of toner fusers whose adhesion constant ratio, $(\mu_{s-h(1)} / \mu_{s-h(2)})$, is less than about 8.0." (CX-268C at Q. 52-69.)

Dr. Giacomini testified that, while the values of most of the items tested and discussed with him at the hearing showed values of less than about 8.0, there were some results that fell outside of that limit. He did not testify that the ratio *always* comes out to be "less than [a]bout 8.0" as Oki Data asserts. Moreover, he testified credibly that, when one is making a toner fuser surface, there is significant improvement in the minimum hot offset temperature when the adhesion ratio falls below 8. (Tr. at 300:13-308:12, 363:1-11.)

The '690 patent does not merely recite an observation of the inherent surface characteristics of a given heated fuser roller material and coating combination. Rather, the '690 patent claims "an invention in terms of a structure that achieves a specific claimed result." *EMI Group*, 268 F.3d at 1352. The result is the aforementioned adhesion constant ratio and improved hot offset resistance at lower temperatures than previously known. (JX-5 at 9:17-28, Tables 2 and 3.)

Based upon the foregoing, I find that Oki Data has failed to prove by clear and

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convincing evidence that the '785 patent anticipates claim 1 of the '690 patent, because it has failed to demonstrate that the '785 patent discloses the 5th or 6th elements of that claim.

3. Obviousness

a. The '785 Patent In Combination With U.S. Patent No. 4,755,400

Oki Data's Position: Oki Data argues that it has presented clear and convincing evidence that claim 1 is invalid under 35 U.S.C. § 103 as obvious in view of the combination of the '785 patent (RX-117) and U.S. Patent No. 4,755,400 ("the '400 patent") (RX-116).⁴⁵ (Citing RX-123C at Q. 218-219.) Oki Data asserts that Dr. Giacomini "offered no substantive rebuttal beyond his defective opinions addressed above." (Citing CX-306C at Q. 133) Oki Data says, "for the reasons stated above and in Dr. Karz's testimony, claim 1 is invalid under 35 U.S.C. § 103."

Ricoh's Position: Ricoh argues that Oki Data "does not seriously contend that its asserted prior art patents invalidate the claims of the '690 patent." Ricoh alleges that neither Dr. Karz nor Oki Data offered any evidence that the liquids recited in claim 1, when placed on the fuser rollers described in the prior art, would result in an adhesion constant ratio of less than about 8.0. Ricoh argues, therefore, none of the alleged prior art patents (including the '400 patent) provides clear and convincing evidence of anticipation or obviousness of any asserted claim.

Ricoh argues that Oki Data cites no evidence that the fuser rollers in the combination of the '785 and '400 patents would meet the claimed adhesion constant ratio. Ricoh contends that Oki Data also cites no evidence or explanation of how one would be motivated to combine these patents. Ricoh asserts that Oki Data does not explain what kind of combined coating would result from this combination of references.

⁴⁵ This exhibit is incorrectly cited in Oki Data's brief as RX-115.

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Staff's Position: Staff offered no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to prove by clear and convincing evidence that the '785 patent, in combination with the '400 patent, renders obvious claim 1 of the '690 patent.

Dr. Karz testified that the '785 patent at 11:28-31 teaches "the fifth element of claim 1, i.e. that the toner is thermofusible." He testified that the '400 patent discloses a polymer coated electrophotographic fusing roll used for fusing a toner image onto a paper sheet. He also said that the '400 patent discloses the use of contact angle and surface energy measurements in evaluating a heated fuser roll in printers. Dr. Karz opined that a person of ordinary skill in the art would have been motivated to combine the '785 patent and the '400 patent, and "because any differences that might be asserted between the claimed subject matter of claim 1 and the combination of these references, would [be] negligible, claim 1 would have been obvious to a person having ordinary skill in the art." (RX-123C at Q. 218, 219.)

In section IV.F.2(d), *supra*, I discussed the relevant disclosures of the '785 patent, and I incorporate that discussion here as though set forth verbatim.

Regarding the '400 patent, I note that it is directed to methods for manufacturing polymer coated electrophotographic fuser rolls. In discussing the field of the invention, the '400 patent mentions polytetrafluoroethylene (PTFE) as one material having low surface energy and being suitable to cover the roll. (RX-116 at 1:36-44.) The preferred embodiments of the invention of the '400 patent also endorse the use of PTFE to coat hot roll fusers. (RX-116 at 3:20-28.) The '400 patent describes a step that it deems "critical to the present invention," which is polishing and heat treating the roll's surface to give a surface finish of less than 25 microinches and to close any porous surface areas of the roll. (RX-116 at 4:59-63.) This treats the issue of surface

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texture, which was measured using a surface profilometer, and then measuring the roll's surface energy, and thus the propensity of toner to stick to the roll's surface, "by the well known and accepted method of measuring the contact angle of a water drop that was placed on a horizontal surface of the roll." The '400 patent adds, "[a]s those skilled in the art will appreciate, the present invention provides a fuser roll having both high abrasion resistance and low surface energy. Thus the roll of this invention will experience longer life as a fuser roll, and the roll will exhibit less tendency to film with toner and the like ..." (RX-116 at 6:9-51.)

In a thorough review of the '400 patent, I observed nothing that discussed or pointed toward the impact of a ratio of first adhesion constant to a second adhesion constant, $(\mu_{1-6(1)} / \mu_{2-6(2)})$, of the surface that contacts the thermofusible toner image on the image supporting material is less than about 8.0. I observed no mention of combining materials in such a way as to create that result. There is no mention, direct or implied, of measuring the contact angles of two liquids, one having a dipole moment of greater than about 3.0 debye when n is 1 and the other having a dipole moment of 0.0 debye when n is 2. The '400 patent discloses measuring the contact angle only of a water drop on the horizontal surface of its roller, rather than the combinations of liquids and differing toner fuser surfaces set forth in the '690 patent. (RX-116 at 6:21-25; JX-5 at 6:62-8:66.)

I cannot concur that the differences between the disclosures of the '400 patent and the '690 patent are, in Dr. Karz's words, "negligible." The differences appear to be dramatic, and the motivation to combine the references inferred by Dr. Karz is not apparent on the face of the '690 patent compared to the '785 patent combined with the '400 patent.

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the '785 patent, in combination with the '400 patent, renders obvious

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claim 1 of the '690 patent. *Hearing Components*, 600 F.3d at 1373-1374 (upholding finding of non-obviousness based on the fact that there was substantial evidence that the asserted combination of references failed to disclose a claim limitation); *Velandar*, 348 F.3d at 1363 (explaining that a requirement for a finding of obviousness is that “all the elements of an invention are found in a combination of prior art references”).

b. The '785 Patent In Combination With U.S. Patent No. 5,459,198

Oki Data's Position: Oki Data argues that it presented clear and convincing evidence that claim 1 is invalid under 35 U.S.C. § 103 as obvious in view of the combination of the '785 patent (RX-117) and U.S. Patent No. 5,459,198 (“the '198 patent”) (RX-119).⁴⁶ (Citing RX-123C at Q. 223 (“second occurrence”)-224.) Oki Data argues that Dr. Giacomini “offered no rebuttal beyond his defective opinions addressed above.” (Citing CX-306C Q. 134.) Oki Data states “for the reasons stated above and in Dr. Karz’s testimony, claim 1 is invalid under 35 U.S.C. § 103.”

Ricoh's Position: Ricoh argues that Oki Data cites no evidence that the fuser rollers in the combination of the '785 and '198 patents would meet the claimed adhesion constant ratio. Ricoh contends that Oki Data also cites no evidence or explanation of how one would be motivated to combine these two patents. Ricoh asserts that Oki Data does not explain what kind of combined coating would result from this combination of references.

Staff's Position: Staff offered no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Oki Data has failed to prove by clear and convincing evidence that the '785 patent, in combination with the '198 patent, renders obvious claim 1 of the '690 patent.

On this issue, Dr. Karz’s testimony is:

⁴⁶ I note that RX-119 was withdrawn at trial by Respondents and is not in evidence.

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Claim 1 has six elements. Because the '785 patent includes the first five elements of claim 1 and the '198 patent includes the sixth element of claim 1, the combination of these two references include all of the elements of claim 1. Thus, any differences are so small as to be non-existent, so the subject matter of claim 1 would be obvious in light of the combination of these two prior art references.

(RX-123C at Q. 224.)

In section IV.F.2(d), *supra*, I discussed the relevant disclosures of the '785 patent, and I incorporate that discussion here as though set forth verbatim.

Inasmuch as, RX-119 was withdrawn by the Respondents, the '198 patent is not in evidence.

Based upon the foregoing, I find that Oki Data has failed to prove by clear and convincing evidence that the '785 patent, in combination with the '198 patent, renders obvious claim 1 of the '690 patent. *Hearing Components*, 600 F.3d at 1373-1374 (upholding finding of non-obviousness based on the fact that there was substantial evidence that the asserted combination of references failed to disclose a claim limitation); *Velandar*, 348 F.3d at 1363 (explaining that a requirement for a finding of obviousness is that “all the elements of an invention are found in a combination of prior art references”).

4. Written Description & Enablement

Staff's Position: Staff argues that the evidence demonstrates that the specification of the '690 patent fails to satisfy the written description and enablement requirements of §112, ¶ 1. Staff supports a finding that the specification does not adequately disclose how to measure the claimed “receding contact angles,” in particular the point in time at which the measurements should be made. Staff expressed strong doubts that the inventor, a Japanese national, domiciled in Japan and worked in a laboratory in Japan, followed testing procedures promulgated by a private United States organization with respect to measurements of receding contact lines. Staff

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asserts that the specification discloses that “measurement began when the drop remained constant while the volume of the drop decreased was printed out in order to measure the contact angle.” (Citing JX-5 at 9:6-11.)

Staff contends that evidence adduced at the hearing demonstrates that the disclosure in the specification of the ‘690 patent as to the time that measurements should commence, *i.e.*, “drop remain constant,” is an impossibility. (Citing Tr. at 435, 1127.) Staff concludes that one of ordinary skill in the art, knowing that the scenario described in the specification of the ‘690 patent is impossible would not believe that the inventor had possession of the alleged invention as required by the written description requirement. Staff adds that, with respect to enablement, “given the inclusion of an impossible testing method,” the specification fails to enable the practice of the alleged invention.

Oki Data’s Position: Oki Data did not offer a position on this issue.

Ricoh’s Position: Ricoh contends that the ’690 patent contains a lengthy and detailed description of the invention that satisfies Section 112, first paragraph. Ricoh asserts that the explanation of receding contact angles is understandably short, because one of skill in the art would know how to perform receding contact angle measurements. (Citing *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986) (“A patent specification need not teach, and preferably omits, what is well known in the art.”).) Ricoh avers that Dr. Giacomini, being experienced in that field, measured receding contact angles using a widely recognized laboratory instrument, the goniometer. Ricoh argues that the fact that Dr. Karz could not decipher Kyowa’s angle measurements does not impact the validity of Dr. Giacomini’s measurements.

Ricoh says that Staff is incorrect when it argues that a person of ordinary skill in the art

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would not believe the inventor had possession of an invention where the described behavior for a receding contact angle is a supposed impossibility. Ricoh responds that, as described above, measuring receding contact angles is not impossible and was well known to those of skill in the art.

Discussion and Conclusion: Based on the evidence in the record, I find that Staff has not proved by clear and convincing evidence that the specification of the '690 patent fails to satisfy the written description and enablement requirements of §112, ¶ 1.

The first paragraph of 35 U.S.C. § 112 states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The first paragraph of § 112 contains three separate requirements: enablement, written description,⁴⁷ and best mode. *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 921 (Fed. Cir. 2004) (describing the “[t]hree separate requirements” of § 112, ¶ 1); *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985) (stating that § 112, ¶ 1 “requires that the inventor adequately disclose three separate items”).

Regarding the written description requirement, the Federal Circuit has interpreted 35 U.S.C. § 112, ¶ 1, to require the patent specification to “describe the claimed invention so that one skilled in the art can recognize what is claimed.” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968 (Fed.Cir.2002). In evaluating whether a patentee has fulfilled this requirement, the standard is that the patent’s “disclosure must allow one skilled in the art ‘to visualize or recognize the identity of’ the subject matter purportedly described.” *Id.* (quoting *Regents of*

⁴⁷ The Federal Circuit recently reaffirmed in an *en banc* decision that § 112, ¶ 1 contains a written description requirement separate from the enablement requirement. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1340 (Fed. Cir. 2010) (*en banc*).

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Univ. of Cal. v. Eli Lilly & Co., 119 F.3d 1559, 1573 (Fed.Cir.1997)); *see also Cordis Corp. v. Medtronic Ave, Inc.*, 339 F.3d 1352, 1364 (Fed. Cir. 2003).

Terms need not be used *in haec verba*. *Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed.Cir.1995). The written description requirement can be satisfied by “words, structures, figures, diagrams, formulas, etc.” *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed.Cir.1997).

The Federal Circuit has found that the enablement requirement is satisfied when the inventor provides sufficient information about the claimed invention so that one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation. *AK Steel Corp. v. Sollac and Ugine*, 344 F.3d 1234, 1243-1244 (Fed. Cir. 2003); *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008); and *In re Wands*, 858 F.2d 731, 736-737 (Fed. Cir. 1988). The inability of the patentee to practice the claim as of the effective filing date of the patent is evidence of non-enablement. *AK Steel*, 344 F.3d at 1244.

Enablement is determined from the viewpoint of persons of ordinary skill in the field of the invention at the time the patent application was filed. *Ajinomoto Co., Inc. v. Archer-Daniels-Midland Co.*, 228 F.3d 1338, 1345 (Fed. Cir. 2000).

Staff argues that the description provided at JX-5 at 9:6-11 is impossible; but Staff is incorrect and its argument appears to be based upon a misreading of the cited language. The language does not teach that the “measurement began when the drop remained constant,” as Staff represents. The language discloses, “[a] scene in which the **contact angle** between the surface of the fixing member and the drop **remained constant** while the volume of the drop decreased was printed out in order to measure the contact angle between the surface of the fixing member and the drop, θ_b , or the receding contact angle.”

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Dr. Giacomini testified in detail on this subject as follows:

53. Q. During the technology tutorial on March 22, 2010, you used a diagram to help explain the technology. I am handing you CDX-27, CDX-28, CDX-29, CDX-30 and CDX-31, are these the diagrams that you used?

A. Yes, these are five of those slides. On the last two slides, the corner of the angle lower case theta that I drew using white lines is the location of the common line. The same angle is shown as lower case theta subscript b in Figure 2 of the '690 patent, JX-5.

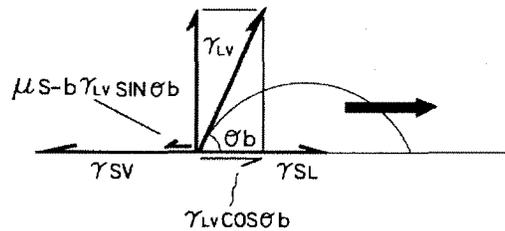


FIG. 2

54. Q. Can you explain to me why common lines matter?

A. Consider small water droplets at rest on an automobile windshield. If the droplet is small enough, it stays put. The bigger droplets, on the other hand, descend the windshield. What resists the droplet descent is the adhesion of the thin circle of fluid at the base of the droplet that touches both the windshield and the surrounding air. For the droplet to descend, the droplet size and therefore weight must suffice to overcome its rim of common line adhesion.

When a liquid droplet rests on a solid such as a fuser surface, it forms a common line. At this common line, the liquid droplet surface forms an angle with the fuser. We call this the *static contact angle*, θ_s , and we measure this angle with a *goniometer*. If we try to drag the droplet across the fuser surface, a different, lower contact angle will obtain. In fact, the lowest value of this contact angle will obtain just before the common line begins to move relative to the fuser. This lowest value of the common line is called the *receding contact angle*, θ_b . Thus, θ_s and θ_b are the two most important physical properties of a solid-liquid common line. Moreover, θ_s and θ_b are the two most important physical properties of a fuser-toner common line. This is why fuser-toner technology revolves around θ_s and θ_b of the fuser-toner common lines.

(CX-268C at Q. 53-54.)

Finally, I find the brief description of the method of measuring the contact angle set forth

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in the '690 patent to be adequate. I note that the prior art '400 patent cited by Oki Data teaches “the propensity of toner to stick to the roll’s surface, was then measured by *the well known and accepted method of measuring the contact angle of a water drop* that was placed on a horizontal surface of the roll.” (RX 116 at 6:21-25.) As Ricoh argued, a patent specification need not teach, and preferably omits, what is well known in the art. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986).

Based upon the foregoing, I find that Staff has not proved by clear and convincing evidence that the specification of the '690 patent fails to satisfy the written description and enablement requirements of §112, ¶ 1.

V. INFRINGEMENT

A. Applicable Law

A complainant must prove either literal infringement or infringement under the doctrine of equivalents. Infringement must be proven by a preponderance of the evidence. *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988). A preponderance of the evidence standard “requires proving that infringement was more likely than not to have occurred.” *Warner-Lambert Co. v. Teva Pharm. USA, Inc.*, 418 F.3d 1326, 1341 n. 15 (Fed. Cir. 2005).

Literal infringement is a question of fact. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1332 (Fed. Cir. 2008). Literal infringement requires the patentee to prove that the accused device contains each and every limitation of the asserted claim(s). *Frank’s Casing Crew & Rental Tools, Inc. v. Weatherford Int’l, Inc.*, 389 F.3d 1370, 1378 (Fed. Cir. 2004).

Regarding the doctrine of equivalents:

Infringement under the doctrine of equivalents may be found when the accused device contains an “insubstantial” change from the claimed invention. Whether

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equivalency exists may be determined based on the “insubstantial differences” test or based on the “triple identity” test, namely, whether the element of the accused device “performs substantially the same function in substantially the same way to obtain the same result.” The essential inquiry is whether “the accused product or process contain elements identical or equivalent to each claimed element of the patented invention[.]”

TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc., 529 F.3d 1364, 1376-77 (Fed. Cir. 2008)

(citations omitted).

Thus, if an element is missing or not satisfied, infringement cannot be found under the doctrine of equivalents as a matter of law. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538-39 (Fed. Cir. 1991). Determining infringement under the doctrine of equivalents “requires an intensely factual inquiry.” *Vehicular Techs. Corp. v. Titan Wheel Int’l, Inc.*, 212 F.3d 1377, 1381 (Fed. Cir. 2000).

B. The ‘866 Patent

1. Claim 1

Claim 1 recites:

1. A device for scanning an image to create image data to be transmitted to a network to which said device is directly connected without an intervening host computer, said device comprising:

operation panel means for selecting each of settings of scan conditions;

scan means for scanning at least one image to create image data according to said settings of scan conditions;

memory means for storing said image data and scan files containing different sets of said settings of scan conditions, one of said scan files being selected by said operation panel means to determine said settings of scan conditions used by said scan means; and

network-interface means for receiving at least some of said scan files from said network and sending said image data stored in said memory means to said network.

Ricoh’s Position: Ricoh contends that the MC360, CX1145, and CX2633 products

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made by Oki Data infringe claim 1 of the '866 patent. (Citing CX-272C at Q. 115, 123-129, 176-183, 239-253; CX-48; CX-280; CX-281; CX-286; CX-287; CX-288.) Ricoh argues that even under the claim constructions proposed by Oki Data and Staff, the accused products still infringe claim 1 either literally or by the doctrine of equivalents. (Citing CX-272 at Q. 120.)

Ricoh argues that the accused products include the “operation panel means.” Ricoh states that Dr. Baroody admits that the touch screen of the CX1145 meets this limitation because it permits a user to select a set of scan conditions through a user interface consisting of a touch screen and buttons. (Citing CX-272 at Q. 194-198; CX-285 at 11, 15; CDX-271.)

Ricoh notes that Dr. Baroody argues that the LCD screen and buttons found in the MC360 and CX2633 are not equivalent structure to the “operational-display-and-touch-panel unit” disclosed in the specification. Ricoh argues that the LCD screen and buttons constitute an equivalent to a touch screen and claims that Dr. Baroody’s testimony establishes that the structure of a touch screen is equivalent to a button panel. (Citing Tr. at 1610:13-1614:6.)

Ricoh claims that the specification lists the touch screen as an example, thus meaning that one of ordinary skill in the art would understand the patent to include other equivalent structures. Ricoh notes that the examiner took a broad view of the claimed operation panel means during prosecution. (Citing JX-6 at RITC 353-354, 374.)

In its reply brief, Ricoh reiterates its argument that the combination of an LCD panel and physical buttons is the equivalent of a touch screen.

Ricoh argues that the accused products meet the “scan means” limitation under Ricoh and Oki Data’s proposed construction because they can scan at least one image to create image data according to the settings of the scan conditions. (Citing CX-272 at Q. 141-147, 199-200, 158-259; CX-303.) Ricoh states that in the MC360, the structure for the “scan means” is a

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{ } that provides a scanner engine and scanner driver. (Citing CX-272 at Q. 141-147; CX-303.) Ricoh further argues that under Staff’s proposed construction, the “scan means” limitation is satisfied at least by structural equivalents. (Citing CX-272 at Q. 141-147, 199-200, 258-259; CX-303.)

In its reply brief, Ricoh argues that Oki Data is wrong to state that Ricoh needed to identify “software code” that implements the “scan means.” Ricoh claims that it is sufficient for Dr. Stevenson to identify the software structure as the scanner driver in the { } (Citing CX-272 at Q. 142-145; CX-303.)

Ricoh claims that the accused products meet the “memory means” limitation under any proposed construction. Ricoh states that the accused products each contain digital memory devices for storing image data and scan files. (Citing CX-272 at Q. 148-153, 201-203, 260-263; CX-303; CX-284; CX-288.) In the MC360, Ricoh identifies the structure as a { } Ricoh states that the CX1145 and CX2633 devices store image data on main memory and on an internal hard drive. (Citing CX-284; CX-288.)

Ricoh claims that the accused products have the claimed “network-interface means.” Ricoh states that the MC360 meets this limitation because it receives profiles – “scan files” – through the network from a host computer and sends image data stored in memory through the network to a host computer. (Citing CX-272 at Q. 154-160; CX-303.) Ricoh asserts that the CX1145 also satisfies the “network-interface means” limitation because it receives template files (scan files) through the network and sends image data that had been previously stored in memory through the network to the host computer. (Citing CX-272 at Q. 204-210; CX-291.) Ricoh claims that the CX2633 satisfies the limitation for the same reasons as provided for the CX1145.

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(Citing CX-272 at Q. 264-270; CX-288; CX-291.)

Ricoh argues that Dr. Baroody's non-infringement position based on his incorrect construction of "file" should be rejected. Ricoh claims that Dr. Baroody admitted that the dispute about the meaning of "file" was his only basis for disputing infringement of claim 1 by the CX1145 and CX2633. (Citing Tr. at 1624:15-1625:25.)

Oki Data's Position: Oki Data contends that the accused products do not infringe claim 1.

Oki Data argues that the MC360 lacks an "operation panel means." Oki Data argues that it is undisputed that the MC360 does not include a touch screen panel. (Citing RX-47C; CX-272 at Q. 132.) Oki Data claims that Dr. Stevenson provided conclusory testimony that the button pad present on the MC360 is an equivalent to a touch screen. (Citing CX-272 at Q. 140.) Oki Data claims that in contrast, Dr. Baroody provided detailed testimony explaining why button pads are not the equivalent to a touch screen. (Citing RX-370C at Q. 24-26, 28-30.) Oki Data claims that Dr. Baroody worked in the relevant art for almost 20 years developing the types of products at issue in this investigation, while Dr. Stevenson neither worked in the industry nor developed products related to the industry. (Citing Tr. at 785:20-25, 1563:7-1564:2.)

In its reply brief, Oki Data reiterates its argument that button pads are not the equivalent of a touch screen.

Oki Data argues that none of the three accused products include the "scan means" of claim 1. Oki Data asserts that Dr. Stevenson failed to identify any software scanning application in either the accused products or the '866 patent. (Citing Tr. at 861:9-862:2, 862:7-10.) Oki Data thus asserts that Dr. Stevenson's analysis on this means-plus-function element was inadequate.

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Oki Data argues that Figures 1 and 2 of the '866 patent show that the scanner engine and the controlling unit are different physical components located in different physical locations.

Oki Data claims that in the MC360, however, the scanner engine and controlling unit are located in a { .} (Citing CX-272 at Q. 143; CX-303.)

Oki Data asserts that Ricoh failed to prove what structures house the scan means element in the CX1145 and CX2633. Oki Data claims that Dr. Stevenson does not attempt to show that the scanner engine is located in the copier unit or that the scanner driver is in the controller as required. (Citing CX-272 at Q. 200, 259.)

Oki Data argues that none of the accused products meet the “network-interface means” limitation of claim 1 because they don’t receive “scan files” from the network. Oki Data states that the accused devices receive information about scan conditions as parameters transmitted via a HTTP POST request. (Citing CX-303; Tr. at 1617:15-20.) Oki Data claims that HTTP POST commands are not files.

Using Dr. Baroody’s definition of “file,” Oki Data argues that HTTP POST commands are not files because they do not have a name for reference during operations and they cannot be stored in non-volatile memory. (Citing RX-370C at Q. 35, Tr. at 581:12-20, 589:3-13, 593:16-23, 565:15-566:4, 567:20-568:15, 616:7-24.) Oki Data analogizes an HTTP POST command to a server’s tray in a restaurant because once the command is transmitted from the host computer to the device, it is read and discarded. (*Id.*)

In its reply brief, Oki Data states that Ricoh asserts that the profiles used by the accused devices constitute “scan files.” (Citing CIB at 135.) Oki Data notes that the claim requires that the device receives scan files. Oki Data asserts that the accused devices receive HTTP POST commands, which are used by the device to create profiles. (Citing CX-303; Tr. at 1617:15-20.)

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Thus, Oki Data argues that the question of whether a profile is a “scan file” is irrelevant.

Oki Data argues that none of the accused products meet the “memory means” limitation because the evidence demonstrates that the devices store profile parameters and not “scan files.” (Citing RX-365C at Q. 57-58.) Oki Data argues that Ricoh also failed to prove that the accused devices have memory means that store more than one scan file. Oki Data contends that Ricoh has shown that the accused devices store data from an HTTP POST command {

} is not multiple scan files as required by the claim language. (Citing RX-365C at Q. 57-58.)

Oki Data asserts that Dr. Stevenson failed to identify the necessary structure required for the “memory means” limitation. Specifically, Oki Data argues that Dr. Stevenson never identified the page-buffer memory or the secondary memory as found in the ‘866 patent. (Citing CX-272 at Q. 151-152, 201, 262-263; JX-1 at 14:61-66, 21:1-8.)

Staff’s Position: Staff contends that Ricoh has failed to demonstrate that any of the accused products infringe claim 1. Staff argues that Dr. Stevenson failed to offer sufficient evidence regarding the structure of the accused products. Staff argues that this is the case because the specification of the ‘866 patent fails to disclose the algorithms or software used to implement the functions of claim 1.

Staff supports Oki Data’s argument that the buttons of the MC360 are not equivalent to the touch screen required by the specification of the ‘866 patent. According to Staff, a touch screen interface performs in a substantially different way than a button-based menu interface.

Staff argues that under the definition of “file” proposed by Dr. Baroody, the accused products fail to satisfy the “receiving at least some of said scan files from said network” claim language. (Citing RX-33C at Q. 152; JX-1 at 14:25-48.) Staff asserts that the HTTP POST

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command does not have a name, does not exist in a directory, and is not stored in a non-volatile storage medium.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that any accused Oki Data products infringe claim 1 of the '866 patent. Ricoh asserts that the following Oki Data products infringe claim 1: MC360, CX1145, and CX2633. (CIB at 126.)

Oki Data first argues that Ricoh failed to demonstrate that the MC360 includes the “operation panel means” because it uses physical button pads instead of a touch screen. In construing “operation panel means,” I found that the disclosed structure in the specification is a touch panel. The evidence demonstrates that the MC360 does not include a touch panel, but instead includes an LCD display and physical buttons. (CX-272 at Q. 132, 135; RX-370C at Q. 23; CX-48.)

The parties and their experts dispute whether or not an LCD display coupled with physical buttons is the equivalent of a touch screen under 35 U.S.C. § 112, ¶ 6. Section 112, paragraph 6 states:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification ***and equivalents thereof***.

35 U.S.C. § 112, ¶ 6 (2009) (emphasis added).

The Federal Circuit has explained that “two structures may be ‘equivalent’ for purposes of section 112, paragraph 6 if they perform the identical function, in substantially the same way, with substantially the same result.” *Kemco Sales, Inc. v. Control Papers Co., Inc.*, 208 F.3d 1352, 1364 (Fed. Cir. 2000); *see also Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1267 (Fed. Cir. 1999) (“Structural equivalence under § 112, ¶ 6 is met only if...the assertedly

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equivalent structure performs the claimed function in substantially the same way to achieve substantially the same result as the corresponding structure described in the specification.” “[A] structural equivalent under § 112 must have been available at the time of the issuance of the claim.” *Al-Site Corp. v. VSI Int’l, Inc.*, 174 F.3d 1308, 1320 (Fed. Cir. 1999).

The claimed function at issue is “selecting each of settings of scan conditions.” The experts provide contradictory testimony regarding whether or not the button panel and LCD display of the MC360 are the equivalent to a touch screen. (CX-272 at Q. 140; RX-370C at Q. 23-32.)

I find that the button panel and LCD display of the MC360 is the equivalent of the touch screen disclosed in the specification of the ‘866 patent. The button panel allows a user to select a scan condition by pressing a button, and the device reacts based on the signal generated by the depression of the button. Likewise, the touch panel allows a user to select a scan condition by touching a portion of the screen, and the device reacts based on the signal associated with the portion of the screen touched by the user. (CX-272 at Q. 140.) Thus, I find that the button panel and LCD display of the MC360 performs the function of “selecting each of settings of scan conditions” in substantially the same way, with substantially the same result as the touch screen display disclosed in the ‘866 patent specification. (*Id.*)

Oki Data additionally asserts that the accused products do not receive and store “scan files” as required by claim 1. I find that Ricoh has failed to demonstrate that the accused products include both the “memory means for storing said image data and scan files” limitation and the “network-interface means for receiving at least some of said scan files from said network” limitation. Oki Data argued that “[t]he devices receive HTTP POST commands (the data from which is later used by the device to create profiles), so the proper question is not

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whether profiles are ‘files’ but whether HTTP POST commands are ‘files.’” (RRB at 54.) Oki Data asserted that the HTTP POST commands do not constitute the “scan files” of claim 1. (*Id.* at 54-56.)

Dr. Baroody explained that the accused devices can receive, via a network connection, an HTTP POST command that contains scan parameters to be stored on the device. (RX-370C at Q. 34.) Dr. Baroody explained that an HTTP POST command has no name and cannot be manipulated by a name. (*Id.* at Q. 35.) Dr. Baroody opined that an HTTP POST command “is generated on the fly by the client computer’s browser, then transmitted over the network, read, and then discarded.” (*Id.*) Dr. Baroody further testified that the HTTP POST command “is a transient format that is not retained, is not repeatable without re-entering the information, does not exist in any directory or file system before or during transmission, and lacks any sort of name for the particular data transferred.” (*Id.* at Q. 36.)

Because the HTTP POST command transmits the scan parameters from the networked computer to the device, but is not retained on the scanning device after transmission, it cannot constitute the “scan file” of claim 1. Claim 1 requires that a scan file is both transmitted over the network to the scan device and stored on the device memory. An HTTP POST command may transmit the scan parameters over the network, but Dr. Baroody testified credibly that it is transient and is not retained on the device once the information has been transmitted. (RX-370C at Q. 35-36.) The data found in the HTTP POST command is used to build “profiles” on the scan device itself. (Tr. at 1640:25-1641:5; RX-370C at Q. 33-40.) The profiles stored on the device are not the same as the HTTP POST commands used to create the profiles. Thus, neither the HTTP POST command nor the profile itself can be **both** received by the scan device **and** stored on the scan device, as is required of the “scan file” of claim 1. To put in another way, I

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find that Ricoh has not demonstrated that there is a single “file” that is both received over the network by the device and stored in the device’s memory.

In addition, I construed “file” to mean “a named collection of data stored in one unit.” Dr. Baroodly testified credibly that the HTTP POST command has no name and cannot be manipulated by a name. (RX-370C at Q. 35; Tr. at 1640:16-17.) Thus, an HTTP POST command fails to meet the “named” requirement of the construction of “file.”

Ricoh argues that Oki Data incorrectly focuses on the HTTP POST command. Ricoh claims that the Wireshark⁴⁸ captures “show specific packets of data being transferred as a unit to the MFP for storage on the device.” (CRB at 75.) Ricoh asserts that these packets of data, and not the POST command, constitute the “scan files” of the asserted claims. (*Id.*) While it may be true that the packets of data Ricoh refers to are used to create the profiles on the accused devices, I find that Ricoh’s argument fails to address the applicable claim language. Specifically, claim 1 requires that the same “scan file” is both received by the device over the network and stored in the device’s memory. Ricoh’s evidence fails to demonstrate that, in the accused devices, there is a “scan file” containing the scan conditions that is both transferred over the network and stored on the accused device. Dr. Stevenson’s testimony is insufficient on this point, as he never addresses Oki Data’s contention that there is no “file” that is both transferred over the network and stored on the device. (*See* CX-272 at Q. 154-158; CX-303.) The fact that the packets of data that accompany the HTTP POST command are used to create the profile stored on the device is not sufficient to meet the language of claim 1, as it does not demonstrate that there is a single “file” that is both received and stored by the device.

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⁴⁸ Wireshark is a network monitoring tool that allowed the experts to examine the contents of the data transferred to the accused products over the network. (*See* CX-272 at Q. 33.)

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The evidence demonstrates that the MC360, CX1145, and CX2633 devices operate identically for purposes of the above analysis regarding the “memory means” and “network-interface means” limitations. (RX-370C at Q. 34, 43, 58.) Thus, I find that Ricoh has failed to demonstrate that the MC360, CX1145, and CX2633 devices infringe claim 1 of the ‘866 patent.

2. Claim 2

Claim 2 recites:

2. The device as claimed in claim 1, wherein said memory means stores said image data as one of image files, and said network-interface means sends one of said image files to said network upon a request for said one of said image files from said network.

Ricoh’s Position: Ricoh contends that the CX1145 infringes claim 2 because it contains digital memory devices for storing image data and scan files, or templates, and it stores image data in memory before sending it to the network. According to Ricoh, a user can retrieve saved image files by making a request through the network using the “File Downloader” tool. (Citing CX-272 at Q. 215-218; CX-284.)

Oki Data’s Position: Oki Data does not offer any non-infringement argument that is unique to claim 2.

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Staff's Position: Staff does not offer any argument that is unique to claim 2.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that any accused Oki Data product infringes claim 2. I have previously found that Ricoh failed to prove infringement of claim 1. Claim 2 is dependent on claim 1. This leads to the conclusion that Ricoh has failed to demonstrate infringement of claim 2. *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

3. Claim 3

Claim 3 recites:

3. The device as claimed in claim 2, further comprising print means for printing said image data of one of said image files.

Ricoh's Position: Ricoh contends that the CX1145 infringes claim 3 because it contains a print means that allows images to be printed. (Citing CX-272 at Q. 219-224; CX-284.)

Oki Data's Position: Oki Data argues that Dr. Stevenson failed to identify any structure in the accused product – hardware or software – under any proposed construction for the term “print means.” (Citing CX-272 at Q. 219-220, 223.)

Staff's Position: Staff contends that Ricoh failed to demonstrate that any accused products infringe claim 3. Staff sets forth Dr. Stevenson's infringement opinion regarding claim 3 and asserts that Dr. Stevenson failed to identify the corresponding structure in his analysis of the accused products. (Citing CX-272 at Q. 219-220; CX-284.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that any accused Oki Data product infringes claim 3. I have previously found that Ricoh failed to prove infringement of claim 1. Claim 3 is indirectly dependent on

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claim 1. This leads to the conclusion that Ricoh has failed to demonstrate infringement of claim 3. *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

Assuming *arguendo* that Ricoh has proven infringement of claim 2, I find that Ricoh has failed to demonstrate the presence of the “print means” in the CX1145 device. I construed “print means” to require the following structure: a printer unit having paper handling machinery, whereby the printer unit is controlled by a printer engine, and equivalents.

Ricoh relies on Dr. Stevenson’s testimony to satisfy this limitation. Dr. Stevenson offered conclusory testimony that the “print means” limitation is met. (CX-272 at Q. 219-224.) He also relies on an Oki Data document that states that “[y]ou can then print your document using a web browser.”. (*Id.* at Q. 220; CX-284 at 8.) Nowhere does Dr. Stevenson attempt to identify the corresponding structure of the CX1145 product that meets the “print means” limitation.

4. Claim 4

Claim 4 recites:

4. The device as claimed in claim 3, wherein said network-interface means further comprising means for receiving from said network at least some of said image files to be printed by said print means.

Ricoh’s Position: Ricoh contends that the CX1145 infringes claim 4 because it can receive image files from the network to be printed by the print means. (Citing CX-272 at Q. 225-227; CX-284.)

Oki Data’s Position: Oki Data does not offer any non-infringement argument that is unique to claim 4.

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Staff's Position: Staff does not offer any argument that is unique to claim 4.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that any accused Oki Data product infringes claim 4. I have previously found that Ricoh failed to prove infringement of claim 1. Claim 4 is indirectly dependent on claim 1. This leads to the conclusion that Ricoh has failed to demonstrate infringement of claim 4. *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

5. Claim 5

Claim 5 recites:

5. The device as claimed in claim 3, further comprising copy means for copying an image scanned by said scan means onto a sheet by using said scan means and said print means.

Ricoh's Position: Ricoh contends that the CX1145 infringes claim 5 because it can copy an image scanned by the scan means onto a sheet of paper by using the scan means and the print means. (Citing CX-272 at Q. 228-229; CX-284.)

Oki Data's Position: Oki Data does not offer any non-infringement argument that is unique to claim 5.

Staff's Position: Staff contends that Ricoh failed to prove infringement of claim 5 because Dr. Stevenson failed to identify the microprocessor and its programming in the specification and compare that to the programming of the CX1145. (Citing CX-272 at Q. 229-230.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that any accused Oki Data product infringes claim 5. I have previously

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found that Ricoh failed to prove infringement of claim 1. Claim 5 is indirectly dependent on claim 1. This leads to the conclusion that Ricoh has failed to demonstrate infringement of claim 5. *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

Assuming *arguendo* that Ricoh has proven infringement of claim 3, I find that Ricoh has failed to demonstrate the presence of the “copy means” in the CX1145 device. I construed “copy means” to require the following structure: a copier controller, a copier engine, and a controlling unit, and equivalents.

Ricoh relies on Dr. Stevenson’s testimony to satisfy this limitation. Dr. Stevenson offered conclusory testimony that the “copy means” limitation is met. (CX-272 at Q. 228.) He also relies on an Oki Data document that states that an image may be copied. (*Id.* at Q. 229; CX-284 at 16.) Nowhere does Dr. Stevenson attempt to identify the corresponding structure of the CX1145 product that meets the “copy means” limitation.

6. Claim 6

Claim 6 recites:

6. The device as claimed in claim 3, further comprising test means for controlling said print means to print said at least one image scanned by said scan means onto a sheet in order to check if said image data of said at least one image is defective.

Ricoh’s Position: Ricoh contends that the CX1145 infringes claim 6 because it can print a scanned image onto a sheet to check if the image data of the image is defective. (Citing CX-272 at Q. 230-232; CX-284.)

Oki Data’s Position: Oki Data argues that the MC360⁴⁹ does not infringe claim 6 because it does not send a message inquiring whether a test print is necessary. (Citing RX-365C

⁴⁹ While Oki Data refers to the MC360, the evidence it cites to relates to all accused products.

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at Q. 64.)

Staff's Position: Staff does not offer any argument that is unique to claim 6.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that any accused Oki Data product infringes claim 6. I have previously found that Ricoh failed to prove infringement of claim 1. Claim 6 is indirectly dependent on claim 1. This leads to the conclusion that Ricoh has failed to demonstrate infringement of claim 5. *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

Assuming *arguendo* that Ricoh has proven infringement of claim 3, I find that Ricoh has failed to demonstrate the presence of the “test means” in the CX1145 device. I construed “test means” to require the following structure: an operational-display-and-touch panel unit, a scanner/printer controller programmed to perform steps S9 and S10 of Figure 5, and a printer engine, and equivalents.

Ricoh relies on Dr. Stevenson’s testimony to satisfy this limitation. Dr. Stevenson offered conclusory testimony that the “test means” limitation is met. (CX-272 at Q. 230.) He also relies on an Oki Data document that the “Selecting Test Print/Test Print function allows you to simply print a copy of document using the default print properties settings.” (*Id.* at Q. 231; CX-284 at 80.)

Step S9 of Figure 5 requires that the device prompt the user to ask whether or not a test print is required. (JX-1 at 15:32-36.) Neither Ricoh nor Dr. Stevenson assert that the CX1145 device prompts the user to see if a test print is necessary. Oki Data offers testimony from Mr. Nishiyama that none of the accused Oki Data devices automatically prompt the user to print a

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test page after scanning a document. (RX-365C at Q. 64.) Thus, I find that Ricoh has failed to demonstrate that the CX1145 includes the necessary structure to meet the “test means” limitation.

7. Claim 8

Claim 8 recites:

8. The device as claimed in claim 2, further comprising deleting means for deleting one of said image files after a predetermined time period passes without an access to said one of said image files from said network.

Ricoh’s Position: Ricoh contends that the CX1145 infringes claim 8 because it can delete an image file after a predetermined time period passes without an access to the image file from the network. (Citing CX272 at Q. 233-236; CX-284.)

Oki Data’s Position: Oki Data does not offer any non-infringement argument that is unique to claim 8.

Staff’s Position: Staff does not offer any non-infringement argument that is unique to claim 8.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that any accused Oki Data product infringes claim 8. I have previously found that Ricoh failed to prove infringement of claim 1. Claim 8 is indirectly dependent on claim 1. This leads to the conclusion that Ricoh has failed to demonstrate infringement of claim 8. *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

C. The '771 Patent

1. Claim 1

Claim 1 recites:

1. An image input device adapted to be connected to a host computer so as to transfer image data to said host computer, said image input device comprising:

scanning means for inputting the image data and for inputting an instruction for directing said host computer to perform at least one of a plurality of operations on the image data transmitted by said image input device to said host computer; and

means for setting an operation code which represents contents of the instruction so that said operation code is sent to said host computer so that said host computer can receive the operation code and image data and perform the at least one of the plurality of operations indicated by the operation code without any direct user input to the host computer.

Ricoh's Position: Ricoh contends that Oki Data's C3530n, MC360, MC560, MC860, CX1145, CX2633, and CX3641 infringe claim 1. Ricoh argues that the accused products support multiple types of "push" operations, which occur when a user at the device selects an operation to be performed on the image data by the host computer, without having to input any instructions at the host computer. (Citing CX-271 at Q. 1069.) These "push" operations include scan-to-email, scan-to-folder, scan-to-application and scan-to-fax. (Citing CX-271 at Q. 1073, 1127.)

Ricoh asserts that Oki Data's infringement challenges boil down to three issues: (1) whether the required "host computer" is restricted to a locally-connected computer; (2) whether the "scanning means" limitation is restricted to a monochrome scanner, and if so whether a color scanner is a structural equivalent; and (3) whether the accused products set an operation code to control operations on the host computer.

Regarding the "host computer" limitation, Ricoh argues that the '771 patent does not restrict a host computer to a locally-connected computer. (Citing JX-2; Tr. at 628:21-24.) Ricoh

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argues that the accused products are “adapted to be connected to a host computer” as required by claim 1. Ricoh claims that the accused products work the same way from the user’s standpoint regardless of whether the product and the host computer are connected via a direct USB connection or a network connection. (Citing Tr. at 629:11-24, 645:4-14.) Ricoh asserts that with either type of connection, the device and the host computer are directly connected in the sense that there is no intervening computer. (Citing Tr. at 627:3-12.)

Regarding the “scanning means” limitation, Ricoh claims that the accused products include a scanner. (Citing CX-271 at Q. 1143-1147; CX-20 at 8, 69.) Ricoh asserts that all of the accused products have an operation panel designed to allow the user to push operations such as scan-to-email, scan-to-folder, scan-to-application, or scan-to-fax. (Citing CX-271 at Q. 1148-1149, 1225-1227, 1265-1268, 1305-1308, 1344-1347, 1383-1386, 1422-1425; CX-20 at 69-70; CX-304 at 1, 7, 13-14, 17, 22, 29-30.)

Ricoh argues that there is no basis to limit the scanner to a monochrome scanner, as proposed by Oki Data. Even if the claims are limited to a monochrome scanner, Ricoh asserts that a color scanner is a structural equivalent of a monochrome scanner. (Citing Tr. at 1632:21-1633:3, 1633:14-1634:9.) Ricoh notes that many of the accused products scan in either monochrome or color mode depending on which button is pressed, which highlights the similarity between the two scanner types. (Citing Tr. at 1461:9-23, 1610:4-12.)

Ricoh also states that Oki Data’s argument about the lack of an “operation control unit” is baseless. Ricoh claims that the specification discloses a non-exhaustive list of keys that can be used to select an operation. (Citing JX-2 at 5:5-21; Fig. 2.) Thus, Ricoh argues that the directional keypad on the accused products meets this claim limitation

Ricoh asserts that the accused products meet the “means for setting an operation code”

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limitation. Ricoh states that accused products contain a processor that sets an operation code depending on the type of push operation being performed. (Citing CX-271 at Q. 1157.) Ricoh claims that the accused product encode the commands and transmit them as codes to the host computer. (Citing Tr. at 489:15-20.)

In its reply brief, Ricoh asserts that Oki Data has raised two new arguments not previously addressed in the pre-trial briefing. First, Ricoh claims that Oki Data argues that the accused products do not have the structure for the “operation code” limitation because the structure is limited to copy and fax functions. Second, Ricoh claims that Oki Data argues that Ricoh failed to identify the actual “processor” or “specific software” that performs the claimed function. Ricoh argues that these arguments have been waived.

If these arguments are considered, Ricoh claims that they are baseless. In responding to the first argument, Ricoh argues that the specification does not limit the operation codes to just copying and faxing, and expressly discloses another operation code – filing. (Citing JX-2 at 11:64-67.) Ricoh also claims that it is misleading to assert that the claims require a “plurality of operation codes” because the claims recite “at least one of the plurality of operations indicated by the operation code.” (Citing JX-2 at claims 1 and 7.) Ricoh asserts that the evidence demonstrates that the accused products can perform a plurality of operations. (Citing CX-271 at Q. 1149-1150, 1227-1228, 1267-1268, 1307-1308, 1346-1347, 1385-1386, 1424-1425.) In responding to the second argument, Ricoh claims that Mr. Weadock identified the appropriate structure in the accused products. (Citing CX-271 at Q. 1157.)

Oki Data’s Position: Oki Data contends that Ricoh has failed to prove that any of the accused products infringe claim 1 of the ‘771 patent.

Oki Data argues that Ricoh has failed to prove infringement of the MC560, CX1145 and

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CX3641 devices because these devices are connected to a computer through a network connection. (Citing Tr. at 475:6-477:25; CX-231 at Q. 1261, 1268, 1347, 1417.) Oki Data argues that under its construction of “host computer,” the devices must be connected to a host computer through a local connection, and not a network connection.

Oki Data argues that Ricoh failed to show that the accused devices include the “scanning means” of claims 1 and 7. Oki Data argues that under any claim construction adopted, the “scanning means” must include a scanner unit 15 and scanner control unit 14. (Citing JX-2 at 5:8-12.) Oki Data asserts that Mr. Weadock failed to identify this structure in the accused products, and just assumed that because the accused products all include a scanner, they meet this limitation. (Citing CX-271 at Q. 1144.) Oki Data claims that this purely functional analysis is incorrect as a matter of law.

Oki Data further argues that the “scanning means” is not present in the accused products because all of the accused products have color scanners, and not monochrome scanners. (Citing Tr. at 480:10-14; RX-33C at Q. 81-82.) Oki Data asserts that Ricoh offered no argument that the color scanners are equivalent to the monochrome scanners. Even if such argument is made, Oki Data asserts that the argument fails because a color scanner operates in a substantially different way than a monochrome scanner, to achieve a substantially different result. (Citing Tr. at 1636:16-1637:14; RX-370C at Q. 82.)

Oki Data argues that if the claims are construed as Oki Data and Staff have proposed, Mr. Weadock’s analysis fails to identify a “system control unit 11” executing any particular code using RAM 13 in accordance with control procedure stored in a ROM 12, with ROM 12 having an information table as shown in shown in FIG. 3a, or process encoding unit 16 which collects image data obtained by scanner unit 15, and encodes the image data. (Citing JX-2 at 5:1-14; JX-

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13.)

Oki Data argues that Ricoh failed to prove that the accused products include the “operational unit 18,” which is part of the structure required by the “scanning means” of claim 1. Oki Data argues that none of the accused products include dedicated operation keys like those described for the “operational unit 18” in the specification. (Citing JX-2 at 5:17-21.) According to Oki Data, the accused products employ a far more cumbersome menu system that operates in a substantially different way than the dedicated keys. (Citing RX-370C at Q. 83-86, 107, 111, 113-114, 118, 123.)

Oki Data argues that Ricoh failed to identify any structure for the “means for setting an operation code” claim element. Oki Data claims that the only structure disclosed in the specification relates to copy or fax operations, and that Mr. Weadock did not analyze any copy or fax operations. (Citing Order No. 29; CX-271 at Q. 1159-1164, 1229, 1268-1269, 1309, 1346-1348, 1387, 1426.) Oki Data further claims that Ricoh failed to identify a specific processor in the Oki Data devices, nor has it identified any specific software that performs the steps laid out in the specification that correspond to the “means for setting” claim element. (Citing CPHB at 312; CX-271 at Q. 1157.)

Oki Data further argues that Ricoh failed to show that the MC560, CX1145, and CX3461 products perform the function of “setting an operation code...” Oki Data states that Mr. Weadock pointed to one of several SMB file requests sent by the devices as corresponding to the “operation code.” (Citing Tr. at 484:18-485:16; CX-271 at Q. 1348, 1355, 1426, 1433, 1269.) Oki Data explains that the devices send multiple SMB requests that open a connection with a server, direct the server to create an empty file, and then later to fill that file with information. (Citing Tr. at 495:23-496:18.) According to Oki Data, the SMB requests identified by Mr.

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Weadock only create an empty file, and thus do not transmit an operation code. (Citing Tr. at 484:18-21, 496:8-15.) Oki Data argues that it takes multiple commands to actually complete the user's instruction, thus meaning that the command identified by Ricoh is not an "operation code which represents contents of the instruction" as required by claim 1.

Finally, Oki Data argues that the accused products meet the "plurality of operations indicated by an operation code" limitation of claims 1 and 7. Oki Data asserts that the "plurality" of operations that Ricoh has identified is really the same operation with different accompanying parameters. Oki Data claims that the MC560, CX1145, and CX3461 do not use operation codes. Oki Data states that these devices communicate using various network communications protocols, which require a complex series of back-and-forth communications with a server. (Citing RX-370C at Q. 104.) According to Oki Data, this is far more complicated than the simple operation codes such as "COPY" and "FAX" described in the specification. (Citing RX-370C at Q. 104.)

In its reply brief, Oki Data argues that Ricoh improperly seeks to expand the list of accused products to include any Oki Data product that supports push operations. Oki Data states that Ricoh should be limited to the seven products addressed in Order No. 23 and listed on the Joint Stipulation of Contested Issues. Oki Data argues that Ricoh's assertions about push scanning operations is an improper attempt to offer an untimely claim construction and should be precluded.

Oki Data asserts that Ricoh's argument about the equivalence of monochrome and color scanners is untimely, as it was not raised in the pre-hearing briefing. (Citing Ground Rule 8.2.) Oki Data asserts that Ricoh's argument regarding the "other keys" of the "operational control unit" structure has been waived because it was not addressed in the pre-hearing briefing. (*Id.*)

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Finally, Oki Data asserts that Ricoh's arguments relating to the network products – the MC560, CX1145, and CX3641 devices – have been waived because they were not raised in the pre-hearing briefing. (*Id.*)

Staff's Position: Staff contends that Ricoh has failed to prove that any accused Oki Data product infringes claim 1.

Staff argues that any accused devices that cannot be locally connected to a computer do not meet the "host computer" limitation under Staff's proposed construction of "host computer." Staff identifies the network-only devices as the MC560, CX3641, and CX1145, and argues that these devices fail to infringe claim 1.

Staff argues that Mr. Weadock's infringement analysis is deficient with respect to the means-plus-function terms. According to Staff, Mr. Weadock's analysis only addresses the functions of the limitations, and he does not identify the necessary structure in the accused products.

Staff argues that the accused products do not meet the "scanning means" limitation because the corresponding structure is a monochrome scanner, while the accused products include a color scanner. Staff argues that a color scanner is not the structural equivalent of a monochrome scanner. Staff argues that the accused products do not have the keypad layout disclosed in the "operational unit 18" of the specification.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that any of the accused Oki Data products infringe claim 1 of the '771 patent. Ricoh has accused seven Oki Data products of infringement: C3530n, MC360, MC560, MC860, CX1145, CX2633, and CX3641.

Oki Data argues that Ricoh has failed to prove infringement of the MC560, CX1145, and

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CX3641 products because they lack a “host computer,” as required by the preamble of claim 1. Oki Data’s position is based on its proposed construction of “host computer” that restricts a “host computer” to a locally-connected computer. (RIB at 140.) As explained *supra*, “host computer” has been construed to “a computer connected locally, or through a network, to an image input device.” Thus, under this construction, a computer connected through a network to the MC560, CX1145, and CX3641 products would constitute a “host computer.”

Oki Data next argues that the accused products lack a “scanning means.” Claim 1 requires “scanning means for inputting the image data.” I construed this means-plus-function limitation to require the scanner control unit and scanner unit described in column 5, lines 8 through 12, and equivalents. The scanner control unit is described in the ‘771 patent as follows: “[a] scanner control unit 14 controls a reading operation of a scanner unit 15.” (JX-2 at 5:8-9.) The specification further explains that “when the user sets an original document on the scanner unit 15, the scanner control unit 14 detects the original document and announces the detection of the original document to the system control unit 11.” (*Id.* at 5:37-41.)

To prove that this limitation is met in the accused devices, Ricoh first relies on Mr. Weadock’s testimony. Mr. Weadock agrees that the “scanner control unit 14” is part of the structure required to meet the “scanning means” limitation. (CX-271 at Q. 1142.) When discussing the C3530 product, Mr. Weadock provides the following opinion with regard to the “scanning means” limitation:

Well, the C3530 includes a scanner, which is clear from my own observation as well as from documents such as the C3530 MFP User’s Guide; so the C3530 has scanner unit 15 and scanner control unit 14.

(CX-271 at Q. 1144.) Mr. Weadock provides substantively identical testimony for the other accused products. (*Id.* at Q. 1225, 1265, 1305, 1344, 1383, 1422.)

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Mr. Weadock thus opines that because each accused product includes a scanner, it must include a “scanner unit” and “scanner control unit.” While this testimony may be sufficient to demonstrate the presence of a “scanner unit,” I find that this testimony does not prove the existence of a “scanner control unit.” Mr. Weadock fails to specifically identify any structure that corresponds to the “scanner control unit,” and I find that the fact that the accused products include a scanner is not sufficient to prove the presence of a “scanner control unit.” *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 582 F.3d 1288, 1299 (Fed. Cir. 2009) (“It is firmly established in our precedent that a structural analysis is required when means-plus-function limitations are at issue; a functional analysis alone will not suffice.”); *CytoLogix Corp. v. Ventana Med. Sys., Inc.*, 424 F.3d 1168, 1178 (Fed. Cir. 2005) (reversing a jury verdict of infringement because the patentee failed to identify in the accused device the corresponding structure of a means-plus-function limitation).

In its reply brief, Ricoh cites to various product user manuals, but the cited portions of these manuals fail to disclose the structure corresponding to the “scanner control unit.” (CX-20 at 8, 140; CX-48 at 10; CX-115 at 9, 234; CX-117 at 8, 169; CX-282; CX-285 at 11, 329; CX-288 at 8, 169.)

Ricoh also cites to the testimony of Dr. Stevenson, who offered an opinion related to the ‘866 patent. (*See generally* CX-272.) Dr. Stevenson did not provide an opinion regarding the ‘771 patent. (*Id.*) Dr. Stevenson testified that the MC360 product includes a {

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I find that Ricoh’s reliance on Dr. Stevenson’s testimony is improper for at least two reasons. First, Dr. Stevenson was not offered as an expert for the ‘771 patent, and Ricoh cannot use his expert testimony related to the ‘866 patent to bolster its infringement assertions related to

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the '771 patent. Second, Ricoh has never before raised Dr. Stevenson's testimony about the MC360 product in the context of the '771 patent. Ricoh does not address the issue in its pre-hearing brief, or its opening post-hearing brief. (See CPHB at 309-310; CIB at 106-109.) Thus, Ricoh cannot chose to rely on Dr. Stevenson's testimony to support its infringement case for the '771 patent for the first time in its reply post-hearing brief. See Ground Rules 8.2, 11.1.

Therefore, I find that Ricoh has failed to offer sufficient evidence that the seven accused Oki Data products include a "scanner control unit" as required by claim 1.

Oki Data also argues that the "scanning means" limitation is not met because the accused products include color scanners, while the corresponding structure requires a monochrome scanner. I have construed "scanning means" to require a monochrome scanner, as is disclosed in the specification of the '771 patent. (JX-2 at 5:8-14.) It is undisputed that all of the accused Oki Data products include color scanners. (Tr. at 480:10-14; RX-33C at Q. 81.)

Ricoh argues that the color scanners of the accused Oki Data products are equivalents under § 112, ¶ 6. Oki Data asserts that Ricoh has waived that argument pursuant to Ground Rule 8.2 by not addressing it in Ricoh's pre-hearing brief. (See RRB at 68.) I concur, and find that Ricoh failed to raise the equivalence argument in its pre-hearing brief. (CPHB at 308-320.) Thus, the argument has been waived. Therefore, I find that Ricoh has failed to demonstrate that the accused Oki Data products include the "scanner unit" structure required by the "scanning means" limitation.

Assuming *arguendo* that Ricoh's equivalence argument was not waived, I find that the color scanners of the accused products are equivalents under § 112, ¶ 6 because they perform the identical function, in substantially the same way, with substantially the same result. *Kemco*, 208 F.3d at 1364.

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Dr. Barody offers an opinion in his direct witness statement that a color scanner is not the equivalent of a monochrome scanner. (RX-370C at Q. 82.) Yet, during cross examination, Dr. Barody testified as follows:

Q All right. Now, the patent discloses a monochrome scanner as an example of scanner unit 15. Do you recall that?

A Yes, I do.

Q Okay. The monochrome scanner described in the '771 patent performs the function of converting a document into digital image data, right?

A Yes, it does.

Q And a color scanner would also perform the function of converting a document into digital image data, would it not?

A Yes, it does.

Q Okay. And if you operate a monochrome scanner, the result will be digital image data?

A Yes, it will.

Q If you operate a color scanner, the result will be digital image data, correct?

A Yes, it will.

Q And if you operate a color scanner in monochrome mode, the result will be digital image data for a monochrome image, right?

A Yes, it will.

Q Both monochrome and color scanners include a light source, right?

A Yes, they do.

Q And both monochrome and color scanners include CCD photosensors?

A Yes, they do.

Q And both monochrome and color scanners use the light source and the CCD photosensors to convert a document into digital data?

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A Yes, they do.

Q And in both monochrome and color scanners, the photosensors actually convert photons into electrons, right?

A Yes. That's an appropriate way to think about it.

Q Okay. So the electrons are captured and read off as voltage, right?

A Yes.

Q And the voltage is then digitized to create the image?

A Yes.

(Tr. at 1632:17-1634:9.)

I find that this testimony supports a conclusion that a color scanner is an equivalent under § 112, ¶ 6 to a monochrome scanner. Dr. Baroody's opinion in his witness statement focuses on the extra steps a color scanner must perform to capture multiple colors of an image. (RX-370C at Q. 82.) In light of Dr. Baroody's testimony from the hearing quoted *supra*, I do not concur that the differences highlighted by Dr. Baroody in his witness statement demonstrate that the monochrome and color scanners are not equivalents under § 112, ¶ 6.

Oki Data argues that the accused products also lack the "scanning means...for inputting an instruction" because the control panels of the accused devices are not the same as "operational unit 18" disclosed in the specification. I have construed the "scanning means" limitation to require, *inter alia*, an "operational unit." The specification describes the operational unit as follows:

An operation control unit 17 reads a key input signal from an operational unit 18, and the contents of the key input signal to the system control unit 11. The operational unit 18 is provided with various keys so that a user can input various instructions through the keys. The keys includes a copy key 18a, a FAX key 18b, a start key 18c, ten keys 18d and other keys 18e.

(JX-2 at 5:15-21.)

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Oki Data claims that this passage makes clear that the operational unit requires dedicated operation keys. Dr. Baroody opines that the accused products do not have dedicated operation keys because a user must progress through several menu screens before reaching the desired function. (RX-370C at Q. 86.) According to Dr. Baroody, “the user must make at least four selections in order to reach the final operation.” (*Id.*)

I find Oki Data’s argument unpersuasive. Contrary to Oki Data’s assertions, I see no indication in the ‘771 patent specification that the disclosed keys 18a-18e are “dedicated” keys. The specification simply discloses that the operational unit must include these keys. (JX-2 at 5:15-21.) The specification further discloses that operation code is set by determining which operation key was pressed. (*See, e.g., id.* at 5:65-6:3.) I see nothing in the specification that describes these keys as dedicated keys, nor are the keys even described as physical buttons. Oki Data asserts that the specification discusses the disadvantages of a menu-based system as found in the accused products. (RIB at 144.) I find that the passages cited by Oki Data do not support this assertion. The passages instead describe the benefits of the invention in terms of the fact that a user will not have to input instructions at both the image input device and the host computer. (*See JX-2* at 1:49-2:12, 3:32-37, 3:56-67.) Thus, I find that the fact that a user will have to progress through multiple menu screens to reach the desired operations does not preclude a finding that the accused devices include an operational unit.

Oki Data argues that Ricoh failed to identify the corresponding structure for the “means for setting an operation code” limitation because (1) the specification describes only copy or fax operations, and the operations in the accused products that are identified by Ricoh are all scanning operations; and (2) Ricoh offers no evidence that identifies a specific processor in the Oki Data devices, nor has it identified any specific software that performs the steps laid out in

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the specification.

Ricoh asserts that these arguments do not appear in Oki Data's pre-hearing brief, and thus they have been waived. I find that Oki Data's first argument regarding the specification only describing copying or faxing operations has been waived pursuant to Ground Rule 8.2 because Oki Data does not address this issue in its pre-hearing brief. (*See* RPHB at 249-259.) I find that Oki Data's second argument has not been waived because Staff makes an identical argument, and Staff's argument is supported by its pre-hearing brief. (SIB at 98-100; SPHB at 82-84.)

I construed the "means for setting an operation code" limitation to require a system control unit programmed to perform any of the algorithms described in column 5, lines 41 through 53; column 5, line 65 through column 6, line 11; column 7, lines 37 through 45; column 7, lines 54 through 66; column 9, lines 4 through 22; column 10, lines 9 through 22; and equivalents.

I find that Mr. Weadock's infringement opinion is insufficient to demonstrate that this limitation is met. With regard to the C3530n product, Mr. Weadock testifies that "[a] processor inside the C3530 is the means for setting an operation code." (CX-271 at Q. 1157.) Mr. Weadock then goes on to describe how he was able to capture the alleged operation code and image data being sent from the C3530 to the host computer, and the host computer's actions in response to the receipt of the alleged operation code and image data. (CX-271 at Q. 1159-1164.) Mr. Weadock provides even less detail for the other accused Oki Data products. (CX-271 at Q. 1229, 1269, 1309, 1348, 1387, 1426.) I find that Mr. Weadock's analysis is purely a functional analysis, as he never actually identifies the processor in the accused devices that corresponds to the system control unit, nor does he describe how the processor is programmed with an algorithm that corresponds to the algorithms identified in the specification. Such a functional analysis does

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not suffice to prove the existence of the “means for setting an operation code” limitation.

Fresenius, 582 F.3d at 1299. Based Ricoh’s failure to identify the corresponding structure, I find that Ricoh failed to demonstrate that the accused products meet the “means for setting an operation code” limitation.

Oki Data argues that the MC560, CX1145, and CX3461 products, which are the “network only” devices, do not include an “operation code” as required by claim 1. Oki Data claims that Ricoh identifies the “operation code” as one of several SMB file requests sent from the device to the computer. Oki Data asserts that the devices send a series of successive SMB commands that open a connection with a server, direct the server first to create an empty file, and then later fill that file with information. Oki Data states that Mr. Weadock only identifies the SMB command associated with the step of creating an empty file.

I concur with Oki Data, and find that the “network only” devices send a series of SMB requests, instead of a single “operation code,” to perform an operation. Thus, Ricoh has not demonstrated that there is a single “operation code which represents contents of the instruction.”

For example, Mr. Weadock identifies the SMB command “Create Request” as the “operation code” for the MC560 device. Mr. Weadock then acknowledged during cross examination that this “Create Request” command creates a file on the host computer, but there is no image data stored in the file yet. (Tr. at 495:8-496:18.) A separate write request must be issued to write the image data into the file. (*Id.*) Dr. Baroody offers testimony to support Oki Data’s position. (RX-370C at Q. 104-106, 117, 122.) Ricoh, on the other hand, fails to properly explain how the SMB commands identified by Mr. Weadock correspond to the operation codes. (*See* CRB at 62.) Thus, I find that Ricoh has failed to demonstrate that the MC560, CX1145, and

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CX3461 products meet the “operation code which represents contents of the instruction” limitation.

2. Claim 7

Claim 7 recites:

7. An image input device adapted to be connected to a host computer so as to transfer image data to said host computer, said image input device comprising:

scanning means for inputting the image data;

an operational unit for inputting an instruction for directing said host computer to perform at least one of a plurality of operations on the image data transmitted by said image input device to said host computer; and

a code unit for setting an operation code which represents contents of the instruction so that said operation code is sent to said host computer so that said host computer can receive the operation code and image data and perform the at least one of the plurality of operations indicated by the operation code without any direct user input to the host computer.

Ricoh’s Position: Ricoh contends that the accused Oki Data products infringe claim 7.

For much of the analysis, Ricoh does not differentiate between claims 1 and 7. Thus, the discussion of Ricoh’s position with respect to claim 1 is hereby incorporated by reference.

Ricoh argues that there is no dispute that the operation panel on each accused product is the claimed “operational unit.” Ricoh states that the front panel of the C3530 shows a plurality of push operations available to the user. (Citing CX-271 at Q. 1189; CX-301.) Ricoh claims that the “code unit” of the accused products is a processor, which sets an operation code that represents the contents of the instruction being performed by the host computer. (Citing CX-271 at Q. 1191-1197; CX-300.)

Oki Data’s Position: Oki Data’s arguments with respect to claim 7 are addressed *supra* in the discussion of claim 1 and will not be repeated.

Staff’s Position: Staff’s arguments with respect to claim 7 are addressed *supra* in the

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discussion of claim 1 and will not be repeated.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that any of the accused Oki Data products infringe claim 7 of the '771 patent.

Claim 7 requires “scanning means for inputting the image data.” I construed this means-plus-function term to require the following structure: the scanner control unit and scanner unit described in column 5, lines 8 through 12, and equivalents. As described *supra* with respect to claim 1, I have found that Ricoh has failed to offer sufficient evidence that the accused products include the scanner control unit. In addition, I have found that Ricoh has not demonstrated that the color scanner found in the accused products is the “scanner unit” described in the specification. For the same reasons, I conclude that Ricoh has failed to offer sufficient evidence that the accused products include the “scanning means” of claim 7.

Claim 7 further requires “a code unit for setting an operation code.” I construed this limitation as means-plus-function limitation and found that the corresponding structure is the system control unit programmed to perform the algorithms described in column 5, lines 41 through 53; column 5, line 65 through column 6, line 11; column 7, lines 37 through 45; column 7, lines 54 through 66; column 9, lines 4 through 22; column 10, lines 9 through 22; and equivalents. For the same reasons I found that Ricoh failed to prove the existence of the “means for setting an operation code” limitation of claim 1, I find that Ricoh failed to prove the existence of the “code unit for setting an operation code” limitation.

In the claim 1 analysis, I have found that the Oki Data “network only” devices – the MC560, CX1145, and CX3461 products – do not include the “operation code” limitation. The same “operation code” language is found in claim 7. For the reasons described with respect to claim 1, I find that Ricoh has failed to demonstrate that the MC560, CX1145, and CX3461

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products infringe claim 7 because they lack the “operation code” limitation.

3. Claim 13

Claim 13 recites:

13. The method of transferring image data to a host computer comprising the steps of:

inputting the image data and inputting an instruction for directing said host computer to perform at least one of a plurality of operations on the image data transmitted by said image input device to said host computer; and

setting an operation code which represents contents of the instruction so that said operation code is sent to said host computer so that said host computer can receive the operation code and image data and perform the at least one of the plurality of operations indicated by the operation code without any direct user input to the host computer.

Ricoh’s Position: Ricoh contends that the accused products infringe claim 13. Ricoh states that Dr. Baroody confirmed at the hearing that Oki Data has no non-infringement position on claim 13 for at least the C3530, MC360, MC860, and CX2633 models. (Citing Tr. at 1634:10-1635:25.) Ricoh notes that in its pre-hearing brief, Oki Data did not assert any non-infringement position on claim 13 as to several of these products. (Citing RPHB at 249-251.) With regard to the remaining products, Ricoh claims that Oki Data’s only non-infringement argument hinges on its incorrect construction of “host computer.” Ricoh also notes that pursuant to Order No. 29, Oki Data is precluded from asserting that claim 13 includes step-plus-function limitations.

Oki Data’s Position: Oki Data’s arguments with respect to claim 13 are addressed *supra* in the discussion of claim 1 and will not be repeated.

In its reply brief, Oki Data claims that infringement of a method claim requires use of the claimed method. Oki Data asserts that Ricoh’s pre-hearing brief fails to make any assertion about use of the claim 13 method or inducement of infringement of the ‘771 patent. According

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to Oki Data, the issue is not addressed in the Joint Stipulation of Contested Issues. Thus, Oki Data claims that Ricoh waived this contention. (Citing Ground Rules 8.2, 8.3, 11.2.)

Staff's Position: Staff's arguments with respect to claim 13 are addressed *supra* in the discussion of claim 1 and will not be repeated.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has demonstrated that the C3530n, MC360, MC860, and CX2633 products infringe claim 13. I find that Ricoh has failed to demonstrate that the MC560, CX1145, and CX3461 products infringe claim 13.

In the claim 1 analysis, I have found that the Oki Data “network only” devices – the MC560, CX1145, and CX3461 products – do not include the “operation code” limitation. The same “operation code” language is found in claim 13. For the reasons described with respect to claim 1, I find that Ricoh has failed to demonstrate that the MC560, CX1145, and CX3461 products infringe claim 13 because they lack the “operation code” limitation.

Oki Data has offered no non-infringement position regarding the accused products that can connect to a host computer via a USB cable. (*See* RRB at 72.) These devices are the C3530n, MC360, MC860, and CX2633 products.

I find that Ricoh has offered sufficient evidence of infringement for these four products. Ricoh offers evidence to support a finding that the four products meet the preamble. (CX-271 at Q. 1202-1203, 1248, 1328, 1406; CX-304.) Ricoh offers evidence to support a finding that the four products meet the “inputting the image data” limitation. (CX-271 at Q. 1204-1206, 1249, 1329, 1407; CX-304.) Ricoh offers evidence to support a finding that the four products meet the “inputting an instruction...” limitation. (*Id.*) Finally, Ricoh offers evidence to support a finding that the four products meet the “setting an operation code” limitation. (*Id.* at Q. 1207-1212,

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1250-1251, 1330-1331, 1408-1409; CX-304.)

Oki Data also briefly raises an argument in its reply brief that infringing a method claim requires use of the claimed method, and Ricoh's pre-hearing brief fails to make any assertion about the use of the method in claim 13. (RRB at 72-73.) I find that such an argument has been waived by Oki Data, as it was not raised in Oki Data's initial post-hearing brief. Ground Rule 11.1.⁵⁰

4. Inducement

Ricoh's Position: Ricoh contends that Oki Data induces infringement. Ricoh claims that Oki Data had the required specific intent because it induced infringing acts and knew or should have known that its actions would have induced actual infringement.

Ricoh claims that Oki Data induces infringement by providing manuals with its accused products that instruct users how to perform the push operations. (Citing CX-20, 21, 48, 96, 114, 115, 117, 280, 288.) Ricoh asserts that at least one customer in the United States has purchased each accused product and performed various push operations. (Citing CX-271 at Q. 1115-1116, 1126-1128, 1219-1221, 1299-1301, 1338-1340, 1377-1379, 1416-1418.)

Oki Data's Position: In its reply brief, Oki Data claims that infringement of a method claim requires use of the claimed method. Oki Data asserts that Ricoh's pre-hearing brief fails to make any assertion about use of the claim 13 method or inducement of infringement of the '771 patent. According to Oki Data, the issue is not addressed in the Joint Stipulation of Contested Issues. Thus, Oki Data claims that Ricoh waived this contention. (Citing Ground Rules 8.2, 8.3, 11.2.)

⁵⁰ In Section III.C.6 *supra*, I reaffirmed my finding from Order No. 29 that Oki Data waived its argument that the limitations of claim 13 are step-plus-function limitations. If it is later found that the limitations of claim 13 are step-plus-function limitations, I find that none of the accused Oki Data products infringe claim 13 for the reasons articulated with respect to claim 1.

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Staff's Position: Staff argues that because Ricoh has failed to demonstrate direct infringement, Ricoh cannot prove inducement. Staff claims that even if direct infringement has been shown, Ricoh did not proffer any of the requisite evidence to support a claim of inducement.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove inducement.

As Oki Data notes, Ricoh did not raise inducement in its pre-hearing brief. (CPHB at 308-320.) Therefore, pursuant to Ground Rule 8.2, I find that this argument has been waived.

Assuming *arguendo* that Ricoh did not waive this argument, I find that Ricoh has failed to demonstrate inducement. Section 271(b) of the Patent Act prohibits inducement: “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b) (2008). As the Federal Circuit stated:

To establish liability under section 271(b), a patent holder must prove that once the defendants knew of the patent, they “actively and knowingly aid[ed] and abett[ed] another’s direct infringement.” However, “knowledge of the acts alleged to constitute infringement” is not enough. The “mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven.”

DSU Med. Corp. v. JMS Co., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (*en banc*) (citations omitted).

Furthermore, “inducement requires evidence of culpable conduct, directed to encouraging another’s infringement, not merely that the inducer had knowledge of the direct infringer’s activities.” *Id.* at 1306. In a later case, the Federal Circuit explained that “[i]n *DSU Med. Corp. v. JMS Co.*, this court clarified *en banc* that the specific intent necessary to induce infringement ‘requires more than just intent to cause the acts that produce direct infringement. Beyond that threshold knowledge, the inducer must have an affirmative intent to cause direct infringement.’” *Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1354 (Fed. Cir. 2008).

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After a review of the evidence submitted by Ricoh, I find that Ricoh has not met its burden to demonstrate the specific intent needed to find inducement. *See AstraZeneca LP v. Apotex, Inc.*, 623 F. Supp. 2d 579, 602 (D.N.J. 2009) (characterizing the specific intent requirement for inducement as “a difficult standard to meet”); *Lucent Techs. Inc. v. Gateway, Inc.*, 2007 WL 925510, at *2-3 (S.D. Cal. Mar. 21, 2007) (“Proof of inducing infringement requires the establishment of a high level of specific intent.”). Ricoh’s inducement argument centers on the fact that Oki Data provides user manuals that instruct users on how to perform the operations that Ricoh accuses of infringement. (CIB at 112-113.) I find that the fact that Oki Data provides user manuals, without more, does not demonstrate the necessary specific intent. If I accepted Ricoh’s assertions, then every respondent found to directly infringe a patent would also be liable for inducement if that respondent provided a user manual with its products. Such a result cannot be correct under the Federal Circuit’s high standard for proving inducement.

D. The ‘048 Patent

1. Claim 1

Claim 1 recites:

1. A peripheral for use with a network providing access to interconnected, on-line documents in response to document requests, said peripheral comprising:

a server to control peripheral operations of said peripheral directly in response to requests, each of the requests formatted as http document requests, such that the peripheral can be coupled directly to said network.

Ricoh’s Position: Ricoh contends that the accused Oki Data products⁵¹ infringe claim 1.

Ricoh claims that the accused products are “peripherals.” (Citing CX-271 at Q. 57, 181-182; RX-371C at Q. 79.) According to Ricoh, each of the accused products is a printer or MFP that is capable of printing, scanning, copying, and/or faxing. (Citing CX-271 at Q. 174-175; RX-371C

⁵¹ The accused Oki Data products are as follows: C3530, MC360, MC860, CX1145, CX2633, CX3641, C710, C830, C3600, C5650, C6050, C6150, and C9650. (CIB at 65.)

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at Q. 10; Tr. at 502:19-503:2.)

Ricoh asserts that the accused products can be controlled using requests formatted as HTTP document requests. (Citing Tr. at 1673:12-22.) Ricoh argues that “HTTP document requests” are not limited to the GET method and cover the POST method and CGI scripts.

Ricoh asserts that the accused products are controlled “directly in response to requests,” as recited in claim 1. Ricoh claims that Mr. Weadock’s testing confirms that the accused products can be directly controlled through a Web interface without an intervening host computer. (Citing CX-271 at Q. 230, 272.) Ricoh notes that Mr. Edwards opines that the accused products are not directly controlled by HTTP document requests because additional software running on the peripheral directly controls the peripheral operations. (Citing RX-371C at Q. 65.) Ricoh argues that this argument includes a new claim construction not previously disclosed by Oki Data. (Citing JX-13.) Ricoh further argues that Mr. Edwards’ interpretation of the claim language would exclude all of the embodiments disclosed in the ‘048 specification. (Citing RX-371C at Q. 66.)

Ricoh asserts that the accused products perform “operations” in response to HTTP document requests. According to Ricoh, there is no dispute that the accused products can perform a number of operations in response to requests from a Web interface. (Citing CX-271 at Q. 171-172; Tr. at 1459:11-1460:18; RX-371C at Q. 74.) Ricoh asserts that the ‘048 patent did not assign any special meaning to the term “operations.” Rather, Ricoh claims that the ‘048 patent teaches that any functions of the peripheral, including administrative functions, constitute “operations.” (Citing Tr. at 603:19-606:13; JX-2 at 7:35-52, 9:44-48, 10:18-24.)

Ricoh claims that Oki Data’s non-infringement argument hinges on an improper construction of “operations” that would limit the term to “meaningful core functionality.”

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(Citing RX-371C at Q. 79, 104; Tr. at 1686:4-24.) Ricoh argues that Oki Data waived the ability to assert such a construction because it was not listed on the Joint Claim Construction Statement.

(JX-13.) Nevertheless, Ricoh asserts that the construction is inconsistent with the intrinsic evidence, which never restricts “operations” to “meaningful core functionality.” (Citing JX-3 at 7:49-50, 9:44-48, 10:20-22; Tr. at 604:1-605:6.)

In its reply brief, Ricoh asserts that the accused products are “peripherals” even under Staff’s proposed construction. Ricoh states that Oki Data’s argument actually relies on the construction of the term “operations,” and that this term was not identified as a term needing construction. (Citing JX-13.) Ricoh argues that even if Oki Data’s proposed construction of “operations” is considered, it should be rejected as being overly narrow.

Ricoh argues that a POST request can be an “HTTP document request” because a POST request can return a document. (Citing Tr. at 601:9-18.) Ricoh points to Mr. Weadock’s testimony explaining that the ‘048 patent can be implemented using the GET or POST methods. (Citing Tr. at 601:9-602:5.) Ricoh also asserts that CGI requests are “HTTP document requests.” (Citing Tr. at 597:3-600:7; RX-350 at 2:1-2.)

Oki Data’s Position: Oki Data contends that none of the accused products infringe claim 1.

Oki Data argues that regardless of the construction of “server,” Ricoh was required to identify a structure in the accused products that corresponds to the server limitation. Oki Data asserts that Mr. Weadock admitted that he failed to identify any structure in the accused products that meets the server limitation. (Citing Tr. at 539:8-23, 540:17-23.) Oki Data states that Mr. Weadock simply concluded that a server is present because the device exhibits the functionality that he associates with a server. (Citing Tr. at 539:24-540:4.) Oki Data thus argues that Ricoh

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failed to prove that the server limitation is present in the accused products.

Oki Data argues that the accused devices require drivers print, scan, or fax, and thus are not “peripherals” as required by the ‘048 patent. (Citing RX-365C at Q. 10-14, 21-23.) Oki Data asserts that “[i]t is undisputed that one cannot print, scan, fax or copy from the web interface of the accused devices.” (Citing RX-365C at Q. 24-28; Tr. at 510:15-511:20, 534:3-537:6; RX-371C at Q. 74-78.)

Oki Data asserts that the result of using the web interface for an accused device is that a POST request is sent to the device. (Citing Tr. at 576:13-20; RX-365C at Q. 30-47; RX-371C at Q. 71, 85, 90; RX-335.) Oki Data claims that the POST request is not an HTTP document request, because it is not a request for a document at all. (Citing RX-365C at Q. 32-33; RX-371C at Q. 70-73.) Oki Data claims that a POST request is a request for the destination server to accept information, not retrieve information. (Citing RX-260; RX-337C at Q. 73-79; Tr. at 563:10-565:14.)

Oki Data argues that Ricoh is attempting to equate an HTTP document request with an HTTP request. (Citing CX-271 at Q. 113; Tr. at 556:16-557:20.) Oki Data asserts that nowhere in the applicable HTTP protocols is the term “HTTP request” equated with “HTTP document request.” (Citing RX-260; Tr. at 557:9-12.) Oki Data further claims that a CGI script is not an “HTTP document request” because a CGI script is a program. (Citing RX-371C at Q. 70-73.) According to Oki Data, Mr. Weadock’s testimony made clear that the default.cgi resource found in the POST requests of the accused devices is a program – software resident in the memory of the accused device that, as the resource identified in the POST request, receives and acts upon the parameters that the server simply passes on. (Citing Tr. at 567:20-568:15, 616:7-24.) Oki Data references another patent that names Mr. Wolff as an inventor and claims that Mr.

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Weadock was forced to concede that that patent clearly distinguishes a CGI script from a document. (Citing Tr. at 568:7-570:23.)

Oki Data argues that the accused devices lack the limitation requiring that the server control the peripheral's operations directly in response to requests. (Citing JX-3 at claim 1; RX-371C at Q. 63.) Oki Data states that the server does not "control" the peripheral's operations in response to POST requests because the server simply passes the user-supplied data along to the default.cgi program, which acts upon those parameters in some predetermined manner specified by the server-side CGI program. (Citing Tr. at 581:12-20, 589:3-13, 593:16-23, 565:15-566:4, 567:20-568:15, 616:7-24; RX-337C at Q. 62-71; RX-371C at Q. 83-84; CX-271 at Q. 268-271.) Oki Data states that Mr. Weadock conceded that the server does not control any peripheral operation but, instead, it is the default.cgi program that effects any such control. (Citing Tr. at 616:7-24; RX-371C at Q. 70-71, 84, 90, 100.)

Oki Data also argues that the "operations" of the accused devices are not controlled via a web interface, regardless of the nature of the submitted requests. (Citing RX-371C at Q. 84; RX-365C at Q. 26-28; Tr. at 534:11-535:14, 543:20-546:21.) Oki Data states that a user of the accused devices cannot print, scan, fax or copy via the web interface, and that the only evidence relied upon to prove infringement relates to the administrative functions of the accused devices. (Citing Tr. at 547:15-22; CX-271 at Q. 200-201; CX-21.) Oki Data argues that the '048 patent made clear that the "operations" of the peripherals referred to the peripheral's intended functions (i.e. printing for a printer). (Citing JX-3 at 2:35-45.)

Staff's Position: Staff contends that Ricoh failed to prove that any of the accused products infringe claim 1.

Staff argues that Mr. Weadock did not identify any corresponding structure for the

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means-plus-function term “server.” Staff therefore believes that Mr. Weadock’s infringement analysis is deficient. (Citing CX-271 at Q. 168-1062.)

Staff asserts that the inventor limited the ‘048 patent to GET requests and the use of URLs. Staff states that Mr. Weadock’s infringement analysis is limited to POST requests and URIs, thus demonstrating that Ricoh has failed to meet its burden on infringement.

Staff argues that none of the accused products do not meet the “directly in response to requests” and/or “HTTP document requests” limitations. (Citing RX-371 at Q. 59-61.) Staff states that the POST commands used in the accused products are commands for the running of a program (the CGI script). According to Staff a POST command to run a CGI script is not a “document request.” (Citing RX-371 at Q. 72-73.)

Staff states that the only actions of the accused devices that can be initiated via a web page interface are configuration changes, printer reset, and printing of information pages. (Citing RX-337 at Q. 76-77.) Staff claims that these are not “operations” as contemplated by the ‘048 patent. Staff states that “operations” are the functions that the multi-function device is intended to fulfill, i.e. printing, scanning, faxing, and copying. (Citing RX-337 at Q. 77.) Staff argues that none of the accused devices can be directed via a web interface to print a document (other than a test/confirmation page), scan, or fax. Staff states that these features all require a PC using drivers. (Citing RX-337 at Q. 78.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that any accused Oki Data products infringe claim 1.

I construed the term “peripheral” to mean “a device coupled to a network that is capable of receiving directions from a computer on a network and performing the actions that were directed, whereby the device does not need a host computer loaded with driver software to direct

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it to perform any of the device's functions.”

Oki Data cited to evidence that establishes that for each of the accused devices, certain device operations (such as printing a Microsoft Word document stored on a user's PC or scanning a document and saving it on a user's PC) can only be performed using a host computer that includes driver software. (RX-365C at Q. 10-14, 21-28; RX-371C at Q. 74-75, 78; CX-21.) This was confirmed by Mr. Weadock at the hearing. (Tr. at 510:15-511:20, 534:3-537:6.) Therefore, the accused devices do not meet the construction of “peripheral” because the accused devices need a host computer with driver software to perform certain functions.

In addition, I find that Ricoh failed to demonstrate that the accused products include the “http document requests” limitation of claim 1. I defined “http document requests” to mean “document requests issued in accordance with the Hypertext Transfer Protocol.”

The parties' experts agree that the alleged “http document requests” in the accused products are POST commands that invoke a CGI script. (RX-271 at Q. 220-221; RX-371C at Q. 70-71.) As Mr. Edwards explains: “CGI is what is know [sic] as Common Gateway Interface, and it is a standard way that web servers use to launch programs in response to HTTP requests, and if required gather the program output and send it back as an HTTP response.” (RX-337C at Q. 78.) Mr. Edwards testifies credibly that a POST command that calls a CGI script is not a request for a document; rather “it is a call to the server to execute a program, a CGI script, server side.” (RX-371C at Q. 70-71.)

Mr. Weadock testifies that “[t]he POST method is an HTTP request, and it specifies the document ‘default.cgi,’ which is a program, along with the parameters telling this CGI program what exactly it should do.” (CX-271 at Q. 221.) Mr. Weadock also refers to a CGI script as a “program document.” (*Id.* at Q. 213.) I find that Mr. Weadock's testimony does not adequately

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explain how a request to execute a CGI script, which is a program, can be considered a “document request.” Additionally, Mr. Edwards testified that “program document” is not a term of art, and that “[i]t appears that Mr. Weadock coined the term to infer that the CGI script was some form of document, which it is not. It is a program, not a document.” (RX-371C at Q. 72-73.)

Ricoh also cites to another patent, U.S. Patent No. 6,012,083 (“the ‘083 patent”), to support its argument. (RX-350.) The inventor named on the ‘048 patent, Mr. Wolff, is one of two co-inventors named on the ‘083 patent. (*Id.*) Other than the common inventor and a common assignee, the ‘048 patent and the ‘083 patent are not related. (*Id.*; JX-3.) The ‘083 patent states:

In some applications, more is required than simply transferring pre-existing documents. Instead of a fixed document, a user might want to receive a document which is dynamically generated when a request for the document is received. One mechanism for creating dynamic documents is the use of Common Gateway Interface (CGI) scripts. With CGI scripts, a client sends a server a document request for a document in the form of a URL (Uniform Resource Locator) where the URL refers not to a document on the server but to a program on the server. The server generates a document in accordance with the program and returns that document to the browser. The server identifies the request as a request to execute a script rather than a request for a document and the server executes the CGI script, possibly using arguments passed as part of the URL.

(RX-350 at 1:63-2:10.)

I find that this passage from the ‘083 patent does not dictate that I reach the conclusion that a POST command to invoke a CGI script is an “http document request.” While the passage does refer to a request to invoke a CGI script as a “document request,” it also clearly states that “[t]he server identifies the request as a request to execute a script rather than a request for a document[.]” (*Id.*) Thus, I find that this passage is ambiguous on its face and does not overcome Mr. Edwards’ persuasive testimony on this issue.

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Based upon the foregoing, I conclude that Ricoh failed to prove that any of the accused products infringe claim 1 of the '048 patent.

2. Claims 19, 20, 21, & 23

Claim 19 recites:

19. A system comprising:

a network;

a single integrated peripheral coupled to the network that performs operations, said peripheral comprising

a communications mechanism to transfer information to and from the peripheral, wherein the communications mechanism receives requests for the device;

a server coupled to the communications mechanism to handle a plurality of requests, each of the requests being invoked by a user specifying a resource identifier defining a resource and its location, such that the peripheral is controlled via a plurality of resource identifiers, wherein the server translates at least one of said plurality of requests into at least one parameter, peripheral functionality is directly controlled by the requests, and the peripheral can be coupled directly to the network; and

a device coupled to the network, wherein a user of the device selects one of the resource identifiers to access the peripheral, such that the device controls the peripheral directly by selecting the resource identifier via an object being viewed by a user of the device.

Ricoh's Position: Ricoh contends that all of the accused products infringe claims 19, 20, and 21, and that the accused MFP products infringe claim 23.

Ricoh argues that the accused products are controlled by a plurality of resource identifiers. (Citing CX-271 at 171-172; Tr. at 1459:11-1460:18; RX-371C at Q. 74.) Ricoh claims that the accused products are responsive to several resource identifiers. (Citing CX-72 at 1-6.) Ricoh notes that several of the accused products include a "Web Print" feature which allows a user to print PDF documents stored on his computer. (Citing Tr. at 612:16-619:7, 634:24-638:3; CDX-154 through 172; CX-271 at Q. 1000.) Ricoh claims that the "Web Print"

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feature uses a resource identifier different than the ones already identified by Ricoh, thus providing additional evidence of a “plurality of resource identifiers” limitation. (Citing Tr. at 612:16-619:7, 634:24-638:3, 1688:6-1689:8.) Ricoh claims that if this limitation is not literally present, then it is present under the doctrine of equivalents. (Citing CX-271 at Q. 266-267; RX-371C at Q. 64, 85.)

Ricoh asserts that the accused product include a Web server that receives HTTP requests in the form of POST requests and performs various functions in response to those requests. (Citing CX-271 at Q. 171-172; Tr. at 1459:11-1460:18; RX-371C at Q. 74.) Ricoh states that the POST requests include one or more parameters that the Web server uses to determine which function to perform. (Citing CX-271 at Q. 266-267; RX-371C at Q. 85.) According to Ricoh, the Web server on the accused products invokes a CGI script to perform the desired operation, passing the parameters from the POST request as arguments. (Citing CX-271 at Q. 168-271; RX-371C at Q. 83.) Thus, Ricoh argues that the accused products meet the “parameter” limitation of claim 19.

Ricoh notes that Mr. Edwards contends that the accused products do not translate HTTP requests into parameters. (Citing RX-371C at Q. 83.) Ricoh claims that Mr. Edwards’ opinions are contradicted by the specification for the CGI standard. (Citing RX-261.) Ricoh states that Mr. Edwards opinions also miss the mark because it is the CGI script executed by the Web server that translates requests into parameters. (Citing Tr. at 594:15-21.)

Oki Data’s Position: Oki Data contends that the accused devices do not infringe claims 19, 20, 21, and 23.

Oki Data states that the “server” limitation is not met for the same reasons as described with respect to claim 1. (Citing Tr. at 539:8-23, 540:17-23; RX-371C at Q. 83.) Oki Data

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asserts that the “peripheral functionality” limitation is not met for the same reasons as described with respect to the “operation” limitation of claim 1 – printing, scanning, faxing, and copying cannot be controlled via the web interface. (Citing RX-371C at Q. 84; RX-365C at Q. 26-28; Tr. at 534:11-535:14, 543:20-546:21.) Oki Data states that the functionality is not “directly controlled by the requests” for the same reasons as described with respect to claim 1.

In addition, Oki Data claims that the accused devices do not comprise a server that “translates at least one of said plurality of requests into at least one parameter,” as required by claim 19. (Citing RX-371C at Q. 83.) Oki Data argues that the evidence demonstrates that there is no translation of the requests in the accused products. (Citing Tr. at 581:12-20, 589:3-13, 593:16-23, 565:15-566:4; RX-337C at Q. 62-71; RX-371C at Q. 83-84; CX-271 at Q. 268-271.)

Oki Data claims that all of the accused devices except the C710, C6050, C6150, and C9650 printers do not meet the “each of the requests being invoked by a user specifying a resource identifier defining a resource and its location, such that the peripheral is controlled via a plurality of resource identifiers” element of claim 19. Oki Data states that for these products, all HTTP requests are made using a single URI: “/printer/default.cgi.” (Citing Tr. at 576:13-20; RX-365C at Q. 30-47; RX-371C at Q. 71, 85, 90; RX-335.) Oki Data states that the plain language of the claim requires that a plurality of resource identifiers effect the control of the peripheral.

In its reply brief, Oki Data asserts that Ricoh’s doctrine of equivalents argument is untimely and legally unsupportable. Oki Data argues that Ricoh’s attempt to reply on the CGI standard to prove the translation element of the claim 19 is misleading because the POST requests used in the accused products do not include the “meta-variables” needed for translation of a CGI request. (Citing CDX-154.)

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Staff's Position: Staff contends that Ricoh failed to demonstrate that the accused products infringe claims 19, 20, 21, or 23. Staff argues that Ricoh failed to prove the existence of a “server” for the reasons discussed with respect to claim 1. Staff states that the evidence shows that the accused products do not meet the “directly controlled” element of claim 19. (Citing RX-371 at Q. 62-71, 83-85.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that any accused Oki Data products infringe claim 19. For the same reasons as discussed *supra* with respect to claim 1, I find that Ricoh has failed to prove that the accused products are “peripherals” as required by the ‘048 patent because the accused devices require host computers with driver software to perform certain functions.

In addition, I find that the C3530, MC360, MC860, CX1145, CX2633, CX364, C830, C3600, C5650, and C6050 products do not meet the “peripheral is controlled via a plurality of resource identifiers” limitation of claim 19. Oki Data asserts that for these identified devices, all HTTP requests are made using a single resource identifier: “/printer/default.cgi.” Oki Data offers evidence to support this assertion. (RX-371C at Q. 71, 85; RX-365C at Q. 44-45; Tr. at 576:9-20.)

In testifying regarding this claim limitation, Mr. Weadock acknowledges that the same resource identifier is sent for each operation selected, but claims that each resource identifier is sent along with variables and values in the body of the HTTP POST message that distinguish the requested operations. (CX-271 at Q. 267.) I find that Mr. Weadock’s testimony essentially admits that this limitation is not met, because he characterizes the variables and values as things separate from the “resource identifier.” (*Id.*) Mr. Weadock’s testimony thus fails to establish the “plurality of resource identifiers” required by claim 19.

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Ricoh claims that the accused products are responsive to several resource identifiers other than “/printer/default.cgi.” (CIB at 74.) The evidence relied upon by Ricoh fails to support this claim, as the evidence does not demonstrate that the resource identifiers listed by Ricoh are used in the accused products. (See CX-72; CX-271 at Q. 206-208.) The evidence cited by Ricoh does not even mention the resource identifiers listed by Ricoh. (*Id.*)

Ricoh also offers a doctrine of equivalents argument. (CIB at 74-75.) I find that this argument has been waived pursuant to Ground Rule 8.2 because it does not appear in Ricoh’s pre-hearing brief. (CPHB at 234-235.) Assuming *arguendo* that Ricoh’s equivalence argument was properly presented, I find that it is not persuasive. Ricoh appears to compare the POST requests of the accused product to a hypothetical GET request that is not addressed in claim language. (CIB at 74-75.) Ricoh does not conduct a proper equivalence analysis because Ricoh fails to compare the claim language to the accused products. (*Id.*) Based on the foregoing, I find that Ricoh has failed to offer evidence comparing the accused devices to the claims to demonstrate that the accused product is an equivalent. See *Voda v. Cordis Corp.*, 536 F.3d 1311, 1326 (Fed. Cir. 2008) (describing the two articulations of the test for equivalence); *Zenith Labs., Inc. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1423 (Fed. Cir. 1994) (explaining that in an infringement analysis, “the only proper comparison is with the claims of the patent.”)

Claims 20, 21, and 23 all depend on claim 19. Because I have found that Ricoh has not proven infringement of claim 19, I find that Ricoh has failed to prove infringement of claims 20, 21, and 23. *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

3. Claims 24, 25, 26, 28, 29, 31, & 32

Claim 24 recites:

24. A method of controlling a peripheral coupled to a network with a device coupled to the network, said method comprising:

the device selecting one of a plurality of resource identifiers to select one of a plurality of operations to be performed by the peripheral, each of the plurality of operations being invoked individually by a user specifying a descriptor defining a resource and its location, such that the peripheral is responsive to a plurality of descriptors to control its operation;

generating a request to the peripheral in response to the one resource identifier being selected; and

directly controlling the peripheral by the one resource identifier, wherein the request is handled using a server on the peripheral.

Ricoh's Position: Ricoh contends that the accused products infringe claims 24, 25, 26, 28, 29, 31, and 32. Ricoh argues that for the reasons described with respect to claims 1 and 19, a majority of Oki Data's non-infringement arguments for these claims are without merit.

With regard to claims 25 and 26, Ricoh states that Oki Data claims that the accused products do not satisfy the limitation of these claims. (Citing RX-371C at Q. 95-96.) Ricoh states that the evidence demonstrates that the CX3641 product and similar models meet the limitations of claims 25 and 26. (Citing CX-271 at Q. 1039; CX-298 at 8-10.)

Ricoh states that Mr. Edwards' opinions with regard to claims 25 and 26 should be disregarded for at least three reasons. First, Ricoh states that Mr. Edwards has no basis to render an opinion because he never tested the CX3641 or any similar model, nor did he review the firmware for those models. (Citing Tr. at 1670:2-25.) Second, Ricoh states that Mr. Edwards contends that operations are only controlled by CGI scripts, which is irrelevant to claim 25. (Citing RX-371C at Q. 95.) Third, Ricoh claims that Mr. Edwards does not dispute that the

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CX3641 allows a user to retrieve “mailbox” documents stored in memory. (Citing RX-371C at Q. 95-96.)

In its reply brief, Ricoh states that Oki Data offers a new claim construction for “individually” – “on a one-to-one basis.” (Citing RIB at 83.) According to Ricoh, Oki Data asserts that the claims require there be to a one-to-one correspondence between the resource identifier and the operation performed. Ricoh argues that this untimely claim construction should not be allowed. Even so, Ricoh argues that Oki Data’s new claim construction is not consistent with the plain language of claim 24 and the ‘048 specification. (Citing JX-3 at 6:21-25, 12:8-14; CX-271 at Q. 273-278, 313-315; CX-72.) Ricoh states that the language of claim 24 requires that a user cannot invoke more than one of the plurality of operations with a single request.

Oki Data’s Position: Oki Data contends that the accused devices do not infringe claims 24, 25, 26, 28, 29, 31, and 32.

Oki Data states that the “server” limitation is not met for the same reasons as described with respect to claim 1. Oki Data asserts that the “peripheral functionality” limitation is not met for the same reasons as described with respect to the “operation” limitation of claim 1 – printing, scanning, faxing, and copying cannot be controlled via the web interface. (Citing RX-371C at Q. 93.) Oki Data states that the functionality is not “directly controlled by the requests” for the same reasons as described with respect to claim 1. (Citing RX-371C at Q. 92.)

Oki Data argues that the language of claim 24 requires that each descriptor must individually relate, on a one-to-one basis, to its corresponding individual operation. Oki Data asserts that, for the same reasons as discussed with respect to claim 19, the “operations” of most of the accused products are controlled by a single resource identifier. (Citing RX-371C at Q.

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90.) Oki Data argues that the dependent claims are not infringed for the reasons stated by Mr. Edwards in his testimony. (Citing RX-371C at Q. 95-98.)

Staff's Position: Staff contends that Ricoh failed to demonstrate that the accused products infringe claims 24, 25, 26, 28, 29, 31, and 32.

Staff asserts that it is clear from the language of claim 24 that the claim requires a one-to-one relationship between each individual resource identifier and each operation. Staff argues that the accused devices are not controlled by a plurality of resource identifiers, but instead by a single resource identifier – “printer/default/cgi.” Staff states that the evidence shows that only a one-to-many relationship exists between the identified CGI script and the alleged operations. (Citing RX-371 at Q. 90.)

Staff states that the accused devices cannot be “directly controlled” via an HTTP request as claim 24 requires. (Citing RX-371 at Q. 92.) Staff states that the accused devices cannot be controlled to perform actual “operations” via a web interface. (Citing RX-371 at Q. 93.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that any accused Oki Data products infringe claim 24. For the same reasons as discussed *supra* with respect to claim 1, I find that Ricoh has failed to prove that the accused products are “peripherals” as required by the ‘048 patent because the accused devices require host computers with driver software to perform certain functions. In addition, I find that the C3530, MC360, MC860, CX1145, CX2633, CX364, C830, C3600, C5650, and C6050 products lack the “plurality of resource identifiers” limitation of claim 24 for the same reasons as discussed *supra* with respect to claim 19.

Claims 25, 26, 28, 29, 31, and 32 all depend on claim 24. Because I have found that Ricoh has not proven infringement of claim 24, I find that Ricoh has failed to prove infringement

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of claims 25, 26, 28, 29, 31, and 32. *Wahpeton*, 870 F.2d at 1552 n. 9.

4. Claim 33

Claim 33 recites:

33. A peripheral for use with a network providing access to interconnected, on-line documents in response to document requests, said peripheral comprising:

a server to control peripheral operations of the peripheral directly in response to requests by translating the requests into commands, each of the requests formatted as a http document request such that the peripheral can be coupled directly to said network; and

a memory to maintain objects that the server serves onto the network in response to requests.

Ricoh's Position: Ricoh contends that for the same reasons set forth for claim 1, the accused Oki Data products infringe claim 33.

Ricoh claims that Oki Data raises the same non-infringement arguments that it raised with respect to claim 1. (Citing RX-371C at Q. 99-102.) Ricoh claims that Oki Data also argues that the accused products do not meet the memory limitation of claim 33. (Citing RX-371C at Q. 101.) Ricoh argues that the accused products meet the memory limitation because the accused products include memory for storing objects, such as GIF images, served in response to HTTP requests. (Citing CX-271 at Q. 324-327.)

Oki Data's Position: Oki Data contends that the accused devices do not infringe claim 33 largely for the same reasons as provided for claim 1.

Oki Data claims that Ricoh has failed to offer any evidence to support a finding that the accused devices include the "memory" element of claim 33. Oki Data asserts that the un rebutted evidence shows that any objects provided by the web server are created on demand from data fragments embedded in the firmware code, constructed on a rule and knowledge based method and, as such, the objects are not contained in storage coupled to the server as required by claim

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33. (Citing RX-371C at Q. 99-102.)

Staff's Position: Staff contends that Ricoh failed to demonstrate that the accused products infringe claim 33. Staff asserts that Ricoh has not proved infringement of claim 33 for all of the reasons discussed with respect to claim 1.

Staff also argues that the accused devices do not include the memory limitation found in claim 33. Staff states that the accused devices do not store data obtained from a web server.

(Citing RX-371 at Q. 101.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that any accused Oki Data products infringe claim 33. For the same reasons as discussed *supra* with respect to claim 1, I find that Ricoh has failed to prove that the accused products are “peripherals” as required by the ‘048 patent because the accused devices require host computers with driver software to perform certain functions. For the same reasons as discussed *supra* with respect to claim 1, I find that Ricoh has failed to prove that the accused products meet the “http document request” limitation.

5. Claims 49, 50, 51, 53, 54, 56, & 57

Claim 49 recites:

49. A method of controlling a peripheral coupled to a network with a device coupled to the network, the method comprising:

the peripheral receiving a request relating to a resource identifier selecting one of a plurality of operations to be performed by the peripheral, each of the plurality of operations being invoked individually by a user specifying a descriptor defining a resource and its location, such that the peripheral is responsive to a plurality of descriptors to control its operation; and

directly controlling the peripheral by the one resource identifier, wherein the request is handled using a server on the peripheral which converts the request into at least one command.

Ricoh's Position: Ricoh contends that the accused Oki Data products infringe claims 49,

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50, 51, 53, 54, 56, and 57. Ricoh argues that it has already addressed Oki Data's primary non-infringement arguments in its discussion of claims 1 and 19. Ricoh asserts that Mr. Edwards offers an opinion that the accused products do not infringe dependent claims 50, 51, and 53. (Citing RX-371C at Q. 94-98, 107.) Ricoh argues that these claims are infringed for the same reasons as set forth for claims 25, 26, and 28.

Oki Data's Position: Oki Data contends that the accused devices do not infringe claims 49, 50, 51, 53, 54, 56, and 57. Oki Data states that claim 49 is essentially the same in substance as claim 24, merely re-written in method form. Oki Data thus asserts that claim 49 is not infringed for the same reasons provided with respect to claim 24. (Citing RX-371C at Q. 103-108.)

Staff's Position: Staff contends that Ricoh failed to demonstrate that the accused products infringe claims 49, 50, 51, 53, 54, 56, and 57.. Staff asserts that Ricoh has not proved infringement of claim 49 for all of the reasons discussed with respect to claim 24.

Staff argues that the accused products also lack a server that "converts the request into at least one command" as required by claim 49. (Citing RX-371 at Q. 105.) Staff asserts that conversion is not necessary in the accused devices because a POST command is already transmitted to the accused devices. (*Id.*) Staff further states that transmitted with a POST command are arguments, which are the values that the program needs to run properly. (*Id.*) Staff claims that the arguments do not need to be converted. (*Id.*)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove than any accused Oki Data products infringe claim 49. For the same reasons as discussed *supra* with respect to claim 1, I find that Ricoh has failed to prove that the accused products are "peripherals" as required by the '048 patent because the accused devices require

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host computers with driver software to perform certain functions. In addition, I find that the C3530, MC360, MC860, CX1145, CX2633, CX364, C830, C3600, C5650, and C6050 products lack the “plurality of descriptors” limitation of claim 49 for the same reasons as discussed *supra* with respect to claim 19.

Claims 50, 51, 53, 54, 56, and 57 all depend from claim 49. Because I have found that Ricoh has not proven infringement of claim 49, I find that Ricoh has failed to prove infringement of claims 50, 51, 53, 54, 56, and 57. *Wahpeton*, 870 F.2d at 1552 n. 9.

6. Inducement

Ricoh’s Position: Ricoh contends that Oki Data induces infringement of the asserted claims. According to Ricoh, Oki Data induces infringement by instructing users to perform various operations on each of the accused products using the embedded Web server.

Ricoh states that with every accused product sold, Oki Data includes one or more user manual that instructs users on how to perform a plurality of operations using the embedded Web server. (Citing CX-21; CX-20.) Ricoh states that user manuals are freely available online as well. (Citing CX-21.) Ricoh claims that at least one customer in the United States has purchased each accused product and performed various operations using a Web interface. (Citing CX-271 at Q. 163-176; Tr. at 1670:2-1671:9, 1671:16-1672:22.) Ricoh states that Oki Data was aware of the ‘048 patent by at least September 18, 2009, and Oki Data should have known that the instructions it provides to customers induce infringement of the ‘048 patent.

Oki Data’s Position: Oki Data contends that Ricoh’s inducement argument is untimely because Ricoh did not assert inducement in its pre-hearing brief or in the Joint Statement of Contested Issues.

Staff’s Position: Staff offers no position on this issue.

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Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove inducement.

As Oki Data notes, Ricoh did not raise inducement in its pre-hearing brief. (CPHB at 225-246.) Therefore, pursuant to Ground Rule 8.2, I find that this argument has been waived.

Assuming *arguendo* that Ricoh did not waive this argument, I find that Ricoh has failed to demonstrate inducement. Section 271(b) of the Patent Act prohibits inducement: “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b) (2008). As the Federal Circuit stated:

To establish liability under section 271(b), a patent holder must prove that once the defendants knew of the patent, they “actively and knowingly aid[ed] and abett[ed] another’s direct infringement.” However, “knowledge of the acts alleged to constitute infringement” is not enough. The “mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven.”

DSU Med. Corp. v. JMS Co., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (*en banc*) (citations omitted).

Furthermore, “inducement requires evidence of culpable conduct, directed to encouraging another’s infringement, not merely that the inducer had knowledge of the direct infringer’s activities.” *Id.* at 1306. In a later case, the Federal Circuit explained that “[i]n *DSU Med. Corp. v. JMS Co.*, this court clarified *en banc* that the specific intent necessary to induce infringement ‘requires more than just intent to cause the acts that produce direct infringement. Beyond that threshold knowledge, the inducer must have an affirmative intent to cause direct infringement.’” *Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1354 (Fed. Cir. 2008).

After a review of the evidence submitted by Ricoh, I find that Ricoh has not met its burden to demonstrate the specific intent needed to find inducement. *See AstraZeneca LP v. Apotex, Inc.*, 623 F. Supp. 2d 579, 602 (D.N.J. 2009) (characterizing the specific intent requirement for inducement as “a difficult standard to meet”); *Lucent Techs. Inc. v. Gateway*,

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Inc., 2007 WL 925510, at *2-3 (S.D. Cal. Mar. 21, 2007) (“Proof of inducing infringement requires the establishment of a high level of specific intent.”). Ricoh’s inducement argument centers on the fact that Oki Data provides user manuals that instruct users on how to perform the operations that Ricoh accuses of infringement. (CIB at 78-79.) I find that the fact that Oki Data provides user manuals, without more, does not demonstrate the necessary specific intent. If I accepted Ricoh’s assertions, then every respondent found to directly infringe a patent would also be liable for inducement if that respondent provided a user manual with its products. Such a result cannot be correct under the Federal Circuit’s high standard for proving inducement.

E. The ‘343 Patent

1. Claims 18, 19, 20, & 21

Claims 18, 20 and 21 of the ‘343 patent contain, *inter alia*, identical language that teaches, in relevant part, as follows:

a blade that is formed with a thin metal plate having elasticity and that is configured such that a lower edge thereof contacts the roller part of the developing roller so as to seal a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller; and

wherein the blade includes a wide-width part having a length such that longitudinal ends thereof face the side seals respectively and a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the developing roller and configured to have a length that enables the the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit, and a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.

(JX-4 at 25:9-14, 25:15-29; 25:51-56, 25:57-26:3, 26:19-24, 26:25-38.)

Ricoh’s Position: Ricoh argues that Oki Data’s products infringe claims 18, 19, 20 and 21 under all parties’ proposed constructions of “lower edge.” Ricoh says that the asserted claims

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simply require that “a lower edge” of the blade contact the roller so as to seal a gap as described in the patent. Ricoh contends that nothing in the patent limits “a lower edge” to any particular surface or border in the lower region of the blade. Ricoh states that the claims merely recite that the contact between the blade and developing roller occurs in the lower region of the blade so that a gap is sealed at the point of the developing roller. Ricoh says the specification confirms this understanding. (Citing JX-4 at 11:63-65.) Ricoh concludes that Oki Data’s accused products infringe under the ordinary and customary meaning because a lower edge of the blade indisputably contacts the developing roller. (Citing CX-122 at 14, 16, 22.)

Much of Ricoh’s argument on this issue centers on construction. I will not repeat that argument here, nor will I repeat my conclusions regarding construction, which are set forth in detail in Section III, *supra*.

Ricoh says that prior to issuance of Order No. 28 in this matter, the parties had disputed whether Oki Data’s products meet the “upper edge” limitation. Ricoh asserts that this was “entirely a claim construction dispute.” Ricoh says the matter was resolved by Order No. 28, and it is undisputed Oki Data’s products meet the “upper edge” limitation under the construction described in Order No. 28.

Ricoh says that Oki Data contends that its products lack a “step part” because a “step part” must be “a physical region and physical transition between the narrow and wide parts of the developing blade.” (Citing RPHB at 30.) Ricoh argues that no intrinsic evidence supports Oki Data’s position. Ricoh asserts that Oki Data’s argument is an example of “impermissibly reading a drawing from the preferred embodiment into the specification.”

Ricoh asserts that the patent evinces no intent to deviate from the ordinary and customary meaning of “step.” Ricoh says the broader context of the claim term – “a step part forming a

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boundary between the wide-width part and the narrow-width part” – also makes clear that no construction is needed. Ricoh contends that this limitation simply ensures demarcation between the wide-width part and narrow-width part – a “step,” as opposed to a mere “ramp” from which the blade merely tapers in a continuous fashion from the wide-width part out to the end of the blade.

Ricoh argues that Oki Data’s attempt to read a “physical region or physical transition” limitation in the claims is based solely on the drawing in Figure 12. (Citing RPHB at 30-31; Tr. at 1374:15-20.) Ricoh says that Oki Data relies on the fact that Figure 12 illustrates a step part having a line that slopes somewhat downward between the wide-width and narrow-width parts of the blade, as opposed to a line that runs straight across the page without a downward slope. Ricoh asserts that nothing in the intrinsic evidence suggests that this sloping transition is an integral feature of a “step part forming a boundary.” Ricoh asserts that argument is an invitation to impermissibly read its new limitation into the claims and should be rejected. (Citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).) Ricoh concludes that, “without Oki Data’s additional, extrinsic element, there is no dispute that Oki Data’s products meet the ‘step part’ limitation.”

Ricoh argues even if Oki Data’s requirement of a “physical region and physical transition” were read into the claims, Oki Data’s products still would infringe. Ricoh asserts that the blade in the Oki Data products has a slight curvature along the transition between the wide-width and narrow-width parts of the blade. (Citing CX-122 at 23; CDX-90.) Ricoh contends that this curved transition creates precisely the type of “physical region and physical transition” that Oki Data argues is the hallmark of a “step part.” Ricoh says that Oki Data’s expert, Dr. Fraser, admitted that Oki Data blades with a slight curvature or radius meet the “step part”

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limitation. (Citing Tr. at 1365:22-1367:20.) Ricoh adds that, in his direct witness statement, Dr. Fraser testified that the step part in the '343 patent can be “a curved radius.” (Citing RX-85C at Q. 81.)

Ricoh contends that the blade in Oki Data's products is also “configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller.” Ricoh says the bending capability to which this claim limitation refers is the ability of the narrow-width part to be bent above the contact point between the blade and the developing roller. Ricoh quotes the specification to explain: “[w]hen a blade is formed with a thin metal plate having elasticity and is configured such that the blade is bent by a developing roller so as to contact the developing roller by its reacting force when the blade is assembled in the developing device as described above, the axial center of the developing roller is determined by a bearing of a developing case.” (Citing JX-4 at 2:52-57.)

Ricoh contends that this section of the specification teaches that the reacting force caused by assembling the blade and roller in the developing case creates the elastic bending. Ricoh says this is evident from the fact that the developing roller is attached to the walls of the developing case where the bearings are located, and this location is the axial center of the developing roller. Ricoh asserts that the bending is due to the pressure of the developing roller pressing against the narrow-width part of the blade, and the bend reveals itself through the curvature of the blade. Ricoh states that this configuration will provide a normal reaction force because the blade is free to slide on the surface of the developing roller. Ricoh concludes that this reaction force is in a direction orthogonal to the tangent at the point of contact between the blade and the roller. Ricoh adds this direction is also orthogonal to the longitudinal direction of the developing roller. (Citing JX-4 at 2:52-57; CX-267 at Q. 189.)

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Ricoh contends that a cross-sectional view of the Oki Data products shows a bending of the narrow-width part of the blade in a direction orthogonal to a longitudinal direction of the developing roller. (Citing CX-122 at 5, 19; CDX-89.) Ricoh asserts that this view provides proof of infringement, because the claim language requires that the blade “have a length that enables the narrow-width part to be bent” in an orthogonal direction, and actual bending proves that this limitation is met. Ricoh says that Dr. Fraser conceded infringement of this limitation. (Citing Tr. at 1369:14-1371:14, 1364:20-1365:10, 1371:22-1372:4.)

Ricoh argues even if I find that “a direction orthogonal to a longitudinal direction of the developing roller” refers to the plastically bent segment of the narrow-width part of the blade that produces the blade’s “L”-type shape, the accused Oki Data cartridges would still meet this claim element. Ricoh says, like the elastic bending above the contact point, this plastic bend is also in a direction orthogonal to a longitudinal direction of the developing roller. (Citing CX-122 at 5, 19; CX-267 at Q. 190.) Ricoh avers that Dr. Fraser conceded infringement of the “orthogonal” limitation under this understanding of the claim term as well. (Citing Tr. at 1370:5-1371:2.)

Oki Data’s Position: Oki Data argues that none of the developing blades used in the accused Oki image drums, printers, and multi-function devices have a lower edge of the blade that is in contact with the developing roller. Specifically, the end or tip of the Oki Data blades is not in contact with the developing roller in any product, but rather is bent away from and does not touch the developing roller. (Citing RX-364C at Q. 6; RX-368C at Q. 58, 59, 66-71; RDX-71.)

Oki Data states that all asserted claims of the ’343 patent share the claim element “so as to seal a gap.”

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Oki Data argues that all asserted claims of the '343 patent share the claim element, “a step part forming a boundary.” Oki Data contends that the phrase describes a physical transition between the narrow and wide parts of the developing blade, as does the described function of the step part, which is “forming a boundary.” (Citing RX-368C at Q. 75.) Oki Data points to Figure 12 as showing the step part (71) as a transitional boundary region taking the blade from its wider diagonal portion (69) to the narrow portion (70). Oki Data contends that transitional boundaries, such as the step part in the asserted claims, serve a variety of functions in a mechanical design, including to stiffen the blade and to ensure that the narrow portion of the blade is not plastically deformed into the space between the side seals when the developing blade is pressed against side seals. (Citing RX-368C at Q. 76.) Oki Data adds that prior art patents illustrate the benefits to using a step part in order to prevent the wide-width part of the developing blade from deforming and allowing toner leakage. (Citing RX-368C at Q. 76-77; RX-52C at 57, 58, 62, 65, 67.)

Oki Data argues that this claim limitation is not literally present in any accused product. (Citing RX-368C at Q. 73-80.) Oki Data asserts that each of the blades in the accused Oki Data image drums, printers, and multi-function devices has a rectangular wide part followed by an abrupt, right angle cut-away portion, followed by another right angle turn and the narrow-wide portion of the blade. (Citing RX-368C at Q. 74; RX-69; RX-70; RX-71; RX-72; RX-73.) Oki Data says in Figure 12 there is a sharp intersection at the upper corner of the narrow-wide portion of the blade. Oki Data adds that intersection is not described as the step part by the '343 patent, and that intersection is analogous to the Oki Data product design. (Citing RX-368C at Q. 78.)

Oki Data says that all asserted claims of the '343 patent share the claim element “a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction

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of the developing roller.” Oki Data argues that in the complaint and in their opening expert report, Ricoh’s expert asserted that this claim limitation requires a permanent 90° bend in the developing blade. (Citing Tr. at 156:10-24; RX-368C at Q. 84; RX-71C; RX-72C.) Oki Data contends that the “blades of numerous Oki Data products does not have such a bend, and thus do not infringe under this construction.” (Citing RX-368C at Q. 84; RX-71C; RX-72C.)

Oki Data avers that Dr. Stauffer later interpreted this limitation to mean that the blade is pushed in the direction of the reacting force pushing outward from the axis of the developing roller. (Citing CX-267 at Q. 189, 258.) Oki Data says Dr. Stauffer adopted this construction in his rebuttal invalidity report and did not provide an opinion on infringement on this subject. (Citing CX-267C at Q. 189.)

In its reply brief, Oki Data argues that Ricoh’s discussion of “a step part forming a boundary” violates the cardinal rule that claim terms should be interpreted the same way for infringement and invalidity. (Citing *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001).) Oki Data contends that for invalidity purposes, Ricoh asserts that the step part “indicates an interval, a transition from one likeness to another.” (Citing CIB at 29.) Oki Data asserts that, when Ricoh analyzed its own domestic industry product, Ricoh did not apply this definition. Oki Data says, instead Ricoh’s expert opined that the Ricoh blades practice this limitation with different narrow- and wide-width shape profiles, *e.g.*, without a transition from one likeness to another. (Citing RDX-245; RDX 246; CX-122 at 32, 33; Tr. at 163:13-167:6.) Oki Data avers that Ricoh admitted a demonstrative exhibit at trial (CDX-101) that shows the narrow-and wide-width parts having different shape profiles.

Oki Data alleges that Ricoh’s expert “concocted his new construction” when faced with the invalidity challenge of the ’122 application and the ’820 patent. (Citing Tr. at 163:5-7.) Oki

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Data argues in addition to conflicting with Dr. Stauffer's prior sworn statements and its demonstrative trial exhibit, Ricoh's new construction is wrong for at least three reasons. First, Oki Data says Ricoh's new construction is supported only by Dr. Stauffer's uncorroborated testimony. Oki Data contends that "conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court." (Citing *Phillips*, 415 F.3d at 1318.) Second, Oki Data urges that Ricoh's "new definition" has no grounding or basis in the language of the patent. Oki Data says Figure 12 shows the "step part forming a boundary" joining two unlike shapes, and column 15, at lines 25-26 also reveals that the step part has some dimension and, as claimed, "form[s] a boundary." (Citing RIB at 17.) Third, Oki Data argues that Dr. Fraser testified claims 18 to 21 require the step part to "form a boundary." (Citing RIB at 17.) Oki Data argues that the sharp, right angle corner in Dr. Stauffer's example and definition does not form a boundary as required by the claims. Oki Data contends that this is illustrated by Figure 12, which labels the step part 71 as the transitional area between the wide- and narrow-width parts, but not as the sharp corner between step part 71 and the narrow-width part 70. Oki Data says even though the contradiction in Ricoh's position was identified in Oki Data's Pre-Hearing Brief and explored with Dr. Stauffer at trial, Ricoh makes no effort to explain the contradiction in its positions. Oki Data argues that Ricoh should not be permitted to address this contradiction for the first time in reply. (Citing Ground Rule 11.1.)

Oki Data argues if Ricoh's new definition is correct, then Ricoh's domestic industry product (the Aficio C220) fails to meet this claim limitation. Oki Data alleges that the C220 blade has the same configuration shown in Figure 12 of the '343 patent and does not have "a transition from one likeness to another," as confirmed by Ricoh's admissions in its complaint and opening expert report. (Citing RDX-245; RDX-246; Tr. at 163:13-167:6.)

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Oki Data continues, if Ricoh's new definition is not correct, then "not all of the Oki products infringe." Oki Data says the evidence shows that the C9600 series, C9650 series, C9800 series, and C9850 series products have a sharp, right angle corner between the narrow-width and wide-width parts. (Citing RX-71C; RX-72C; RX-73C; RX-378.)

Regarding the limitation requiring "a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller" Oki Data argues that Ricoh previously advocated that this limitation "requires the narrow-width part to be bent between the side seals[.]" (Citing CPHB at 136; RIB at 18.) Oki Data asserts, consistent with this construction, the complaint, and its expert's infringement report, Ricoh asserted that this claim element was met solely because of the plastic bend found in all of the Oki blades. (Citing Tr. at 154:7-158:18; CX-122 at 25.)

Oki Data says that Ricoh now argues that this claim element requires only "the ability of the narrow-width part to be bent above the contact point[.]" (Citing CIB at 15 (emphasis added by Oki Data).) Oki Data contends that the claims themselves include no such requirement. Oki Data says Ricoh's original analysis held that the Oki products infringed because the claims called for a permanent plastic bend between the side seals. (Citing Tr. at 154:7-158:18.) Oki Data says Ricoh abandoned its plastic bend argument in favor of requiring only an elastic bend; but it nonetheless maintained its position that the blade must actually "be bent between the side seals" to satisfy the claim. (Citing Tr. at 154:7-158:18; CX-305 at Q. 40, 79; CX-122 at 25.) Oki Data asserts that only when faced with the physical evidence showing that Ricoh's domestic industry product does not actually bend between the side seals did Ricoh change again to its current position. (Citing RIB at 19-21.)

Oki Data argues that Ricoh's newest position is wrong. Oki Data avers that Ricoh's own

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expert considered the intrinsic and extrinsic evidence and concluded that bending between the side seals was required by the claims. (Citing Tr. at 154:7-158:18; CX-305 at Q. 40, 79; CX-122 at 25.) Oki Data alleges that both plastic and elastic bending are described in the specification and the claims do not specify either an elastic or plastic (permanent) bend. Oki Data asserts that the location of any bend in the narrow-width part also is not specified. Oki Data posits that according to the plain language of the claim, “the location could be either upstream or downstream of the contact point, whether or not the blade is actually bent (under Ricoh’s original position) or is merely capable of being bent (Ricoh’s apparent current position).” Oki Data adds that the specification passages Ricoh cites do not support its new location of bending argument, because these passages say nothing about where bending occurs.

Oki Data argues that Ricoh is also wrong to assert that the Oki Data blades meet this limitation. Oki Data contends if Ricoh is held to its original construction requiring a 90° bend, then Ricoh has failed in its proofs. Oki Data says the Oki blades specify a different bend angle. (Citing RX-69C at OKI003782377 (92° ± 1.5°); RX-71C at OKI003782359 (60° ± 1.5°); RX-72C at OKI003782374 (same).) Oki Data says these blades correspond to “almost all of these accused Oki products.” (Citing RX-378.)

Oki Data argues that under Ricoh’s second construction, all parties agree that any bending that occurs is along the curvature of the blade, and it is well known that the direction of a curve at any point is defined to be the same as the direction of the line tangent to the curve at that point. (Citing Tr. at 1371:22-1373:12; CDX-99) Oki Data alleges that the curvature of its blades is not in a direction orthogonal (*e.g.*, 90°) to any longitudinal direction of the roller at the contact location. Oki Data says this is evident from “any of the cross-sections of an Oki product.” Oki Data adds if “the claim only requires capability of bending (Ricoh’s third

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construction), there still is no proof that the Oki blades are capable of being bent in an orthogonal direction.”

Staff’s Position: Staff argues that Ricoh did not to show that the accused devices satisfy, at least, the “lower edge,” “seal a gap,” and the “bent in a direction orthogonal to” elements that are present in each of the asserted claims. Staff contends that the infringement issue with respect to the first two elements was resolved by Order No. 28, “wherein [I] ruled that the blades do not have to completely fill ‘a gap.’”

With respect to the “bent orthogonally” element, Staff says the photographs in CX-122 taken by Dr. Stauffer, Ricoh’s technical expert, fail to demonstrate that the narrow-width section of the blades in Oki Data’s accused devices are elastically bent orthogonally (at a right angle) by contact with the outer surface of the roller of the developing roller at “a lower edge of the blade” or at any portion of the blade, as required by each of the asserted claims.

Staff asserts that, in its infringement analysis, Ricoh, instead of using the express language of the seventh limitation of independent claim 18, (*i.e.* “length that enables the narrow-width part to be *bent in a direction orthogonal* to a longitudinal direction of the developing roller”) substitutes the phrase “the blade is subjected to a *force in the orthogonal direction* from the axis of the developing roller” for the claim language. (Citing CIB at 93-95.) Staff contends neither the claims, the specification, nor the file history of the ‘343 patent refers to “force” in connection with bending the lower edge of the blade orthogonally (at right angle). Staff says the claims describe a blade that is elastically bent orthogonally (90 °), *i.e.*, elastically bending the lower edge of the blade by contact with the developing roller. (Citing JX-4 at 7:13-24.)

Staff adds that Dr. Stauffer contends that the elastically bent portion is above the point where the blade contacts the developing roller, *i.e.*, downstream from the point of contact.

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(Citing CX-267C at Q. 178; CX-122 at 14; Tr. at 110-11; JX-4 at Fig. 8A (area between part 43 and the developing roller).) Staff says the only bending, if any, is a slight bend in the central portion of the blade, which comprises the transition section between the narrow-width section and the wide-width section and the wide-width section of the blade. (Citing CX-122 at 14, 16-19, 21-22, 25.) Staff says, however, according to the express language of the asserted claims, the section that is the bent portion must be below the point of contact, *i.e.*, upstream.

Staff contends that the claim describes the step-part portion of the blade as forming a boundary between the wide-width section and the narrow-width section, explaining that such boundary is downstream of a contact point of the blade and a roller part. Staff avers that Dr. Stauffer's initial construction of this element in his declaration in support of the Complaint and in his initial expert report (*i.e.* requiring a plastic deformed "L" at the end of the blade) is consistent with the Staff's analysis; except that the Staff's construction requires an elastic deformation. (Citing CX-26 at Fig. A-7; Tr. at 154-56.) Staff concludes that Dr. Stauffer's testimony regarding the word "orthogonal" also lessens his credibility. Staff says he testified that:

To be orthogonal just means it's exclusive. It's like up is orthogonal to down. There -- I mean, there are -- they don't -- there's no overlap. Left is orthogonal to right. The longitudinal directions in and out of the screen, orthogonal is just in a direction that's not in and out of the screen.

(Citing Tr. at 179.) Staff argues that in view of the foregoing, Dr. Stauffer's literal infringement analysis should be disregarded.

Staff argues that with respect to the elastically bent element, the blades in the accused devices are *not* elastically bent orthogonally by contact with the developing roller as required by the claims. Staff reasons that blades bent by contact with the outer surface of the developing

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roller cannot be equivalent to blades not bent by contact with the outer surface of a developing roller.

Staff asserts that Ricoh has not demonstrated that Oki Data's accused devices infringe any of the asserted claims of the '343 patent.

In its reply brief, Staff argues that Ricoh contends that the accused products satisfy the bent in an orthogonal direction limitation of the asserted claims, relying upon photographs in CX-122 at pp. 5 and 19. (Citing CIB at 5-6, 16-17.) In Staff's view, the photographs in CX-122 do not demonstrate that the accused devices satisfy the orthogonally bent element of the asserted claims of the '343 patent. Staff says the photographs show what appears to be a slight bend in the wide-width and transition sections of the developing blade, *i.e.*, sections located above the narrow-width section. Staff contends that the language of the asserted claims requires that the bend occur at a lower edge of the blade, *i.e.*, at the narrow-width section. Staff says, for example, the specification describes the blade as follows:

A lower edge of the blade contacts the roller part of the developing roller such that the blade seals a gap between an upper edge of the toner exit and an upper outer circumferential surface of the developing roller.

(Citing JX-4 at 2:9-13); and

When a blade is formed with a thin metal plate having elasticity and is configured such that the blade is bent by a developing roller so as to contact the developing roller by its reacting force when the blade is assembled in the developing device, as described above, the axial center of the developing roller is determined by a bearing of a developing case. In the above configuration, in order to bend the metal blade by pressure of the developing roller, the blade must be shorter than the interval between inner surfaces of side seals arranged at both sides of the developing roller.

(Citing JX-4 at 2:55-61); and

The blade includes a wide-width part having a length such that both longitudinal ends thereof face the side seals respectively and a narrow-width part extended from the wide-width part toward upstream of a rotation direction of the

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developing roller and configured to have a length that *enables the narrow-width part to be bent* in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at both sides of the toner exit, and a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.

(Citing JX-4 at 7:2-25); and

As illustrated in FIG . 12, the step part 71 is located above the contact position C of the blade 17 and the roller part 34 (downstream of the contact position C in the rotating direction of the developing roller 15). *The length of the narrow-width part 70 located below the step part 71 in the drawings is made such that, when the blade 17 is pressed by the roller part 34 of the developing roller 15, the narrow-width part 70 can be bent toward the rear side of the toner exit 61 by pressure of the developing roller 15, even after the wide-width part 69 contacts the side seals 64.*

(Citing JX-4 at 15:27-37.) Staff asserts that neither the language of the asserted claims nor the specification identifies the specific point on the narrow-width section that has to be bent. Staff reasons, therefore, the bend could occur upstream or downstream of the point of contact, or both depending the specific point of contact and the length of the narrow-width section of the blade. Staff concludes that the claimed bend occurs only in the narrow-width section.

Staff says that each photograph in CX-122 shows the section identified as being “elastically bent” in the photographs “at 14 (Oki Data) and 17 (Ricoh)” does not appear to include the narrow-width section because the step part section is immediately downstream of the narrow-width section at its point of contact with the developing roller. Staff reasons, thus, the “bend” appears to be at an upper region of the blade, and not at a lower region (using Ricoh’s proposed construction in its pre-hearing brief for the term “lower region”). Staff concludes that regardless of whose construction is applied, Ricoh has not demonstrated that the bend, if any, occurs at a lower region of the blade.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh

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failed to demonstrate that the accused Oki Data products infringe the asserted claims of the '343 patent. It is Ricoh's burden to prove by a preponderance of evidence that the accused product(s) practice each and every limitation in the asserted claims of the '343 patent.

There are four material points of contention regarding whether or not the accused products practice all of the elements of claims 18, 19, 20 and 21.⁵² First, the parties differ on whether or not the accused products practice the limitation in the 4th element that requires, "a blade ... that is configured such that a lower edge thereof contacts the roller part of the developing roller." Second, the parties disagree regarding whether or not the accused products practice the limitation in the 5th element that requires, a blade "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit." Third, the parties dispute whether or not the accused products practice the limitation in the 5th element that teaches, "a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller." Fourth, Oki Data and Staff argue that Order No. 28 is incorrect as it applies to the requirement in the 4th element that the blade contacts the roller "so as to seal a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller."

I will treat the issues in the order presented above. First, in Section III.E.1 I construed the term "lower edge of the blade" to mean "the furthestmost point on the blade at its lower end." While I will not repeat the entire rationale for that construction here, I found that Ricoh's proposed construction conflicted with the use of the term in at least one part of the '343 patent.

⁵² The language of the asserted claims of the '343 patent is the same in all elements material to the dispute. While the language does not specifically appear in claim 19, it is a part of that claim, because claim 19 depends from claim 18.

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Specifically, I noted that the patent describes a blade 17, shown in Figure 5, as having been bent in an L shape at a lower end of the blade, and “thereby it is avoided that that an edge of the end of the blade 17 contacts a surface of the developing roller 15.” (See JX-4 at 11:66-67, 12:14-17.) In addition, I found that the term does not require a limitation that it be a part of an “elastically bent” blade, as argued by Oki Data, because the edge of the blade will be its edge regardless of whether or not the blade is straight, elastically bent or bent in an “L” shape.

Ricoh falls short in one aspect of its attempt to meet its burden to show that the accused products practice the limitation found in the asserted claims of the ‘343 patent that the blade be “configured such that a lower edge thereof contacts the roller part of the developing roller.” To support its position Ricoh cites CX-122, at 14, 16 and 22 and its expert’s response at CX-267, Q. 180. Dr. Stauffer’s response, however, is based upon a construction of the term “lower edge” that is not adopted here, and the photos at CX-122, 14 and 16 show a blade configured so that “it is avoided that an edge of the end of the blade ... contacts a surface of the developing roller.”

Nevertheless, Dr. Stauffer testified credibly at CX-267, Q. 183, that the blade of p/n 42918101, in the C9600 accused product, which is joined to an additional blade forming a “double design” as seen at page 22 of CX-122, meets the limitation of having the lower edge of the blade in contact with the roller part of the developing roller. A review of CX-122, at 22 corroborates Dr. Stauffer’s testimony in this regard.

Although Dr. Fraser expressed an opinion that none of the Oki Data products meet this limitation, he fails to provide adequate detail to support his conclusion, and certainly does not refute the testimony of Dr. Stauffer regarding the C9600 accused product and the content of CX-122 at 22. (See RX-368C at Q. 58, 59, 66-71; RDX-71, which is similar to CX-122 at 14 and 16.)

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I find that Ricoh has proven by a preponderance of evidence that the blade contained in the C9600 accused product practices this limitation of the 4th element of the asserted claims of the '343 patent. Ricoh has failed, however, to prove by a preponderance of evidence that the Oki Data cartridges shown at CX-122, 14 and 16, practice that limitation.

Second, in Section IV.E.1(a) I described the term “a direction orthogonal to a longitudinal direction of the developing roller” to refer to a direction that is at a right angle to a *lengthwise direction* of the developing roller rather than at a radial angle to its surface. While I will not repeat my rationale for that finding, which is set forth at Section IV.E.1, I incorporate that discussion here by reference. The distinction’s import is illustrated in the '343 patent’s specification, where it explains, “... by attaching both end parts of the blade holder 42 to the blade mounting surface 44, the blade holder 42, the blade 17 and the supporting plates 43 can be supported by the outer wall 41 without causing a curvature in the longitudinal direction, and thereby the blade 17 can contact the developing roller 15 with the contact line between the blade 17 and the developing roller 15 made straight.” (JX-4 at 14:4-10, Figs. 8a, 8b.)

Ricoh’s expert Dr. Stauffer testified that the Oki Data accused products practice this limitation of the 5th element and referred to CX-122, at 5 and 19 to support his testimony. A review of the exhibit, however, shows it to be a cutaway view with a side-on perspective, which does not clearly demonstrate that the bend is orthogonal to the lengthwise direction of the developing roller. In addition, it appears that Dr. Stauffer has changed his opinion regarding what is required to meet this limitation. First, he admitted that he opined that the limitation required an “L” shaped bend, which is the view he held when he did his infringement analysis. He testified that after reading Dr. Fraser’s report regarding invalidity, he changed that view. (Tr. at 154:7-157:18.) Dr. Stauffer volunteered a definition of the word “orthogonal,” that is very

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wide of the mark, which further lessens his credibility on this point. He testified, as follows:

To be orthogonal just means it's exclusive. It's like up is orthogonal to down. There -- I mean, there are -- they don't -- there's no overlap. Left is orthogonal to right. The longitudinal directions in and out of the screen, orthogonal is just in a direction that's not in and out of the screen.

(Tr. at 179:3-8.)

Oki Data appears to focus, erroneously on the specific angle of the bend as opposed to its directional orientation. Oki Data refers to Ricoh's "original construction requiring a 90° bend," and asserts that the Oki Data blades "specify a different bend angle." (Citing RX-69C at OKI003782377 (92° ± 1.5°); RX-71C at OKI003782359 (60° ± 1.5°); and RX-72C at OKI003782374 (same).)

Further evidence of Oki Data's mis-directed effort is its argument that "under Ricoh's second construction, all parties agree that any bending that occurs is along the curvature of the blade, and it is well known that the direction of a curve at any point is defined to be the same as the direction of the line tangent to the curve at that point." (Citing Tr. at 1371:22-1373:12; CDX-99.)

The state of the evidence is such that I cannot find that Ricoh has met its burden to prove that Oki Data's accused products practice the requirement that the blade be "configured to have a length that enables the narrow-width part to be bent in a direction orthogonal to a longitudinal direction of the developing roller between the side seals arranged at sides of the toner exit."⁵³ Dr. Stauffer is not credible on this point,⁵⁴ and the photographic depictions do not display the

⁵³ It appears that none of the parties have focused on the requirement that the narrow-width portion of the blade be configured so that the bend occurs "between the side seals arranged at sides of the toner exit."

⁵⁴ While I previously found Dr. Stauffer to be credible in his testimony on a similar issue in Section IV.E.1(a), it is distinguishable. The relevant part of his testimony was that in the '551 patent "it is the wide-width part, not the narrow-width part, that can be bent." (CX-305, Q. 39.)

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blade in a view that demonstrates its bend is in an orthogonal direction from the longitudinal direction of the roller.

Third, in section IV.E.1(a), I treated the requirement in the 5th element that teaches, “a step part forming a boundary between the wide-width part and the narrow-width part is disposed downstream of a contact point of the blade and the roller part of the developing roller in the rotation direction of the developing roller.” I found, *inter alia*, that the ‘551 patent describes and illustrates a “recess” that is a continuous curved narrowing of the width of the blade ending at its lower edge. I then said, there is no “step portion” that forms a “boundary” as taught in the ‘343 patent. Similarly, in section IV.E.1(c), in discussing the prior art ‘122 application I referred to Figure 3, in which the width of the blade gradually narrows in a straight line from a point at the downstream boundary of the nip to the edge of the blade. (RX-67 at 11:47-55, 15:28-30, Fig. 3.) I found that the narrowing depicted in the ‘122 application did not amount to a “step part” that forms a boundary between the wide-width part and the narrow-width part of the blade.

Oki Data argues unconvincingly that the blade in its accused products lacks a “step part,” because the sharp, right angle corner in Dr. Stauffer’s example and definition does not form a boundary as required by the claims. Oki Data contends that this is illustrated by Figure 12, which it says labels “the step part 71 as the transitional area between the wide- and narrow-width parts, but not as the sharp corner between step part 71 and the narrow-width part 70.”

Ricoh asserts that the patent evinces no intent to deviate from the ordinary and customary meaning of “step.” Ricoh says the broader context of the claim term – “a step part forming a boundary between the wide-width part and the narrow-width part” – also makes clear that no construction is needed. Ricoh contends that this limitation simply ensures demarcation between the wide-width part and narrow-width part – a “step,” as opposed to a mere “ramp” from which

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the blade merely tapers in a continuous fashion from the wide-width part out to the end of the blade. Ricoh's expert Dr. Stauffer testified that the accused Oki Data products have a step part that forms a boundary between the wide-width part and the narrow-width part of the blade. He testified that a step is exemplified by a flight of steps in a house which is a series of repeated horizontal surfaces at interval distances. He testified that visual inspection of the Oki Data products confirm that all the blades in the accused Oki Data products have this feature. To illustrate his point, Dr. Stauffer referred to page 23 of CX-122 and to CDX-90. An examination of these two references reveals that the accused products do, in fact, practice this limitation of the 5th element of the asserted claims.

I find that Ricoh has proven by a preponderance of evidence that the accused Oki Data products have a blade that has a "step part forming a boundary between the wide-width part and the narrow-width part."

I turn to the final argument in which Oki Data and Staff argue that Order No. 28 is incorrect as it applies to the requirement in the 4th element that the blade contacts the roller "so as to seal a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller." I discussed the relevant parts of Order No. 28 and the blade depicted in Figures 8a, 8b and 9 in Section III.E.1, *supra*, I do not repeat that discussion here; but incorporate it by reference. In Order No. 28, among other things, I found that claims 18-21 do not require that the blade, and only the blade, seals a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller, without the help of other components. I said the claims require that the blade "is configured such that a lower edge thereof contacts the roller part of the developing roller so as to seal a gap between an upper edge of the toner exit and an upper outer circumferential

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surface of the roller part of the developing roller.” I reasoned that the claim language requires that in order to seal a gap, the blade must contact the developing roller. I found that the language does not specify that the blade alone seals a gap between an upper edge of the toner exit and an upper outer circumferential surface of the roller part of the developing roller. I concluded that the claim language does not require that the blade be in contact with the upper edge of the toner exit.

Oki Data concedes, and its expert has testified, that the gap between an upper edge of the toner exit and upper outer circumferential surface of the roller part of the developing roller is sealed in the Oki products by a combination of the developing blade, a blade holder, and a seal. (See RX-368C at Q. 40-65; RX-364C at Q. 25-29.)

I find that Ricoh has proved by a preponderance of evidence that the accused Oki Data products practice this limitation of the 4th element of the asserted claims of the ‘343 patent.

Based upon all of the foregoing, I find that Ricoh has not proved by a preponderance of the evidence that any of the accused Oki Data products practice each and every limitation of the elements of the asserted claims of the ‘343 patent.

2. Additional Limitation of Claim 19

Claim 19, which depends from claim 18, teaches:

A developing device according to claim 18, wherein the length of the narrow-wide part is made longer than an interval between inside surfaces of the side seals such that, when the blade is pressed by the developing roller, the narrow-wide part bends toward a rear side of the toner exit by pressure of the developing roller even after the wide-width part contacts the side seals.

Ricoh’s Position: Ricoh asserts that the photograph at page 26 of CX-122 (also depicted in CDX-92) shows one end of the Oki Data developing device highlighting the blade and side seal. Ricoh says the blade has been colored green for greater contrast. Ricoh states that the

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blade is pressed by the developing roller towards the rear side of the toner exit and bent by the force of the developing roller. Ricoh contends that the narrow-width part of the blade is longer than the interval between the side seals but fits between them given the sponginess of the side seals. Ricoh concludes the narrow-width part of the blade is pressed further between the side seals even after the wide-width part has contacted the side seals. (Citing CX-267 at Q. 201-202.)

Ricoh says the photograph at page 1 of CX-127 also demonstrates infringement of claim 19. Ricoh says the wide-width part (identified by the white tape) of the blade has contacted the side seal and the narrow-width part (identified by the blade below the white tape) has been pressed even further between the side seals. Ricoh adds that the slight depression in the inside surface of the side seal also shows that the narrow-width part of the blade is longer than the interval between side seals. (Citing CX-267 at Q. 201-202.)

Ricoh argues that in denying infringement of claim 19, Oki Data actually admits that its products meet this limitation. Ricoh asserts that Oki Data admitted in its prehearing brief that “the longitudinal ends of the narrow-width portion of the [Oki Data] developing blades presses into the facing sides of the side seals.” (Citing RPHB at 33, emphasis added by Ricoh.) Ricoh contends that the only way the ends of the narrow-width part could “press[] into” the side seals would be for the narrow-width part to be longer than the interval between the side seals. (Citing CX-122 at 24, 26.)

Oki Data’s Position: Oki Data argues that under claim 19, as illustrated by the discussion of Figure 12 and the text in column 15, lines 21 to 53, as well in column 15, line 62 through column 16, line 9, the overlap of the narrow-wide portion of the developing blade and the side seals is such that, when the developing roller is put in contact with the developing blade, the longitudinal ends of the developing blade are pushed into or pressed against the side seals.

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Oki Data says in the claimed configuration, the design allows the blade to seal the gap between the toner exit and the developing roller as required by claim 18. (Citing RX-368C at Q. 91-92.)

Oki Data asserts that the configuration and function of its products provide for seals between the developing blade and the side seals in a different manner than is required by claim 19 of the '343 patent. (*Id.*) Oki Data says for all of its toner cartridges, the narrow-width portion of the developing blade fits inside the side seals, not overlapping the side seals as is required by claim 19, and then is pressed edgewise against the side seal. (*Id.*) Oki Data concludes as assembled, the longitudinal ends of the narrow-width portion of the developing blades presses into the facing sides of the side seals. (*Id.*)

In its reply brief, Oki Data argues that despite being on notice since Oki's expert's opening infringement report, Ricoh's brief fails to address Oki's main defense to claim 19 – that the claim requires the narrow-width part to face the side seals.

Staff's Position: Staff offered no position on this issue.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved by a preponderance of evidence that the Oki Data accused products meet the additional limitation of claim 19.

It does not appear that the parties have a factual disagreement on this issue. Rather, they disagree on the interpretation of the language of claim 19. Ricoh's expert, Dr. Stauffer, testified that CX-122, page 26 (*see also* CDX 92), and CX-127, page 1, demonstrate that the blade of the Oki Data accused products is pressed by the developing roller towards the rear side of the toner exit, and it is bent by the force of the developing roller. He testified that the wide-width part of the blade has contacted the side seal and the narrow-width part has been "pressed even further between the side seals." He concluded that the narrow-width part is longer than the interval

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between side seals. He notes specifically the in CX-127, page 1, one can see the slight depression in the side made by the narrow-wide part of the blade. (CX-267 at Q. 201-203.)

Oki Data concedes that the narrow-width part of the developing blade in its products is pressed against the side seals; but argues that claim 19 requires that the blade overlap the side seals, while the narrow-width part of its developing blades fit inside the side seals.

I note that claim 19 does not include a limitation that the narrow-width part of the developing blade “overlap” the side seals. It merely requires that the narrow-width part of the developing blade be “made longer than an interval between inside surfaces of the side seals.” That this requirement is met is evident from the testimony of Dr. Stauffer and CX-122, page 26, and CX-127 pages 1 and 2. In particular I note that CX-127, page two shows an indent in the side seal due to pressure from the narrow-width part of the blade. Hence, the narrow-width part of the blade is “longer than an interval between inside surfaces of the side seals.”

Based upon the foregoing, I find that Ricoh has proved by a preponderance of evidence that the Oki Data accused products meet the additional limitation of claim 19. Nevertheless, because I have found that the accused products do not infringe independent claim 18, it follows that they do not infringe claim 19, which depends from claim 18. *Wahpeton*, 870 F.2d at 1552 n. 9 (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)

3. Additional Limitations of Claim 21

In addition to the elements it has in common with claims 18, 19 and 20, claim 21 recites:

a transfer device configured to transfer a toner image formed on the photoconductor to a transfer sheet; and

a fixing device configured to fix the transferred toner image onto the transfer sheet.

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Ricoh's Position: Ricoh does not offer argument on these issues.

Oki Data's Position: Oki Data offers no position on these issues.

Staff's Position: Staff offers no position on these issues.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved by a preponderance of evidence that the accused Oki Data products practice the additional limitations of claim 21.

Dr. Stauffer, Ricoh's expert provided testimony that the accused Oki Data products practice both of the additional limitations of claim 21. He said that each accused Oki Data printer, MFP, or other imaging device uses a transfer device to help transfer the toner image to the transfer sheet and cites CX-122, page 27 to show an Oki Data C3530n MFP with its cartridge removed. Dr. Stauffer noted that the photo shows a transfer belt is biased toward each photoconductor in each Oki Data cartridge so that the toner image can transfer to a transfer sheet. He indicated that one can also see the ends of the four transfer units below the belt. Dr. Stauffer also testified credibly that each accused Oki Data printer, MFP, or other imaging device uses a fixing device configured to fix the transferred toner image onto the transfer sheet. He said that CX-122, page 27 also supports this observation. Dr. Stauffer testified that each Oki Data printer, MFP or other imaging device uses a fixing device to fix the toner image onto the transfer sheet. (CX-267 at Q. 208-212.)

Dr. Stauffer's testimony is credible and unrebutted. Based upon the foregoing, I find that Ricoh has proved by a preponderance of evidence that the accused Oki Data products practice the additional limitations of claim 21. Nevertheless, I have already found that the accused products do not infringe claim 21, because Ricoh has failed to prove by a preponderance of evidence that the accused Oki Data products practice each and every one of the limitations of the

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elements shared by claims 18, 19, 20 and 21. Therefore, I find that Ricoh has failed to prove by a preponderance of evidence that the accused Oki Data products infringe claim 21.

F. The '690 Patent

1. Claim 1

Independent claim 1 recites:

A toner image fixing method comprising the steps of:

providing a thermofusible toner image on an image supporting material;

providing two fixing members with a nipped section thereof;

heating the nipped section of the two fixing members; and

fixing the thermofusible toner image on the image supporting material by contacting the thermofusible toner image with the heated nipped section of the two fixing members, wherein

an adhesion constant $\mu_{s-b}(n)$ is represented by:

$$\mu_{s-b}(n) = (\cos \theta_b - \cos \theta_s) / \sin \theta_b,$$

where n is 1 or 2, θ_b is a receding constant angle of a surface of at least one of the fixing members that contacts the thermofusible toner image on the image supporting material and θ_s is a static contact angle of the surface, the receding and static contact angles determined using a liquid having a dipole moment of greater than about 3.0 debye when n is 1 and using another liquid having a dipole moment of 0.0 when n is 2, and

a ratio of a first adhesion constant to a second adhesion constant, $\mu_{s-b}(1) / \mu_{s-b}(2)$, of the surface that contacts the thermofusible toner image on the image supporting material is less than about 8.0.

Ricoh's Position: Ricoh says that Oki Data does not contest the accused products meet the preamble and first four steps of claim 1. (Citing JX-5 at claim 1; Tr. at 1065:20-1066:15.) Ricoh asserts that the accused products practice the toner image fixing method of claim 1 by depositing a toner image onto a sheet of paper. (Citing CX-268C at Q. 98-99.) Ricoh states that the accused products have two fixing members with a nipped section (an orange heating roller

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opposite a brown pressure roller); they heat the nipped section of the two fixing members; and they fix the thermofusible toner image on the image supporting material (paper) by contacting the thermofusible toner image with the heated nipped section of the two fixing members. (Citing CX-268C at Q. 100-03; CX-128 at 21.) Ricoh alleges all that is in dispute is “the final step of claim 1, the adhesion ratio.”

Ricoh contends that Dr. Giacomini's tests confirm that the accused products use fuser rollers that yield adhesion ratios of less than about 8.0, as recited in claim 1. (Citing CX-268C at Q. 104-105.) Ricoh says rather than using one of each type of liquid specified by the '690 patent, Dr. Giacomini used four non-polar liquids and seven polar liquids, which yielded 56 to 80 static contact angle measurements and 28 separate adhesion ratios for each roller. (Citing CX-268C at Q. 93-95.) Ricoh asserts those tests confirmed that every tested roller exhibited an adhesion ratio of less than about 8.0. (Citing CX-265 at JG001-006; CX-128 at 8-13; CX-268C at Q. 95.)

Ricoh says that Dr. Karz did not present any test data for the accused fuser rollers. (Citing Tr. at 1154:17-21.) Ricoh adds that Dr. Karz admitted on cross-examination that Dr. Giacomini's contact angle measurements demonstrate infringement of claim 1. (Citing Tr. at 1181:24-1182:21.)

Ricoh argues that Oki Data's non-infringement challenge rests on the purported difficulty of performing contact angle measurements without knowing the temperature, humidity, orientation of the goniometer in relation to the fuser roller, and rate of liquid removal for receding contact angle measurements. (Citing RX-123C at Q. 55.) Ricoh counters that neither Oki Data nor Dr. Karz offered any evidence that those parameters affect contact angle measurements. Ricoh says, for his measurements, Mr. Sato used standard room temperature and

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humidity, not any special conditions. (Citing RX-110C at Q. 20.) Ricoh avers that Dr. Giacomini testified that humidity (which is the partial pressure of water in the air) is irrelevant when the test liquids are not water. (Citing Tr. at 281:12-16.) Ricoh says that regarding orientation of the goniometer, Figures 1 and 2 of the '690 patent show a linear horizon – that is, a sideways view of the roller – which is how Dr. Giacomini and Kyowa took their measurements. (Citing CX-306C at Q. 46; CX-320C at 2; CX-128 at 5-7; Tr. at 368:1-14.) Ricoh adds that Mr. Sato was able to perform receding angle measurements by withdrawing liquid at a certain rate. (Citing RX-110C at Q. 21, 24.)

Ricoh says that Dr. Karz also contends infringement is difficult to determine because receding contact angles vary over time. (Citing RX-123C at Q. 82.) Ricoh avers that Dr. Karz did not analyze the video frames of Kyowa's measurements to identify when the common line began to move, nor did he determine whether or when the needle began to influence the size and shape of the droplet in Kyowa's tests. (Citing Tr. at 1121:25-1122:11.) Ricoh continues that Dr. Karz did not challenge the contact angle calculations performed by Mr. Oishi, even though the calculations yielded negative adhesion constants, which Dr. Karz admits are physically impossible and defy the laws of physics. (Citing Tr. at 1180:7-16.)

Ricoh argues that Dr. Giacomini correctly explained that variations in contact angles are to be expected because no surface is perfectly homogeneous, which is why it is standard practice to use averages rather than individual data points. (Citing RX-110C at Q. 25 ("Avg" column); CX-135 at 30.) Ricoh adds that Dr. Giacomini presented a video showing how the needle can begin to distort contact angles toward the end of a receding angle test when the droplet becomes too small, which is why measurements should not be taken once the needle distorts the droplet. (Citing CDX-80; CX-268C at Q. 90, 92; RX-110C at Q. 39.) Ricoh asserts that Dr. Karz did

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none of this, so he has no basis to challenge Dr. Giacomini's "unquestionable proof of infringement."

Oki Data's Position: Oki Data argues that Ricoh has not offered any evidence that the Oki products practice the method of claim 1, which is a "toner image fixing method." (Citing JX-5 at 1.) Oki Data alleges that Ricoh's expert Dr. Giacomini never tested any Oki product in operation "despite the fact that the method claim can only be infringed by such operation." (Citing Tr. at 344:1-16.) Oki Data says that Ricoh's infringement conclusion rests on Dr. Giacomini's assertion that the Oki products must infringe because the claimed process is "necessarily how printing is carried out." (Citing CX-268C at Q. 99, 102, 103.)

Oki Data argues that Dr. Giacomini's data exhibits unreasonably high statistical variability. Oki Data says, the 95% confidence interval Dr. Karz calculated based on Dr. Giacomini's data reveals that each time the OL400e and OL1200 were tested,⁵⁵ there was a statistically significant probability that the adhesion constant ratio would fall outside the claimed range of "less than about 8.0," as illustrated in RDX-121. (Citing RX-369C at Q. 98-107; RDX-121.)

Oki Data alleges that Dr. Giacomini did not follow the user's manual for the goniometer he used to perform his contact angle measurements or an ASTM standard in making his contact angle measurements. (Citing CX-135; CX-134; CX-268C at Q. 88, 106; Tr. at 282:25-292:12, 308:13-319:1.)

Oki Data says the ASTM standard requires that three drops be used for each liquid in taking contact angle measurements, and that two measurements be taken for each drop (one each on the left and right), for a total of six measurements, which are then averaged. (Citing CX-134

⁵⁵ While Oki Data refers to testing of OL400e and OL1200 products, Dr. Giacomini's measurements do not include these two products.

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at § 10.6; Tr. at 285:16-286:19.) Oki Data alleges that Dr. Giacomini sometimes took fewer measurements, and sometimes more. (Citing CX-265; Tr. at 308:20-312:6, 314:19-317:15.) Oki Data says that the 168 measurements taken by Dr. Giacomini was the total number of measurements for all liquids, not for each, and he admitted that he lost count of what he was testing. (Citing Tr. at 315:11-18.) Oki Data argues that the ASTM standard also requires that measurements occur within a specified temperature range (Citing CX-134 at § 10.1; Tr. at 284:23-285:15), and the goniometer user manual warns that ambient temperature can adversely impact contact angle measurement. (Citing CX-135 at RITC0497920; Tr. at 287:10-289:9.) Oki Data alleges that Dr. Giacomini did not record or maintain the temperature while taking his contact angle measurements. Oki Data says, instead Dr. Giacomini indicated that (a) in his view temperature is not important, and (b) he performed them at room temperature, which he defined as the scientific value “the temperature of the room.” (Citing Tr. at 279:6-280:14; CX-265.) Oki Data contends that the ASTM standard warns that taking contact angle measurements on curved surfaces can interfere with the measurement. (Citing CX-134 at § 6.1.3.) Oki Data alleges that Dr. Giacomini did not take into account the curved surface of the fuser rollers being tested, but instead relied upon the automated software, which assumes a planar surface. (Citing CX-135 at RITC0497926, § 6.4.5 (“button 2”); Tr. at 282:25-284:18, 369:17-23.) Oki Data argues that Dr. Giacomini’s failure to follow the standards that he himself identified renders his testing unreliable. Oki Data concludes that Ricoh has failed to offer evidence of Oki’s infringement of claims 1, 2, 5, 6, 10, 13, and/or 14 of the ’690 patent.⁵⁶

Oki Data posits that the ’690 patent states that the receding contact angle, which is one of the variables used to calculate the claimed adhesion constant ratio, is to be measured as follows:

⁵⁶ Claims 2 and 5 depend directly from independent claim 1. Claims 6 and 10 claim indirectly from claim 1 via claim 2. Claim 13 depends from claim 5, and claim 14 depends from claim 6. Oki Data did not allege failure to prove infringement under claim 9; but claim 9 depends directly from claim 1.

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A drop of each five kinds of the above-mentioned contact angle measuring liquid was formed on the surface of a fixing member in an amount of greater than about 30 mm³, and the changing aspects of the drop were videotaped as the drop was being soaked up by a syringe. *A scene in which the contact angle between the surface of the fixing member and the drop remained constant while the volume of the drop decreased* was printed out in order to measure the contact angle between the surface of the fixing member and the drop, θ_b , or the receding contact angle.

(Citing JX-5 at 9:1-11) (emphasis added by Oki Data). Oki Data contends that, based upon plain language of the specification, the '690 patent requires that the receding contact angle “remain[] constant” while the volume of the drop decreases during liquid withdrawal. (Citing RX-369C at Q. 89; JX-5 at 9:6-11.) Oki Data asserts that Dr. Giacomini did not follow the method required by the patent – instead, he testified that he measured the receding contact angle when “common line movement” was observed. (Citing Tr. at 356:14-357:17; CX-268C at Q. 89; CX-306C at Q. 47.) Oki Data argues that such a measurement cannot form the basis for infringement where the patent explicitly requires a different measurement technique. (Citing *Competitive Techs., Inc. v. Fujitsu Ltd.*, 333 F. Supp. 2d 858, 883 (N.D. Cal. 2004).)

Staff's Position: Staff argues that direct infringement of a method claim requires “each step of the claimed method [to be] performed” by a single entity or multiple entities acting in concert. (Citing *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008).) Staff alleges that Dr. Giacomini did not use any of the accused rollers in a printer/MFP to determine whether they would print. (Citing Tr. at 344.) Staff adds that Dr. Giacomini did not follow the procedure set forth in the specification for measuring the receding contact angle, and hence his results are flawed and unreliable.

Staff contends first, each of the asserted claims is a method claim; but Dr. Giacomini did not use any of the accused rollers in a printer/MFP to determine whether they would print. (Citing Tr. at 344.) Staff asserts that Dr. Giacomini only conducted static and receding contact

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angle tests and roughness tests “on a number of fuser rollers and ‘softening point’ measurements of four toners.” (Citing CX-268 at Q. 44, 45.)

Staff argues second, that claim 1 of the ‘690 patent and the asserted dependent claims all require an adhesion constant ratio calculated using receding and static contact angles. Staff asserts that in doing experiments designed to show infringement, Dr. Giacomini failed to follow the guidance provided in the specification of the ‘690 patent relating to the procedure to be followed when measuring the receding contact angle. Staff says the specification discloses that one should withdraw fluid from the drop while observing the contact angle, and quotes:

A scene in which the contact angle between the surface of the fixing member and the drop remained constant while the volume of the drop decreased was printed out in order to measure the contact angle between the surface of the fixing member and the drop, θ_b , or the receding contact angle.

(Citing JX-5 at 9:6-11.) Staff states that, according to Dr. Giacomini:

When withdrawal begins, the droplet volume decreases, and the contact angle decreases until the droplet common line moves. The frames were advanced until common line movement is observed. Using this frame, the SCA C20 software determines the base of the droplet, surface of the droplet, and the tangent to the surface at the receding common line, and finally the receding contact angle for the left and right sides of the droplet.

(Citing CX-268C at Q. 89.) Staff concludes that the evidence demonstrates that the measurements reported by Dr. Giacomini were improperly made at the onset of common line movement and not when the receding contact angle “remained constant” as stated in the ‘690 patent.

Staff adds that, “rather than following the procedures to the extent set forth in the specification, Dr. Giacomini followed the testing procedures set forth in the American Society for Testing Materials’ testing standard ASTM D7334-08.”²⁵ (Citing CX-268C at Q. 88.) Staff

²⁵ Staff believes that the “08” represents 2008.

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says the record does not contain any evidence that the inventor followed the procedure set forth in the ASTM standard. Staff concludes that the results of Dr. Giacomini's testing "cannot be relied upon."

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved by a preponderance of evidence that the accused products practice each and every element of claim 1 of the '690 patent and, therefore, infringe claim 1 of the '690 patent.

There are two lines of dispute offered by Oki Data and Staff. First, they argue that Dr. Giacomini did not test the toner fuser rollers to insure that they do, in fact, print. Second, they argue that Dr. Giacomini's methods both for making contact angle measurements, and for calculating the ratio of a first adhesion constant to a second adhesion constant, are flawed, and "cannot be relied upon." I will treat these issues in the order given.

First, it appears that Oki Data equates practicing the method of claim 1, with testing the accused Oki Data products "in operation despite the fact that the method claim can only be infringed by such operation." Oki Data accurately notes that Dr. Giacomini admitted at the hearing that he did not perform any testing to insure that the device actually prints. (Tr. 344:1-16.)

The issue is whether or not Dr. Giacomini was required to test the device to insure that it actually prints. Although Staff and Oki Data rely on the admitted lack of testing to argue that Ricoh has failed to prove infringement of claim 1 of the '690 patent, which is a method claim, the only authority cited for this proposition is Staff's allusion to *Miniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008) (citing *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378-79 (Fed. Cir. 2007)).

In *Miniauction* the Federal Circuit said, "[t]he law of this circuit is axiomatic that a

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method claim is directly infringed only if each step of the claimed method is performed.” *Id.* In *BMC Resources*, the Federal Circuit held that where steps of a method claim are performed by multiple parties, the entire method must be performed at the control or direction of the alleged direct infringer. *BMC Resources*, 498 F.3d at 1380-1381.

The cited cases require only that a complainant’s expert confirm that all of the elements of a method claim are practiced, which is what Dr. Giacomini testified at CX-268C, Qs. 98-103. There is no dispute among that parties that the accused products practice the first four elements of claim 1, all of which have been shown to be well-known in the prior art. I note that, unsurprisingly, Oki Data has not alleged that its accused products do not print (*i.e.* provide a thermofusible toner image on an image supporting material (*e.g.* paper)). What is required by *Miniauction* and *BMC Resources* is that it be proved that each step of the claimed method is performed in order to show that a method claim is directly infringed.

Dr. Giacomini testified credibly that the Oki Data accused products provide a thermofusible toner image on an image supporting material (*e.g.* paper). He cited specifically responses to requests for admission by Oki Data in which it admits this fact. (CX-268C at Q. 83, 84, 99; CX-217 at Requests for Admission Nos. 186, 187 and 202; CX-218 at Requests for Admission Nos. 186, 187 and 202.) A reading of CX-217 and CX-218 discloses that Oki Data did, in fact, admit that its products do print and in so doing provide thermofusible toner onto paper. Based on the foregoing, I find that Dr. Giacomini was not required to test the accused products to provide evidence that they meet the limitations of the 1st element of claim 1 of the ‘690 patent. 19 CFR § 210.31(d).

Second, regarding Dr. Giacomini’s methods of determining the contact angle of liquids and the ratio of adhesion constants in the accused products, Oki Data’s expert, Dr. Karz, testified

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that in his opinion that Dr. Giacomini's data exhibits unreasonably high statistical variability. To support his analysis, Dr. Karz refers to a demonstrative exhibit, RDX-121,⁵⁷ to demonstrate the existence of variability of adhesion constant ratios. Dr. Karz includes 5 accused products and one of the liquids designated as "fluid 1" (pyridazine) compared to, in four cases, an "average of all" liquids designated as "fluid 2," and in two cases compared to n-nonane and n-decane, respectively. This exhibit bears the notation, "Table 5." (RX-369C at Q. 98-107.) Dr. Karz provides no credible reason for, in four cases, including all of the liquids marked "fluid 2" into one category and then comparing it with pyridazine.

Dr. Giacomini testified that he tested liquids having the characteristics set forth in the 4th element of claim 1 (*i.e.* one liquid having a dipole moment of greater than 3.0 debye when n is 1 and the second liquid having a dipole moment of 0.0 debye when n is 2). He described his testing process in detail and provided a series of charts detailing the results of his goniometry measurements for 6 sets of Oki Data products. He testified that the adhesion constants were then calculated using the formula in the 6th element of claim 1 of the '690 patent. Focusing on the "blue boxes" shown in CX-128, pages 8 through 13, he testified that columns R through U list the adhesion constant ratios, $\mu_{s-b}(1)/\mu_{s-b}(2)$ defined in the '690 patent for each pair of polar (n=1) and nonpolar (n=2) fluids. In every instance, for every accused Oki Data product, the values of $\mu_{s-b}(1)/\mu_{s-b}(2)$ are below about 8.0. (CX-268C at Q. 87-95; CX-128 at pages 8-13.) Assuming *arguendo* the accuracy of his measurements, Tables I through VI, corroborate his testimony.

Regarding the accuracy of Dr. Giacomini's contact angle measurements, Oki Data takes issue with the number of drops tested (and thereby the number of measurements taken), the temperature of the liquids when measured, and that Dr. Giacomini did not take into account the

⁵⁷ Demonstrative exhibits are not accepted as "evidence" of the facts stated on their face. They are merely accepted to assist to illustrate a witness's testimony.

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curved surface of the fuser rollers being tested, but instead relied upon the automated software, which assumes a planar surface. Oki Data is correct when it says that Dr. Giacomini admitted that in some cases he used fewer drops for measurements than is specified in the ASTM standards. CX-134 at ¶10.6 specifies that one should make two angle measurements (one on each drop edge) of each of three drops of the specimen. The standard states that the contact angle for the specimen shall be the average of the six angles measured. Dr. Giacomini admitted on cross-examination at the hearing that for each accused product toner surface he used only two drops in measuring the contact angles of n-heptane, nitrobenzene and n-nonane. He testified that in his view, however, his testing exceeded the standard, because the total tests performed for all fusers and liquids exceeded the three drop minimum in the ASTM standard. (Tr. at 308:20-309:12, 310:17-312:7, 314:24-315:6, 315:19-22, 316:1-11.)

I am not convinced by Dr. Giacomini's testimony that he, in all cases, met or exceeded the ASTM standard for contact angle measurements. My review of Tables I through VI, indicate that each set of tests was performed using different toner fuser rollers, and I see no indicator that those varying products would have the same surface characteristics. Therefore, it appears that measuring twice on each of three drops for each set of toner fuser roller surfaces is the standard, based upon the language of CX-134 at ¶ 10.6. Oki Data's cross-examination showed one instance each for nitrobenzene and n-nonane in which the standard was not met, and several instances where it was not met for n-heptane. This serves to reduce the weight given to Dr. Giacomini's contact angle measurement data as it relates to n-heptane, nitrobenzene and n-nonane; but it does not impeach his credibility entirely on the subject, and it does not materially impact the finding of infringement here.

Dr. Giacomini stated under cross-examination that he conducted the contact angle

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measurements at “room temperature” and acknowledged that the ASTM standard found at CX-134 at ¶ 10.1 calls for a temperature of $23 \pm 2^{\circ} \text{C}$. ($73.5 \pm 3.5^{\circ} \text{F}$). On review of that paragraph, I note it ends with the equivocal language “unless otherwise agreed upon.” Dr. Giacomini testified that he did not believe that the specific room temperature was relevant to the contact angle measurements. CX-134 at ¶ 10.1 also calls for relative humidity in the room of $\geq 50\%$. I note, however, that CX-134 at ¶ 6.1 lists factors that it says “may interfere with results.” Although it notes that relative humidity of $< 50\%$ could interfere when water is the test liquid, it does not otherwise note that either temperature or relative humidity might interfere with test results. Dr. Giacomini’s testimony on this point is credible.

Oki Data focuses on a part of the ASTM standard that says at CX-134 at ¶ 6.1.3 that one thing that can interfere with test results is “[a] curved test surface such that angles are difficult to measure.” At ¶ 1.3, the ASTM standard states, “[t]his practice is intended to supplement the manufacturer’s instructions for the device being use to make the measurements, but is not intended to replace them.” At ¶ 10.2 it says, “[s]et up the goniometer and level the stage in accordance with the manufacturer’s instructions.” CX-135 is the operating manual for the goniometer used by Dr. Giacomini to make the measurements at issue. While Oki Data points to page RITC0497926 at “button 2” to support its position, I note that this page does not treat either automatic operation or differences in operation between flat or curved surfaces. It is a page containing instructions for using manual control buttons rather than automatic mode. Dr. Giacomini testified that the dataphysics unit measures the contact angles accurately, and he relied on the automated software to make the measurements. I note that CX-128, Figure 5 at page 6 and Figure 6 at page 7, depict a static contact angle measurement in progress of a drop of liquid on an accused Oki Data product, and the drop appears to be a regularly shaped drop. Dr.

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Giacomin's testimony on this issue is corroborated by CX-128, and appears credible. The evidence provided by Ricoh on this issue overcomes Oki Data's assertion that the test was not performed on the correct surface.

In addition to the foregoing, I note that no evidence was produced at the hearing that counters the contact angle measurements of Dr. Giacomin. I will, therefore, accept his measurements as set forth in Tables I through VI as reasonably accurate.

Oki Data is unconvincing when it says that Dr. Giacomin did not follow the method required by the patent, because he testified that he measured the receding contact angle when "common line movement" was observed. Oki Data's argument is that a measurement cannot form the basis for infringement where the patent explicitly requires a different measurement technique. Oki Data cites *Competitive Techs., Inc. v. Fujitsu Ltd.*, 333 F. Supp. 2d 858, 883 (N.D. Cal. 2004) to support its position.

Oki Data relies on language quoted from the specification of the '690 patent, which treats measuring a receding contact angle:

A drop of each five kinds of the above-mentioned contact angle measuring liquid was formed on the surface of a fixing member in an amount of greater than about 30 mm³, and the changing aspects of the drop were videotaped as the drop was being soaked up by a syringe. ***A scene in which the contact angle between the surface of the fixing member and the drop remained constant while the volume of the drop decreased*** was printed out in order to measure the contact angle

between the surface of the fixing member and the drop, θ_b , or the receding contact angle.

(Citing JX-5 at 9:1-11) (emphasis added by Oki Data).

Dr. Giacomin did not testify, as was the case in *Competitive Techs., Inc.*, that he did not understand or agree with the method described in the '690 patent. He testified credibly that his measurement technique included a video showing the contact angle decreasing along with

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droplet volume. He said, “the contact angle decreases until the droplet common line moves.”

(CX-268 at Q.89.)

In connection with Staff’s contention that the ‘690 patent’s specification did not meet the written description or enablement requirements, I noted that the language discloses, “[a] scene in which the *contact angle* between the surface of the fixing member and the drop *remained constant* while the volume of the drop decreased was printed out in order to measure the contact angle between the surface of the fixing member and the drop, θ_b , or the receding contact angle.”

(JX-5 at 9:5-11.) (Emphasis added.)

Dr. Giacomini testified in detail on the subject of measuring a receding contact angle, explaining the process of measuring a contact angle and the importance of the movement of the common line. He explained in relevant part:

When a liquid droplet rests on a solid such as a fuser surface, it forms a common line. At this common line, the liquid droplet surface forms an angle with the fuser. We call this the *static contact angle*, θ_s , and we measure this angle with a *goniometer*. **If we try to drag the droplet across the fuser surface, a different, lower contact angle will obtain. In fact, the lowest value of this contact angle will obtain just before the common line begins to move relative to the fuser.** This lowest value of the common line is called the *receding contact angle*, θ_b . Thus, θ_s and θ_b are the two most important physical properties of a solid-liquid common line. Moreover, θ_s and θ_b are the two most important physical properties of a fuser-toner common line. This is why fuser-toner technology revolves around θ_s and θ_b of the fuser-toner common lines.

(CX-268C at Q. 53-54.) (Emphasis added.)

Dr. Giacomini’s testimony on this area is unrefuted and credible. In addition, contrary to Oki Data’s assertion it does not practice a different method than set forth in the ‘690 specification, it practices the exact same method. Dr. Giacomini’s testimony merely provides more detail regarding how and when the contact angle reaches the point at which it remains the same while the volume of the drop decreases – it is the precise

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point at which the common line begins to move relative to the fuser.

In addition to the foregoing, I note that Dr. Giacomini provided unrefuted testimony that the accused products practice the remaining elements of claim 1 of the '690 patent. Specifically, Dr. Giacomini testified that he tested the C9600/C9650/C9800 Fuser Unit, 120V (SKU 42931701); C8800/C830/MC860 Series Fuser, 120 V (SKU 43529404); C710 series printer Fuser Kit, 120 V (SKU 43854901); C5650/C6050/C6150 Series Fuser Kit (SKU 43853101); C5550MFP/C5500/C5800/C6000/C6100/MC560/MC160 Product Series Fuser (SKU 43363201); and C3400n/C3530n/C3600n/MC360nMFP Product Series Fuser, 120 V (SKU 43377001). (CX-268C at Q. 96-97.)

Dr. Giacomini testified that each of the tested products practiced a toner image fixing method. He said the accused Oki Data devices that use any of the 6 listed sets of fusers are designed to perform a printing operation, which necessarily includes a toner image fixing method. He testified that the accused devices' fuser rollers have no use known to him other than to fix toner according to the claimed method. (CX-268C at Q. 98.)

Dr. Giacomini testified that the accused devices include two fixing members with a nipped section. He said the fuser includes an orange heating roller opposing a brown fixing member that defines a nipped section. He testified that the brown roller is an opposing pressure roller, and the nipped section is the region of minimum separation between the two rollers. He said these two rollers are the two fixing members to which claim 1 makes reference. (CX-268C at Qs. 100-101.)

Dr. Giacomini testified that the accused products heat the nipped section of the two fixing members. He said this is necessarily how printing is carried out. He averred that the heating is also reflected in the multilingual yellow "CAUTION-HOT" sticker affixed to the cartridge that

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houses the orange and brown rollers. He added, each of the hollow fusers includes a radiant heater, which heats the nipped section. He referred to CX-128, page 21 Table XIII regarding the wattages of the radiant heaters. (CX-268C at Q. 102.)

Finally, Dr. Giacomini testified that each accused product fix the thermofusible toner image on the image supporting material (*e.g.* paper) by contacting the thermofusible image with the heated nipped section of the two fixing members. He said this is necessarily how printing is carried out. Dr. Giacomini testified that this claim limitation is also reflected in the entrance pathway and exit pathway defined in the cartridge that houses the two rollers, which define where the paper, or other image supporting material, passes through the cartridge. (CX-268C at Q. 103.)

Regarding the accused products Oki Data admitted that they each: (1) have been operated to print in the United States; (2) contain a fuser roller; (3) affix toner onto paper; and (4) provide thermofusible toner onto paper. Oki Data also admitted that without a fuser roller the accused products cannot fuse toner onto paper and cannot print. (CX-217 at Request for Admission Nos. 187-193, 219, 221, 222, 225-227, 237, 238, 240; CX-218 at Request for Admission Nos. 181-182, 185, 201, 202, 204, 221, 222, 226, 227,237, 238.)

Based upon all of the foregoing, I find that Ricoh has proved by a preponderance of evidence that the accused products practice each and every element of claim 1 of the '690 patent and, therefore, infringe claim 1 of the '690 patent.

2. Claim 2

Claim 2 depends from claim 1 and recites:

The toner image fixing method of claim 1, wherein the thermofusible toner has softening point of less than about [*sic*] 80° C., and the ratio of the first adhesion constant to the second adhesion constant, $\mu_{s-b}(1)/\mu_{s-b}(2)$, is less than 5.0.

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Ricoh's Position: Ricoh contends that Dr. Giacomini confirmed, through personally conducted tests, that the accused products practice the "softening point" limitation of claim 2. Ricoh says that the parties essentially agree that softening point means the point at which toner begins to soften and that Dr. Karz conceded this point at trial. (Citing Tr. at 1173:06-15.) Ricoh adds that Oki Data does not dispute the three accused fuser rollers meet the adhesion ratio of "less than 5.0" of claim 2. (Citing CX-268C at Q. 122-123; JX-5 at claim 2; RX-369C at Q. 56.)

Ricoh avers that Dr. Giacomini measured the softening point of the accused toners using a differential scanning calorimeter (DSC). (Citing CX-268C at Q. 106-09.) Ricoh continues that Dr. Karz admits that a DSC is the machine in "current usage" that is related to the differential thermal analyzer (DTA) identified in the '690 patent. (Citing JX-5 at 9:27-28; Tr. at 1160:05-1161:08.) Ricoh states that Dr. Giacomini used the definition, protocol and equipment specified in the '690 patent to determine that the softening point of Oki Data's toners is less than about 80° C. (Citing CX-128 at 17; CX-268C at Q. 106-110.) Ricoh asserts that Oki Data has no "serious challenge" to any aspect of Ricoh's tests or results. Ricoh says, although Oki Data previously suggested that a DTA and DSC might not be analogous devices, Dr. Karz "put that issue to rest when he conceded the two devices provide a similar analysis." (Citing Tr. at 1160:05-1161:08.)

Ricoh argues that Oki Data's focus on "glass transition temperature" is incorrect, because
{
} Ricoh concludes the toner softening points Dr. Giacomini measured are wholly consistent with this melting temperature range. (Citing CX-268C at Q. 109-110; CX-128 at 17.)

{

(CX-329 at 5.) {

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Oki Data contends that Dr. Giacomini opines, based on his DSC test results, that the melting point of each of the four Oki toner types he tested is below 80°C. Oki Data indicates that the four accused toner types tested by Dr. Giacomini are: ODK-8 (black) (Part No. 43459304), ODY-8 (yellow) (Part No. 43459301), ODC-8 (cyan) (Part No. 43459303) and ODM-9 (magenta) (Part No. 43459302). (CX-268C at Q. 109.) Oki Data contends that these toner types are used with only three of the accused fuser units (C8800, C5650, and C3400) and Ricoh therefore has no proof of infringement of these claims with regard to any other Oki fuser roller.

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(Citing CX-128 at 17; CX-306C at Q. 125; CX-268C at Q. 110.) Oki Data adds that Dr. Giacomini agrees with Dr. Karz that fusing can only occur when the toner is melted at the nip between the fixing members. (Citing CX-268C at Q. 52; RX-369C at Q. 36, 42, 43, 74.) Oki Data says that Dr. Giacomini admitted, he did not attempt to practice the claimed method but instead relied on the indirect measurement of differential heat flow (DSC) to determine infringement of only one element of the claimed method.⁵⁸ (Citing Tr. at 344:1-8; RX-268C at Q. 109-110, 121-123.)

Oki Data asserts that if Dr. Giacomini's testing had shown a softening point below about 80°C, {

} Oki Data avers that these specifications, prepared by a third party at a time well before any allegation of infringement, are credible objective evidence of the meaning of "softening point" to one of skill in the art. Oki Data alleges it is undisputed that its toner suppliers, "which design, manufacture, sell and warrant the quality and characteristics of the thermofusible toners used in the accused devices, are persons of ordinary skill in the art for purposes of the '690 patent."

(Citing RX-235C; Tr. at 255:20-256:4; RX-235C; RX-369C at Q. 68-69.)

Oki Data asserts that using a test that directly measures "the physical softening or melting

⁵⁸ Oki Data says that DTA and DSC are indirect methods of measurement, and do not directly measure the physical changes that accompany softening point of toner. (Citing RX-369C Qs. 35-51.)

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of the toner {

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Oki Data says that Ricoh specifically identified the Shimadzu device in an interrogatory response as an acceptable device for “determining, calculating or measuring the softening point” of thermofusible toners. (Citing Tr. at 330:13-331:2.) Oki Data says that Ricoh now has reversed its position, and claims that this same Shimadzu device is somehow unacceptable. (Citing CX-306C at Q. 128; Tr. at 71:1-10.) Oki Data says that Dr. Giacomini argues that the sample size used in the Shimadzu device is too large, and that the measurement method is arbitrary and does not relate to the actual softening point. (Citing RX-306C at Q. 128.) Oki Data counters that the sample size used in the Shimadzu device is “less than one gram (*c.a.* the weight of a paper clip), and would not heat unevenly under the specified testing conditions” as Dr. Giacomini asserts. (Citing Tr. at 349:15-18, 1165:10-1166:7, 1193:2-1195:8.) Oki Data asserts that Dr. Karz explained why the mechanical measurement of the Shimadzu Flow Tester is directly relevant to the definition of softening point as it is used in the patent (*i.e.*, in the context of fixing). (Citing Tr. at 1189:8-1190:24, 1195:9-23; Tr. at 1170:10-13.)

Oki Data contends that Dr. Giacomini’s testing fails to prove infringement because, *inter*

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alia, his methodology is unreliable.

Oki Data argues first, the ASTM standard that Dr. Giacomini stated he followed when measuring the “softening points” of the accused Oki toners is concerned with measuring the transition temperatures of “fusion and crystallization.” (Citing CX-133 at RITC0497844; CX-306C at Q. 53, 128; CX-268C at Q. 106; CX-128:15.) Oki Data alleges that thermofusible toners are amorphous, not crystalline. (Citing RX-369C at Q. 48.) Oki Data concludes the particular ASTM procedure followed by Dr. Giacomini is inapplicable to the non-crystalline thermofusible toners. (Citing CX-133.)

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Finally, Oki Data argues, at the temperatures Dr. Giacomini claims are the softening points of the tested toners, or even at what he claims are their melting points, none of them

⁵⁹ Oki Data claims the purchase specifications for the Oki toner types tested by Dr. Giacomini equate softening point with T_m, or melting point. (Citing RX-227C at OKI003782487; Tr. at 329:8-24.)

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would fuse to paper, which, Oki Data contends “is the key inquiry in the context of the thermofusible toner art.” (Citing CX-268C at Q. 110; Tr. at 1193:2-1195:8.) Oki Data says that Ricoh has offered no evidence of any form that demonstrates that the accused toners would result in an image being fixed to paper.

Staff’s Position: Staff says that Ricoh contends that the glass transition points, the claimed “softening point,” for the Oki Data’s toners are {

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Staff argues that to prove infringement of dependent claim 2 and the asserted claims depending from claim 2, Ricoh must show that the accused toners can be fixed to a substrate while their temperatures are maintained at their glass transition temperatures. Staff asserts that Ricoh has not conducted any experiments to determine whether the accused toners would actually function in a printer at their glass transition temperatures, or at any other temperature. Staff posits one would first have to modify the heating system lowering the maximum temperature to the glass transition temperature of the toner. Staff says Dr. Giacomini did not operate an Oki Data device to see whether it would print when the temperature of the toner was at a certain temperature. (Citing Tr. at 344.)

Staff concludes that, in light of Dr. Giacomini’s deposition testimony indicating that a toner cannot be fixed to a substrate when the temperature of that toner is maintained at its glass

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transition temperature as well as the testimony of Dr. Karz, Dr. Giacomini's testimony that the accused toners infringe the even numbered asserted claims is not credible. (Citing RX-369 at Q. 83; CX-268 at Q. 121-123, 126-127, 134-135, 138-139.)

In its reply brief, Staff argues that claim 2 and claims dependent therefrom require a temperature of less than about 80 °C. (Citing JX-5 at 11:50-51.) Staff asserts that “[t]ypically at least one of the fuser rolls in a electrostatic printing device is heated to a temperature in excess of 175 °C.” (Citing RX-123 at Q. 44.) Staff then reasons that in order to demonstrate infringement of the asserted even numbered claims, Ricoh would have had to modify the heating system of an Oki Data printer/MFP (or any other printing device) to lower the maximum temperature to less than about 80°C; and then determine whether the accused Oki Data toners could be “fixed on a image supporting material by contacting the thermofusible toner image with the heated nipped section of the two fixing members.” (Citing JX-5 at claim 2.) Staff avers that Ricoh has not done so. Staff reaches the conclusion that Ricoh has not and cannot demonstrate that the accused Oki Data toners satisfy the temperature element of claim 2 and claims depending therefrom.

Staff argues that the evidence shows that the softening point, as defined by those in the industry, (and as the Staff proposes the term should be construed) of all of the accused toners is { } the manufacturer of the accused toners. Staff elaborates that “in its ‘Material Safety Data Sheet’ submitted to the Federal government,” Ricoh itself uses the term “softening point” to mean the temperature at which its toners melt, and, thus is fusible. Staff adds that the stated softening point temperature is 110° C. (Citing RX-212; Tr. at 339-340.) Staff contends that this temperature is very close to the temperatures set forth in Oki Data’s purchase and delivery documentation. (Citing RX-235C; RX-237C; Tr. at 334-38.)

Staff avers that, in response to an interrogatory requesting information regarding methods

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that can be used to determine softening temperature, Ricoh responded as follows:

“[t]he methods of determining, calculating or measuring the softening point include use of a differential thermal analyzer, a flow tester, *i.e.*, a Shimadzu CFT-500, and the Ring and Ball Method.” (Citing Tr. at 330-31.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved by a preponderance of evidence that the toners tested by Dr. Giacomini infringe claim 2 of the ‘690 patent.

While Oki Data nods to its prior argument that Dr. Giacomini did not actually test the printer, its argument otherwise focuses entirely on the issue of whether or not Ricoh has proved that the toners tested by Dr. Giacomini have a softening point of less than about 80° C. Ricoh agrees that this is the issue upon which infringement or non-infringement of claim 2 will turn.⁶⁰

In Section III.F.1, I construed the term “the thermofusible toner has softening point of less than [a]bout 80° C” as having its plain and ordinary meaning, which is “the temperature at which the thermofusible toner begins to make a physical change from a solid form to a molten form is less than about 80° C.” I also found that the term “softening point” is not synonymous with “fixing temperature.”

Dr. Giacomini testified that he performed a differential thermal analysis (DTA) using a differential scanning calorimeter (DSC) Model Q100. He described the process he followed in conducting the testing, which included analysis using *TA Universal Analysis 2000* to “yield the melting points and the heats of fusion.” Dr. Giacomini said softening points were determined by pinpointing the beginning of the rapid descent of the endotherm. Dr. Giacomini testified that that

⁶⁰ I treated the issues of whether or not Dr. Giacomini was required to actually operate Oki Data printers to determine if they met the limitations of claim 1, and whether or not his contact angle measurements and ratio of adhesion constant calculations were accurate, in section IV.F.1, *supra*, and I will not repeat that rationale here. I note, too, that Dr. Karz’s opinion that the limitations of claim 2 are not met is limited to the issue of the temperature of the softening point. (RX 369C at Q. 56.)

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a person of ordinary skill in the art would understand that in DTA the softening point corresponds to the temperature at which an endothermic peak begins. He said the endothermic peak begins with a rapid descent in heat flow that is eventually succeeded by a rapid rise in heat flow. (CX-268C at Q. 106-108.)

Dr. Giacomini testified that he studied four toners: Oki Data black (Part No. 43459304); yellow (Part No. 43459301); cyan (Part No. 43459303); and magenta (Part No. 43459302). He said that DTA of the four toners showed rapid descent of the heat flow “well below 80° C.” He added that “even the peaks of the endotherm (the melting points) are all below 80° C.” {

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Dr. Giacomini testified that the tested toners were from color cartridges compatible with C3400n/C/3600n/C3530MFP/MC360nMFP.

Dr. Karz, Oki Data’s expert, testified that the same four tested toners each have a softening point that exceeds the “less than about 80° C” limitation of claim 2. To support his opinion, Dr. Karz referred to the toner delivery specifications that Oki Data receives from its toner suppliers for each of the toners at issue. {

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Oki Data argues unpersuasively that Dr. Giacomini's procedure for measuring the

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temperature for the softening point of the tested toners is incorrect, referring to Dr. Karz's statement that "polymers and other amorphous materials can be regarded as non-crystalline." (RX-369 at Q. 48.) Notwithstanding Dr. Karz's expressed opinion, CX-133 is the ASTM "Standard Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry." Contrary to Oki Data's assertion, the ASTM standard deals specifically with a test method to be used with polymers.

Oki Data is equally unpersuasive when it argues that the key inquiry here is whether or not the toners would fuse to paper at their melting points, and Ricoh has offered no evidence of any form that demonstrates that the accused toners "would result in an image being fixed to paper." Although claim 1 of the '690 patent does require fixing the thermofusible toner image on an image supporting material, it does not specify a temperature at which that is to be accomplished. Claim 2, similarly, sets no such requirement regarding the temperature at which the toner will "fix" to the image supporting material. The only temperature limit set by claim 2 is that the thermofusible toner must have "a softening point of less than about [*sic*] 80° C."

Based upon a thorough review of the evidence, I find that Dr. Giacomini's testimony regarding his test methods and results is credible. {

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I find that Ricoh has proved by a preponderance of evidence that the accused Oki Data products using the toners tested by Dr. Giacomini practice the limitation in claim 2 that the thermofusible toner has a softening point of less than about 80° C.

Dr. Giacomini provided unrefuted testimony that using his $\mu_{s-b}(1)$ / $\mu_{s-b}(2)$ measurements

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in Tables I through VI of CX-128, he determined that all four toners from color cartridges compatible with the Oki Data products that use the C3400n/C3600n/C3530MFP/MC360nMFP, C5550MFP/C5500/C5800/ C6000/C6100/MC560 and C8800/C830/MC860 printers and multifunction devices have a softening point that is below 80° C and an adhesion constant ratio of less than 5.0. (CX-268C, Qs. 121-123.)

Based upon the foregoing, I find that Ricoh has proved by a preponderance of evidence that the toners tested by Dr. Giacomini infringe claim 2 of the '690 patent.

3. Claim 5

Claim 5, which depends directly from claim 1, recites:

The toner image fixing method of claim 1, wherein the receding contact angle of the surface that contacts the thermofusible toner image is greater than about 30° when determined using a liquid having a dipole moment of greater than about 3.0 debye.

Ricoh's Position: Ricoh says that Oki Data does not dispute infringement of claims 5 and 6. Ricoh asserts that those claims are nearly identical, but claim 5 depends from claim 1 and claim 6 depends from claim 2. Ricoh alleges in both cases, the fuser rollers Dr. Giacomini tested yielded a receding contact angle greater than about 30° when determined using a liquid having a dipole moment of greater than about 3.0 debye. (Citing CX-268C at Q. 124-125; CX-128 at 8-13.)

Oki Data's Position: Oki Data offered no position on these issues. Oki Data asserts that, since its accused products do not infringe claim 1 or claim 2, those accused products do not infringe claim 5 or claim 6.

Staff's Position: Staff offered no position on these issues. Staff asserted that, since the Oki Data products have not been shown to infringe claim 1 or claim 2, those accused products do not infringe claim 5 or claim 6.

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Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved infringement of claim 5 of the '690 patent by a preponderance of evidence.

Dr. Giacomini provided unrefuted testimony that the accused products have receding contact angle measurements θ_b greater than about 30° when determined using a liquid having a dipole moment of greater than about 3.0 debye. The products tested were: C9600/C9650/C9800, C8800/C830/MC860, C710, C5650/C6050/C6150, C5550MFP/C5500/C5800/C6000/C6100/MC560/MC160, and C3400n/C3530n/C3600n/MC360nMFP. Dr. Giacomini testified that Oki Data printers and multifunction devices that use any of the following fusers practice all of the elements of claim 5: C9600/C9650/C9800 Fuser Unit, 120V (SKU 42931701); C8800/C830/MC860 Series Fuser, 120 V (SKU 43529404); C710 series printer Fuser Kit, 120 V (SKU 43854901); C5650/C6050/C6150 Series Fuser Kit (SKU 43853101); C5550MFP/C5500/C5800/C6000/C6100/MC560/MC160 Product Series Fuser (SKU 43363201); and C3400n/C3530n/C3600n/MC360nMFP Product Series Fuser, 120 V (SKU 43377001). Dr. Giacomini's testimony is corroborated by the measurements shown in Tables I through VI of CX-128. (CX-268C at Q. 124-125.)

I find that Ricoh has proved by a preponderance of evidence that the above-listed accused products practice each and every limit of claim 5 of the '690 patent, and therefore infringe claim 5 of the '690 patent.

4. Claim 6

Claim 6 depends indirectly from claim 1 via claim 2 and recites:

The toner image fixing method of claim 2, wherein the receding contact angle of the surface that contacts the thermofusible toner image is greater than about 30° when determined using a liquid having a dipole moment of greater than about 3.0 debye.

Ricoh's Position: Ricoh offered no argument regarding claim 6.

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Oki Data's Position: Oki Data offered no argument regarding claim 6, except as set forth in its argument regarding claim 2.

Staff's Position: Staff offered no argument regarding claim 6, except as set forth in its argument regarding claim 2.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved infringement of claim 6 of the '690 patent by a preponderance of evidence.

Dr. Giacomini provided unrefuted testimony that the accused products have receding contact angle measurements θ_b greater than about 30° when determined using a liquid having a dipole moment of greater than about 3.0 debye. The products tested were: C3400n/C3530n/C3600n/ MC360nMFP, C5550MFP/C5500/C5800/C6000/ C6100/MC560, and C8800/C830/MC86 Dr. Giacomini testified that Oki Data printers and multifunction devices that use any of the following fusers practice all of the elements of claim 6: C8800/C830/MC860 Series Fuser, 120 V (SKU 43529404); C5550MFP/C5500/C5800/C6000/ C6100/MC560/MC160 Product Series Fuser (SKU 43363201); and C3400n/C3530n/C3600n/ MC360nMFP Product Series Fuser, 120 V (SKU 43377001).(CX-268C, Qs. 126-127.)

Dr. Giacomini's testimony is corroborated by the measurements shown in Tables I through VI of CX-128. (CX-268C at Q. 126-127.)

I find that Ricoh has proved by a preponderance of evidence that the above-listed accused products practice each and every limit of claim 6 of the '690 patent, and therefore infringe claim 6 of the '690 patent.

5. Claim 9, 10, 13, & 14

Claim 9 depends directly from claim 1 and recites:

The toner image fixing method of claim 1, wherein the surface of the fixing member has a center-line average roughness less than about $3.0 \mu\text{m}$.

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Claim 10 depends from claim 1 indirectly via claim 2 and recites:

The toner image fixing method of claim 2, wherein the surface of the fixing member has a center-line average roughness less than about 3.0 μm .

Claim 13 depends indirectly from claim 1 via claim 5 and recites:

The toner image fixing method of claim 5, wherein the surface of the fixing member has a center-line average roughness less than about 3.0 μm .

Claim 14 depends indirectly from claim 1 via claims 6 and 2 and recites:

The toner image fixing method of claim 6, wherein the surface of the fixing member has a center-line average roughness less than about 3.0 μm .

Ricoh's Position: Ricoh argues that Dr. Giacomini's tests confirm that the fuser rollers of the accused products have surfaces with a center-line average roughness of less than about 3.0 μm and therefore infringe dependent claims 9, 10, 13 and 14. (Citing CX-268C at Q. 128-139; CX-128 at 18-20.) Ricoh asserts that Oki Data's only defense to these claims is its assertion that the '690 patent requires roughness measurements to be taken at high temperature. (Citing RPHB at 83-84.) Ricoh argues that nothing in the '690 patent requires roughness to be measured at any particular temperature or pressure, and Oki Data offers no evidence that roughness changes with temperature or pressure. Ricoh says during the printing process, melted toner peels off the fuser roller after it exits the nipped section, so the toner and the fuser surface from which it peels is at atmospheric pressure. (Citing CX-268C at Q. 52.) Ricoh adds that one of the goals of the '690 patent is to avoid high-temperature testing, so requiring roughness to be measured at high temperature would run counter to the patent specification. (Citing JX-5 at 4:34-43.)

Oki Data's Position: Oki Data says claims 9, 10, 13 and 14 are directed to a toner image fixing method "wherein the surface of the fixing member has a center-line average roughness less than about 3.0 μm ." (Citing JX-5 at 12:26-31, 12:38-43.) Oki Data asserts that the

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specification of the '690 patent "distinguishes the prior art surface roughness measurements that were 'not correlative' (and thus invalid) because they were not measured under 'heat and pressure.'" (Citing JX-5 at 2:23-40; RX-369C at Q. 108-114.) Oki Data concludes that the '690 patent requires that surface roughness must be measured under heat and pressure if this metric is to have any useful relationship to hot-offset reduction. (*Id.*)

Oki Data says that Dr. Giacomini claims to have measured the Oki fuser roller surface roughness using a Zygo New View 6300 scanning white light interferometer under "default conditions." (Citing CX-268C at Q. 128; RX-369C at Q. 112.) Oki Data alleges that the manual for this instrument "indicates that these measurements could not have been made under the pressure and temperature conditions required in the '690 specification because any such configuration would necessarily disrupt the optical paths needed for the measurement." (Citing RX-369C at Q. 112-114; CX-138.)

Staff's Position: Staff offered no position on these issues.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved infringement of claims 9, 10, 13, and 14 of the '690 patent by a preponderance of evidence.

Dr. Giacomini testified that he characterized the fuser surfaces using a Zygo New View 6300 scanning white light interferometer following ASME B46.1-1995. He described in detail the method used to take the measurements. He testified that Tables XI-XII on pages 18, 19 and 20 of CX-128 list one of three surface texture measurements obtained by white light interferometry on each of the accused Oki Data fusers. Referring to Table XII on page 20 of CX-128, Dr. Giacomini said that the testing shows that all of the accused products' surfaces have a center-line average roughness less than about 3.0 microns. (CX-268C at Q. 128-130.)

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Dr. Giacomini testified the Oki Data printers and multifunction devices that use any of the following fusers practice all of the elements of claims 9 and 13: C9600/C9650/C9800 Fuser Unit, 120V (SKU 42931701); C8800/C830/MC860 Series Fuser, 120 V (SKU 43529404); C710 series printer Fuser Kit, 120 V (SKU 43854901); C5650/C6050/C6150 Series Fuser Kit (SKU 43853101); C5550MFP/C5500/C5800/C6000/C6100/MC560/MC160 Product Series Fuser (SKU 43363201); and C3400n/C3530n/C3600n/MC360nMFP Product Series Fuser, 120 V (SKU 43377001). (CX-268C at Q. 132, 133, 136, 137.)

Dr. Giacomini testified that the Oki Data printers and multifunction devices that use any of the following fusers practice all of the elements of claims 10 and 14: C8800/C830/MC860 Series Fuser, 120 V (SKU 43529404); C5550MFP/C5500/C5800/C6000/ C6100/MC560/MC160 Product Series Fuser (SKU 43363201); and C3400n/C3530n/C3600n/ MC360nMFP Product Series Fuser, 120 V (SKU 43377001). (CX-268C at Q. 134, 135, 138, 139.)

Oki Data contends that the '690 patent "distinguishes the prior art surface roughness measurements that were 'not correlative' (and thus invalid) because they were not measured under 'heat and pressure.'" To support its argument, Oki Data refers to JX-5 at 2:23-40. The '690 patent does, in fact, distinguish the two mentioned methods, saying:

However, these specified physical properties are measured in the absence of heat and pressure, so that these specified physical properties are not correlative with the adhesive and release properties of toner to a surface of a fixing roller when heat and pressure are applied thereto. Therefore, hot offset is not solved by using these fixing rollers.

(JX-5 at 2:34-40.)

While the foregoing language distinguishes two methods, it does not provide a clear disavowal of all testing methods that do not use heat and pressure. It certainly does not

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specifically disavow using a scanning white light interferometer as exemplified by the Zygo New View 6300.

Oki Data's expert, Dr. Karz, testified that Dr. Giacomini's measurements were not made under the pressure and temperature conditions required in the '690 specification because any such configuration would necessarily disrupt the optical paths needed for the measurement. (RX-369C at Q. 108-114.) A review of CX-138 reveals no requirement for heat and pressure to be added in using the Zygo New View 6300 scanning white light interferometer, and Dr. Giacomini has not testified that any such parameters exist in using that equipment.

The method used in the description of the preferred embodiment to test center-line roughness, Ra, of each fixing member was measurement using a Hommel Tester T1000 surface roughness tester, manufactured by Hommelwerke GmbH, and the measurement unit was μm . (JX-5 at 9:13-16.) Neither party provided evidence regarding any heat and pressure requirements using this method of measurement, and the specification nowhere states a specific heat and pressure requirement for the testing. I note, too, that none of claims 9, 10, 13, or 14, specify a testing condition requiring any specific heat or pressure to be included.

Oki Data does not provide any evidence disputing the accuracy of Dr. Giacomini's measurements. Absent clear disavowal of the method used by Dr. Giacomini for testing or a claim requirement for a specific method for testing, I cannot find that the method used by Dr. Giacomini is inappropriate. His findings are not refuted. I find that Ricoh has proved by a preponderance of evidence that the above-listed accused products, using the toner fusers indicated, practice each and every element of claims 9, 10, 13 and 14, respectively and, therefore, infringe claims 9, 10, 13 and 14, respectively.

VI. DOMESTIC INDUSTRY

A. Applicable Law

In patent-based proceedings under section 337, a complainant must establish that an industry “relating to the articles protected by the patent...exists or is in the process of being established” in the United States. 19 U.S.C. § 1337(a)(2) (2008). Under Commission precedent, the domestic industry requirement of Section 337 consists of an “economic prong” and a “technical prong.” *Certain Data Storage Systems and Components Thereof*, Inv. No. 337-TA-471, Initial Determination Granting EMC’s Motion No. 471-8 Relating to the Domestic Industry Requirement’s Economic Prong (unreviewed) at 3 (Public Version, October 25, 2002).

The “economic prong” of the domestic industry requirement is satisfied when it is determined that the economic activities set forth in subsections (A), (B), and/or (C) of subsection 337(a)(3) have taken place or are taking place. *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, USITC Pub. No. 3003, 1996 ITC LEXIS 556, Comm’n Op. at 21 (Nov. 1996). With respect to the “economic prong,” 19 U.S.C. § 1337(a)(2) and (3) provide, in full:

(2) Subparagraphs (B), (C), (D), and (E) of paragraph (1) apply only if an industry in the United States, relating to the articles protected by the patent, copyright, trademark, mask work, or design concerned, exists or is in the process of being established.

(3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned-

(A) significant investment in plant and equipment;

(B) significant employment of labor or capital; or

(C) substantial investment in its exploitation, including engineering, research and development, or licensing.

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Given that these criteria are listed in the disjunctive, satisfaction of any one of them will be sufficient to meet the domestic industry requirement. *Certain Integrated Circuit Chipsets and Products Containing Same*, Inv. No. 337-TA-428, Order No 10, Initial Determination (Unreviewed) (May 4, 2000), citing *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, Commission Op. at 15, USITC Pub. 3003 (Nov. 1996).

To meet the technical prong, the complainant must establish that it practices at least one claim of the asserted patent. *Certain Point of Sale Terminals and Components Thereof*, Inv. No. 337-TA-524, Order No. 40 (April 11, 2005). “The test for satisfying the ‘technical prong’ of the industry requirement is essentially same as that for infringement, i.e., a comparison of domestic products to the asserted claims.” *Alloc v. Int’l Trade Comm’n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). The technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents. *Certain Excimer Laser Systems for Vision Correction Surgery and Components Thereof and Methods for Performing Such Surgery*, Inv. No. 337-TA-419, Order No. 43 (July 30, 1999).

B. Economic Prong

1. Evidentiary Issues

Ricoh’s Position: Ricoh contends that it is entitled to rely on the MP 4000 product as a domestic industry product for the ‘048, ‘866, and ‘771 patents.

Ricoh claims that the MP 4000 product was identified as a domestic industry product in the Complaint, and Ricoh attached claim charts to the Complaint showing how the MP 4000 practices at least one claim of the ‘048, ‘866, and ‘771 patents. (Citing CX-15; CX-17; CX-19.) Ricoh claims that it provided detailed information regarding the MP 4000 with its Complaint. (Citing CX-35; CX-38; CX-39C; CX-42.)

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Ricoh states that in response to a fact interrogatory (as opposed to contention interrogatory) served by Oki Data, it identified the MP 4000 as a domestic industry product for the '048, '866, and '771 patents. Ricoh states that it also identified documents that it produced that are related to the MP 4000. Ricoh states that at the hearing, it provided significant domestic industry testimony regarding the MP 4000 through Mr. Albeck, Mr. Briwick, and Mr. Weadock.

Ricoh states that its February 23, 2010 supplemental interrogatory response continued to rely on the exhibits attached to the Complaint that provided evidence of that the MP 4000 satisfies the domestic industry requirement for the '048, '866, and '771 patents. Ricoh argues that there is no evidence that it intended to waive its reliance on the MP 4000 product. Finally, Ricoh argues that I erred by excluded certain domestic industry evidence at the hearing.

In addition, Ricoh argues that I erred in excluding evidence regarding the MP 8001 product. Ricoh claims that exclusion of evidence was not warranted under the circumstances.

Oki Data's Position: Oki Data contends that Ricoh's domestic industry allegations are restricted to the chart offered in Ricoh's February 23, 2010 supplemental interrogatory responses.

Oki Data asserts that Ricoh is limited to relying on the MP 8001 product for the '771 and '048 patents. Oki Data argues that Ricoh failed to introduce any evidence at the hearing regarding the alleged investment in the United States for the MP 8001 product. Therefore, Oki Data claims that there is no evidence of record establishing the existence of a domestic industry based on alleged investments in the MP 8001. (Citing Tr. at 923:6-925:19.)

Staff's Position: Staff takes no express position on this issue, but its briefing implies that it takes the position that Ricoh may rely on the MP 4000 product.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh shall

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be limited to relying on the MP 4000 product with GlobalScan software to prove the economic prong with respect to the ‘866 patent. Ricoh is not entitled to rely on the MP 4000 product for either the ‘771 or ‘048 patents. In addition, I find that my rulings from the hearing regarding the exclusion of untimely evidence shall stand.

During discovery, Oki Data served Interrogatory No. 17, seeking “all facts that support Ricoh Company’s contention that a domestic industry exists in the United States[.]” Oki Data also served Interrogatory No. 18, seeking the identity of “each Ricoh Company product manufactured, marketed and/or sold by Ricoh Company that forms the basis of or upon which Ricoh Company relies to support Ricoh Company’s domestic industry allegations.”

Ricoh filed a supplemental response to Interrogatory No. 17 on February 23, 2010, the last day of the fact discovery period. Ricoh provided a chart with its domestic industry assertions. Ricoh introduced the chart by stating: “Complainant is presently relying on the following Ricoh products for its proof of domestic industry with respect to an exemplary claim of each asserted patent[.]” The chart is as follows:

Asserted Patent and Exemplary Claim	Domestic Industry Product	Documents Produced
5,764,966 Exemplary claim 1	Ricoh Aficio MP 8001 Multifunction Digital Copier Ricoh Aficio MP 4000 Multifunction Digital Copier with GlobalScan software	Exhibits 23, 26, 28, 29, 30, 31 and 32 of the Complaint; and RITC 20574-20576; 20577- 20579; 20580-20581; 20591- 20593; 20594-20596; and 20612-20613
6,388,771 Exemplary claim 1	Ricoh Aficio MP 8001 Multifunction Digital Copier	RITC 20574-20576; 20577- 20579; 20580-20581; 20591- 20593; 20594-20596; and 20612-20613
6,209,048 Exemplary claim 1	Ricoh Aficio MP 8001 Multifunction Digital Copier	RITC 20574-20576; 20577- 20579; 20580-20581; 20591- 20593; 20594-20596; and 20612-20613
6,212,343 Exemplary claim 20	Ricoh Aficio SP C200 Series Color Laser Printers (including the C220N/C220S/C221N/ C221SF/C222DN/C222SF)	Exhibits 24, 27, 30, 31 and 32 of the Complaint; RITC 20597-20598; 20599- 20600; 20601-20602; 20603; 20604; 20605-20606; 20607- 20608; 20609-20611; and 353643-354228.
5,863,690 Exemplary claim 1	Ricoh Aficio SP C200 Series Color Laser Printers (including the C220N/C220S/C221N/ C221SF/C222DN/C222SF)	Exhibits 25, 27, 30, 31 and 32 of the Complaint. RITC 20597-20598; 20599- 20600; 20601-20602; 20603; 20604; 20605-20606; 20607- 20608; 20609-20611; and 353643-354228.

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Ricoh incorporated by reference the expert reports of Dr. Stauffer, Dr. Giacomini, Dr. Stevenson, and Mr. Weadock. Also on February 23, 2010, Ricoh served a supplemental response to Interrogatory No. 18, incorporating by reference its supplemental response to Interrogatory No. 17.

Based on these disclosures, I found that Ricoh was bound by its assertions in its February 23, 2010 supplemental interrogatory responses. (Tr. at 778:4-23; *see also* Tr. at 921:11-15.) I now reiterate that finding, and conclude that Ricoh shall not be permitted to assert domestic industry allegations that are contrary to its position in its February 23, 2010 supplemental interrogatory responses.

Ricoh argues that it has offered different domestic industry positions in its Complaint and the exhibits attached to the Complaint. Ricoh claims that notwithstanding its February 23, 2010 interrogatory responses, it should be entitled to rely on any domestic industry product that it fairly raised prior to the close of fact discovery. By making this argument, Ricoh acknowledges that its domestic industry position has “been shifting around throughout the case,” as I stated at the hearing. (Tr. at 778:9-10.)

I find that Ricoh shall not be allowed to repeatedly change its position during the investigation, and then rely on the position that best suits its needs when it comes to the hearing. As described *supra*, Ricoh’s February 23, 2010 supplemental responses to Interrogatory Nos. 17-18 were clear in the fact that the positions stated in the responses constituted the full extent of Ricoh’s domestic industry allegations. For each asserted patent, Ricoh listed one or more “Domestic Industry Product.” Based on these responses, it was reasonable of Oki Data and Staff to assume that any prior domestic industry allegations were superseded by Ricoh’s February 23, 2010 responses.

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Based on Ricoh's February 23, 2010 supplemental interrogatory responses, Ricoh shall not be permitted to rely on MP 4000 for the '771 and '048 patents. Ricoh shall be permitted to rely on the MP 4000 with GlobalScan software for the '866 patent.

In addition, Ricoh takes issue with my rulings at the hearing, where I excluded evidence regarding the MP 8001 product. I will not permit a party to rely on evidence at the hearing that has not been timely produced during discovery. (*See* Order No. 24.) This prohibits trial by ambush, and ensures that the hearing is conducted in a fair manner. My rulings at the hearing were based on this policy, as I found that the evidence that I excluded was not produced by Ricoh during fact discovery. (*See, e.g.*, Tr. at 923:6-925:19.) After a thorough review of the record and considering the arguments of all of the parties, I find that Ricoh has not offered any sufficient reason to disturb my rulings from the hearing regarding the exclusion of untimely evidence.

2. '771 & '048 Patents

Ricoh's Position: Ricoh contends that it satisfies the economic prong of the domestic industry requirement for the '048 and '771 patents through its investments in the Aficio MP 4000 product.

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Oki Data's Position: Oki Data contends that Ricoh has failed to establish that it has made significant investments that are sufficiently allocated to the MP 4000 product.

Oki Data argues that Ricoh failed to allocate the space at its Tustin, California facility devoted to MP 4000 products with GlobalScan software. (Citing CX-273C at Q. 46.) Oki Data argues that Ricoh's office space and rent and occupancy expenses related to sales and marketing are irrelevant because expenditures for sales and marketing do not satisfy the economic prong.

Oki Data states that Ricoh failed to separate occupancy costs for service and support from occupancy costs for sales and marketing.

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Oki Data asserts that Ricoh has failed to establish that it has made a significant investment through labor or capital because Ricoh again fails to allocate the expenses to the domestic industry product. Oki Data also argues that salaries paid to employees working on sales and marketing are irrelevant for the domestic industry analysis.

{

} Oki Data claims that this

amount would be even smaller if properly allocated to the MP 4000s with GlobalScan software.

Staff's Position: Staff contends that, based on the evidence in the record, Ricoh has demonstrated that its domestic activities related to the MP 4000 series product satisfies the economic prong.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate the economic prong for either of the '771 or '048 patents.

As described *supra*, Ricoh is limited to asserting that the MP 8001 meets the economic prong for the '771 or '048 patents.⁶¹ Thus, I conclude that Ricoh is precluded from asserting that the MP 4000 product meets the economic prong for the '771 or '048 patents.

Assuming, *arguendo*, that Ricoh was able to rely on the MP 4000 product, I find that Ricoh has demonstrated significant employment of labor or capital with regard to the MP 4000. Ricoh offers the testimony of Jeffrey Briwick, Officer and Executive Vice President of Ricoh Electronics. (CX-273C at Q. 5.) {

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⁶¹ Ricoh acknowledges in its post-hearing briefing that "the Court precluded all evidence of Ricoh's economic domestic industry related to the MP 8001," thus meaning that Ricoh has no evidence in the record to prove the economic prong with respect to the '771 and '048 patents. (CIB at 173.)

{

} I find that these

investments constitute significant employment of labor or capital pursuant to 19 U.S.C. § 1337(a)(3)(B).

In addition, I find that Ricoh has demonstrated significant investment in plant and equipment. {

} I find that this constitutes a significant investment in plant and

equipment pursuant to 19 U.S.C. § 1337(a)(3)(A).

Based on the foregoing, I find that Ricoh failed to demonstrate the economic prong for the '771 and '048 patents because I have concluded that Ricoh is not permitted to rely on the MP 4000. Assuming *arguendo* that Ricoh was allowed to rely on the MP 4000, then Ricoh would have demonstrated that it meets the economic prong for that product and for the '771 and '048 patents.

3. '866 Patent

Ricoh's Position: Ricoh contends that the MP 4000 product loaded with the GlobalScan NX software meets the domestic industry requirement for the '866 patent.

Ricoh states that the GlobalScan NX software is a global software application designed

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Oki Data's Position: Oki Data contends that Ricoh failed to meet the economic prong with the MP 4000 with GlobalScan NX software.

Oki Data argues that pursuant to the rulings made at the hearing, Ricoh is restricted to the MP 4000 with GlobalScan software for the '866 patent. Oki Data claims that Ricoh only presented evidence regarding GlobalScan NX software, which is a different product. Oki Data asserts that GlobalScan and GlobalScan NX are separate products that are not interchangeable

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and are both currently offered for sale in the U.S. (Citing CX-276C at Q. 11, 15.) Oki Data claims that it is not its burden to try to figure out if Ricoh means to rely on GlobalScan or GlobalScan NX. Oki Data argues that Ricoh's imprecision in asserting its domestic industry products should not be allowed.

Oki Data states that even if evidence regarding the GlobalScan NX software is considered, such evidence is insufficient to meet Ricoh's burden. {

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Oki Data argues that it is impossible to determine the employment of labor or capital attributable to the GlobalScan NX software installation, service, or repair because Mr. Albeck failed to identify how many employees service or repair the GlobalScan NX on the MP 4000 or MP 8001. In addition, Oki Data claims that it is impossible to determine whether or not Ricoh's investment in research or development has a nexus to the MP 4000 or MP 8001 with GlobalScan NX because the quoted { } figure is spread over numerous unasserted products.

Staff's Position: Staff contends that Ricoh has failed to demonstrate that the MP 4000 with GlobalScan NX meets the economic prong. According to Staff, the record does not indicate

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any method of allocating costs, expenses, employee time, or revenue to the MP 4000 with GlobalScan NX software as opposed to all Ricoh devices with GlobalScan NX.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that it meets the economic prong of the domestic industry requirement for the '866 patent.

As described *supra*, Ricoh is limited to asserting that the MP 4000 with GlobalScan software or the MP 8001 meets the economic prong for the '866 patent.⁶² Ricoh asserts that the MP 4000 with GlobalScan NX software meets the economic prong.

I find that there is a difference between GlobalScan and GlobalScan NX, such that the identification of the MP 4000 with GlobalScan does not cover the MP 4000 with GlobalScan NX. The evidence demonstrates that GlobalScan and GlobalScan NX are different products that are sold separately. (CX-276C at Q. 11-19.) Based on the foregoing, I find that Ricoh's evidence regarding the MP 4000 with GlobalScan NX software does not suffice to prove that the MP 4000 with GlobalScan software meets the economic prong.

Assuming, *arguendo*, that Ricoh was able to rely on the MP 4000 with GlobalScan NX software, then Ricoh would have shown that it meets the economic prong for the '866 patent.

In Section VI.B.2 *supra*, I found that Ricoh's investments with regard to the MP 4000 satisfy the economic prong. I find that Ricoh's investment in GlobalScan NX software constitutes a substantial investment in research and development. 19 U.S.C. § 1337(a)(3)(C) (2009). Ricoh offered evidence that the annual domestic research and development budget for GlobalScan NX is approximately { . } (CX-276C at Q. 40; Tr. at 1298:15-23.) Mr. Albeck testified that { }

⁶² Ricoh acknowledges in its post-hearing briefing that "the Court precluded all evidence of Ricoh's economic domestic industry related to the MP 8001," thus meaning that Ricoh has no evidence in the record to prove the economic prong for the '866 patent using the MP 8001. (CIB at 173.)

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{ } (Tr. at 1298:24-1300:20.)

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While Ricoh fails to identify the exact number of MP 4000 products with GlobalScan NX that it produced during the relevant timeframe, I find that the investment described *supra* is significant enough such that any reasonable allocation would satisfy the economic prong. *See Certain Removable Electronic Card & Electronic Card Reader Devices & Products Containing the Same*, Inv. No. 337-TA-396, Initial Determination, 1998 WL 681871 (Mar. 24, 1998) (“The record is clear that Gemplus’ investments are sufficiently large so that any reasonable allocation more than satisfies the domestic industry requirement.”); *Certain Integrated Circuits, Processes for Making Same, & Products Containing Same*, Inv. No. 337-TA-450, Initial Determination, 2002 WL 31662205 (May 6, 2002) (“Regardless of how one would allocate Complainants’ activities and expenditures, they would be adequate from a simple financial or personnel perspective to satisfy the domestic industry requirement.”); *Certain Integrated Circuit Telecommunication Chips & Products Containing Same Including Dialing Apparatus*, Inv. No. 337-TA-337, Initial Determination, 1993 WL 852414 (Mar. 9, 1993) (“The mere fact that the same plant, equipment and labor are used to produce several different products does not preclude a finding that a domestic industry exists.”)

Based on the foregoing, I find that Ricoh failed to demonstrate that it meets the economic prong of the domestic industry requirement for the ‘866 patent because I have concluded that

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Ricoh is not permitted to rely on the MP 4000 with GlobalScan NX software.

'343 Patent & '690 Patent

Ricoh's Position: Ricoh contends that it meets the economic prong of the domestic industry requirement for the '343 and '690 patents through its investments related to the C200 Series products.

Ricoh claims that the C200 Series includes the C220N, C221N, and C222DN color laser printers and the C220S, C221SF, and C222SF multifunction color laser printers, including their counterpart Lanier and Savin models. (Citing CX-277C at Q. 8; CX-275C at Q. 18.) {

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{

} Ricoh argues that

the Commission considers sales and marketing expenditures as part of the overall evaluation of

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whether or not a domestic industry exists, thus meaning that it is proper to consider Ricoh's sales and marketing expenditures as part of the overall analysis.

Oki Data's Position: Oki Data contends that Ricoh has failed to satisfy the economic prong for the '343 and '690 patents through the C200 Series.

Oki Data argues that whatever domestic industry existed no longer exists {

}

Oki Data argues that under Commission precedent, Ricoh should not be allowed to rely on past expenditures that occurred prior to the filing of the Complaint to satisfy the domestic industry requirement. {

}

Oki Data argues that Ricoh has failed to properly allocate its investments for the C200 Series. {

} Oki Data claims that his testimony fails to establish the amount of time spent by these identified Ricoh employees on the sales and marketing of the C200 Series, as opposed to other Ricoh products.

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Oki Data argues that during the trial, evidence regarding the Savin and Lanier models in the C200 Series was excluded as untimely. Oki Data claims that Ricoh's domestic industry evidence is rendered unusable because it is unclear that the figures offered by Ricoh properly excludes the Savin and Lanier models. (Citing Tr. at 1034:3-1036:15, 1039:18-20; CX-275C at Q. 30; CX-277C at Q. 11.) Oki Data states that because the excluded Savin and Lanier counterparts cannot be reliably allocated out of the figures provided, no portion of those expenditures can be used to satisfy the economic prong of the domestic industry requirement for the C200 Series. (Citing Tr. at 1048:21-1049:11.)

Oki Data argues that Ricoh failed to separate expenditures related to sales and marketing from other expenditures. Oki Data claims that because sales and marketing expenditures are irrelevant to the domestic industry requirement, it is unclear which portion of Ricoh's identified expenditures are related to things other than sales and marketing.

Oki Data asserts that Ricoh cannot demonstrate a domestic industry though service and support expenditures. {

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Oki Data claims that Ricoh failed to provide any comparative analysis of its domestic activities as compared to the value in the C200 products created abroad. {

} Oki Data argues that the Commission's

Toy Vehicles decision is distinguishable because the evidence in that case demonstrated that all past expenditures relating to the domestic industry product had been made in the United States and that the complainant still had inventory of the domestic industry product and continued to offer that inventory for sale. Finally, Oki Data reiterates its argument that Ricoh failed to properly allocate its expenditures for multiple reasons.

Staff's Position: Staff contends that Ricoh has demonstrated that its investments related

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to the C200 Series satisfy the economic prong.

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Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has satisfied the economic prong of the domestic industry requirement for the ‘343 patent and ‘690 patent.

In *Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm’n Op., 2008 WIL 2952724 (Aug. 1, 2007), the Commission explained that:

The Commission’s determination on the economic prong is not made according to any rigid formula -- there is no mathematical threshold test. Instead, the determination is made by “an examination of the facts in each investigation, the article of commerce, and the realities of the marketplace.” *Certain Double-Sided Floppy Disk Drives and Components Thereof (TEO)*, Inv. No. 337-TA-215, USITC Pub. 1860 (May 1986), Comm’n Op. at 17.

The threshold for meeting the economic prong has been characterized as being “relatively low.” *Certain Probe Card Assemblies, Components Thereof & Certain Probe Card Assemblies, Components Thereof & Certain Tested DRAM & NAND Flash Memory Devices & Products*

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Containing Same, Inv No. 337-TA-621, Initial Determination, 2009 WL 2196921 (June 29, 2009).

For each of the '343 and '690 patents, Ricoh relies on the C200 Series of printers and MFPs. {

} Ricoh filed its Complaint in this investigation on September 18, 2009.

Notwithstanding those facts, I find that Ricoh meets the economic prong requirement due to significant employment of labor or capital related to the service and maintenance of the C200 Series products. Mr. Glen Mandernacht, Vice President of Direct Technology Series for Ricoh America, testified regarding Ricoh's service and maintenance expenditures. (CX-275C at Q. 6.) {

} While the Commission has assessed the existence and sufficiency of a domestic industry at various points during the investigative process, it is certainly proper to examine domestic industry as of the date of filing the Complaint. *See Certain Semiconductor Integrated Circuits & Products Containing Same*, Inv. No. 337-TA-665, Initial Determination (Oct. 14, 2009).

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} I do not

find Oki Data's argument persuasive. First, Oki Data is using the incorrect investment amount based on its rejected reading of CX-174C and CX-175C. Second, Oki Data offers no precedent to support the position that the determination of a significant investment under Section 337 depends upon a comparison of the relied-upon investment to other investments made by the complainant. Such a comparison would obviously hurt large, diversified companies that produce a wide range of products, as any investment that is relied upon would constitute a small percentage of overall investment. Examining Ricoh's demonstrated investment in the service and maintenance of the C200 Series, I conclude that such investment is significant for purposes of Section 337.

C. Technical Prong

1. The '866 Patent

Ricoh's Position: Ricoh contends that its MP 4000 and MP 8001 products with GlobalScan NX practice claim 1 of the '866 patent.

Ricoh describes the GlobalScan NX software as software than runs on Ricoh networked MFPs. The software converts scanned paper documents into electronic files and routes them to

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network folders, email addresses, fax servers and other destinations. (Citing CX-276C at Q. 7-8.) Ricoh claims that for purposes of the domestic industry analysis, the MP 4000 with GlobalScan NX and MP 8001 with GlobalScan NX function the same.

Ricoh argues that the MP 4000 and MP 8001 satisfy the preamble of claim 1, because they each can create a scanned image and directly transmit that image data through a network connection without using a host computer. (Citing CX-272 at Q. 50-76; CX-13, CX-15; CX-55 at 79; CX-58 at 51.) Ricoh states that GlobalScan NX allows a user to create scan files, which it calls “projects.” (Citing CX-272 at Q. 66-72; CX-13; CX-15.) According to Ricoh, each of these projects includes configurable scan settings. (Citing CX-50 at 226.)

Ricoh claims that the MP 4000 and MP 8001 satisfy the operation panel means limitation, because a user can select a set of scan conditions, which is done on the user interface panel of the MP 4000 and MP 8001. (Citing CX-272 at Q. 78-85; CX-13, CX-15; CX-55 at 79; CX-58 at 51.) Ricoh states that the MP 4000 and MP 8001 can scan at least one image to create image data according to the settings of the scan conditions. (Citing CX-272 at Q. 86-94; CX-13; CX-15.) Ricoh asserts that the MP 4000 and MP 8001 contain digital memory devices for storing image data and scan files, or projects. (Citing CX-272 at Q. 95-103; CX-13; CX-15.) Ricoh states that the MP 4000 and MP 8001 can scan image data based on preconfigured projects (scan files). (Citing CX-51 at 87, 226, 227-230; CX-302.)

Ricoh argues that the MP 4000 and MP 8001 satisfy the “network interface means” limitation, because the products obtain project files (scan files) through the network from a computer and send image data that had been previously stored in the memory through the network to that computer. (Citing CX-272 at Q. 104-112; CX-13; CX-15.) Ricoh claims that after editing the project file on the computer, the user must “synchronize” the computer with the

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MP 4000 or MP 8001, which is when scan files are sent across the network to the MP 8001.

(Citing CX-51 at 255.)

In its reply brief, Ricoh argues that Oki Data is incorrect when it claims that Dr. Stevenson had not even seen the MP 8001 product before he concluded that it practices claim 1 of the '866 patent. (Citing RIB at 118; Tr. at 804:12-17.) Ricoh argues that Oki Data is wrong to suggest that Dr. Stevenson failed to support his analysis with specific reference to the structure of the means-plus-function limitations of claim 1. (Citing CX-272 at Q. 62, 64, 69, 71; CX-13; CX-15; CX-50; CX-51; CX-55; CX-58; CX-302.)

Oki Data's Position: Oki Data contends that Ricoh failed to meet its burden to demonstrate that at least one of its products practices the '866 patent.

Oki Data argues that Dr. Stevenson's analysis was not sufficiently detailed, in that he did not "tear down" any products, did not identify software used in the products, did not review engineering drawings, and did not obtain the level of engineering detail necessary to provide a correct analysis. (Citing Tr. at 808:17, 802:7-15, 810:9-13, 807:10-808:12.) Oki Data claims that Dr. Stevenson had not even seen the MP 8001 product before concluding that it practices claim 1. (Citing Tr. at 805:1-806:10.) Oki Data asserts that Dr. Stevenson admitted that he did not examine the structure or software that performs the functions in claim 1, and instead relied on the functionality of the product to conclude that the claimed structures are present. (Citing Tr. at 811:13-812:8.)

Oki Data argues that an examination of the functionality is insufficient to prove infringement of a means-plus-function element. Oki Data cites to Dr. Baroody's opinion that Dr. Stevenson's analysis was insufficient because he failed to opine that the structure required by the means-plus-function limitations are present in the MP 8001 device. (Citing RX-370C at Q. 61.)

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In its reply brief, Oki Data notes that Ricoh relies on Ron Albeck's testimony to assert that the MP 4000 is the same as the MP 8001 for purposes of the domestic industry analysis. (Citing CIB at 138.) Oki Data argues that this is improper because Mr. Albeck is not one of ordinary skill in the art, even under Dr. Stevenson's standard. (Citing CX-276C at Q. 4; CX-272 at Q. 39.) Oki Data argues that Mr. Albeck is not qualified to provide an opinion that the MP 4000 and MP 8001 are materially the same with regard to claim 1 of the '866 patent.

Staff's Position: Staff contends that Ricoh has failed to prove the technical prong with respect to the '866 patent. Staff claims that Dr. Stevenson failed to identify the specific structures that satisfy the means-plus-function elements. (Citing CX-272 at Q. 88, 92; Tr. at 809-810.)

In its reply brief, Staff asserts that Dr. Stevenson acknowledged that the documents he relied upon to testify regarding the MP 8001 product lacked the specificity of the disclosure of the '866 patent. (Citing Tr. at 801.) In view of such an admission, Staff claims that Dr. Stevenson's testimony regarding domestic industry cannot be credited.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh failed to meet its burden to prove that it meets the technical prong of the domestic industry requirement.

Ricoh relies on the expert opinion testimony of Dr. Stevenson to demonstrate that the MP 8001 with GlobalScan NX practices claim 1 of the '866 patent. Both Oki Data and Staff argue that Dr. Stevenson's testimony lacks detail with respect to the structure required by the means-plus-function elements of claim 1.

I find that Dr. Stevenson's analysis is insufficient to satisfy Ricoh's burden. When performing his element-by-element analysis, Dr. Stevenson fails to identify the structure in the

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MP 8001 that performs the claimed functions in the means-plus-function elements. For example, I construed “scan means” to require a scanner engine that controls a scanner unit having ARDF (auto document feeder) coupled to a scanner/printer controller, and equivalents. When discussing this element, Dr. Stevenson simply states that “the structure for performing this function include the scanning head controller (a scanner engine) and associated software for controlling the scanning mechanism (scanner driver).” (CX-272 at Q. 88.) This testimony fails to point to any specific structure in the MP 8001, does not reference any evidence regarding the MP 8001, and does not sufficiently describe the structure required by the construction of “scan means.” (RX-370C at Q. 61.) When asked about Staff’s proposed construction of “scan means,” which required more structure than Ricoh’s proposed construction, Dr. Stevenson was unable to identify additional structure in the MP 8001 and stated that:

[G]iven the conventional design of the MP 8001, the conventional design approach found in the ‘866 specification, and given the observed operation of the MP 8001, I conclude that any difference between the MP 8001 and the structures required by the OUII’s claim construction are most minor and are in fact insubstantial as they relate to performing the required function.

(CX-272 at Q. 92.)

I find that such testimony is insufficient to demonstrate equivalence under § 112, ¶ 6, as Dr. Stevenson still fails to identify the actual structure of the MP 8001 that performs the “scan means” function. The fact that the MP 8001 has a so-called “conventional design” and that the ‘866 patent discloses a “conventional design approach” does not prove equivalence.

Another example can be found when looking at the “network-interface means” element. I construed “network-interface means” to require a NIC-driver unit coupled to a NIC-interface circuit in the controlling unit, and equivalents. Dr. Stevenson fails to identify any structure for this means-plus-function term. Instead, he states that “the [MP 8001] device obtains project files

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(scan files) through the network from another computer and sends image data that had been previously stored in the memory through the network to that computer.” (CX-272 at Q. 104.)

Dr. Stevenson then provides additional testimony regarding the function of receiving scan files from the network, yet he never identifies the structure in the MP 8001 that constitutes the “network-interface means.” (*Id.* at Q. 105-109.)

The structure of many of the means-plus-function claim limitations from claim 1 arise from Figures 1 and 2 of the ‘866 patent, which depict the internal components of the digital copier device. Dr. Stevenson’s testimony fails to identify the structure in the MP 8001 that correspond to these components shown in Figures 1 and 2. This is understandable in light of Dr. Stevenson’s acknowledgement that he “do[es] not have the same level of detail about the MP 8001 as that found in the ‘866 specification.” (CX-272 at Q. 92; *see also* Tr. at 800:10-803:19.) Moreover, Dr. Stevenson acknowledged that he did not review information regarding the MP 8001 to the level of detail shown in Figure 1 of the ‘866 patent. (Tr. at 803:3-804:11.) Dr. Stevenson was an expert retained by Ricoh to analyze a Ricoh product, and he should have had access to as much detail about the MP 8001 as was necessary to perform a complete analysis.. (RX-370C at Q. 60.)

In sum, Dr. Stevenson’s analysis focuses on the functional aspects of the means-plus-function terms of claim 1 and fails to identify the necessary structure in the MP 8001 that is associated with those functions. Dr. Stevenson acknowledged possessing a lack of detail regarding the structure of the MP 8001, yet offers no reason why he failed to obtain the necessary detail. Such a functional analysis is insufficient to prove that the MP 8001 practices claim 1. *See CytoLogix Corp. v. Ventana Med. Sys., Inc.*, 424 F.3d 1168, 1178 (Fed. Cir. 2005) (explaining that “[t]o establish infringement under § 112, ¶ 6, it is insufficient for the patent

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holder to present testimony ‘based only on a functional, not a structural, analysis.’”) (citation omitted).

While Dr. Stevenson’s analysis only concerns the MP 8001, Ricoh asserts that the MP 4000 product with GlobalScan NX also practices claim 1 of the ‘866 patent. In doing so, Ricoh relies on the testimony of Ron Albeck, Manager for the Capture & Distribution Marketing of Ricoh Americas. (CIB at 138.) Specifically, Mr. Albeck testifies that the MP 4000 and the MP 8001 products use the same version of GlobalScan NX, which is installed in the same way on both products. (CX-276C at Q. 30-31.) Mr. Albeck testifies that GlobalScan NX operates in the same way on the MP 4000 and MP 8001, and that once GlobalScan NX is installed on the two devices, they can operate on the same network. (*Id.* at Q. 32-33.) Based on this testimony, Ricoh concludes that “[f]or purposes of technical domestic industry, therefore, the two products function the same.” (CIB at 138.)

I find that, contrary to Ricoh’s assertion, Mr. Albeck’s testimony is insufficient to apply Dr. Stevenson’s analysis of the MP 8001 to the MP 4000. First, Mr. Albeck’s testimony relates solely to the functions provided by the GlobalScan NX software. It does not address the physical structure of the MP 4000 device, and there is no evidence offered by Ricoh regarding whether or not the physical structure of the MP 4000 meets the limitations of claim 1. The fact that both machines run GlobalScan NX in the same way does not necessarily mean that they are identical for purposes of the domestic industry analysis.

Second, it does not appear that Mr. Albeck is a person of ordinary skill in the art in the ‘866 patent. As explained *supra*, I have found that a person of ordinary skill in the art has a bachelor’s degree in electrical or computer engineering and at least two years of experience in the systems architecture and design of network scanning and printing systems, interface design,

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and software development. Mr. Albeck has a computer science degree from Brick Computer Science Institute,⁶³ and has worked at Ricoh in the fields of marketing, product management, and product planning. (CX-276C at Q. 4-6.) Thus, I find that Mr. Albeck does not possess the educational background or work experience to qualify as a person of ordinary skill in the art. I find that Mr. Albeck's testimony does not provide evidence that the MP 8001 and the MP 4000 are materially identical for purposes of the technical prong analysis.

2. The '771 Patent

Ricoh's Position: Ricoh contends that the MP 4000 and MP 8001 products each satisfy the technical prong because they both practice claim 13 of the '771 patent. (Citing CX-271 at Q. 1080-1084, 1097-1099; CX-17.) Ricoh contends that there is no difference between the two products in terms of how they practice claim 13. (Citing Tr. at 639:14-640:11, 641:7-14.)

Ricoh argues that even under Oki Data's restrictive view of the meaning of "host computer," the MP 4000 and MP 8001 can satisfy claim 13 because they can be connected to a host computer via a USB connection. (Citing CX-55; CX-50; CX-38.) Ricoh asserts that Oki Data's argument that the MP 4000 and MP 8001 products do not set operation codes is false. Ricoh states that the front panel of the MP 4000 allows a user to select from one of three possible "projects," each of which performs a different push operation with scanned image data sent to the host computer. (Citing CX-271 at Q. 1083-1088; CX-17.) Ricoh identifies the operation code as the network packet called "NT Create AndX Request." (Citing CX-271 at Q. 1083-1088; Tr. at 482:17-483:14; CX-107; CX-17.) Ricoh asserts that the MP 8001 includes an operation code for the same reasons. (Citing CX-271 at Q. 1110; CX-292 at 18; CX-302.)

In its reply brief, Ricoh states that Oki Data's initial post-hearing brief confirms that Oki

⁶³ It is unclear from Mr. Albeck's testimony whether or not his degree from Brick Computer Science Institute is in fact a bachelor's degree.

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Data's only argument is based on its incorrect construction of "host computer."

Oki Data's Position: Oki Data contends that neither the MP 4000 nor the MP 8001 products practice claim 13 of the '771 patent. Oki Data claims that Ricoh is limited to relying on the MP 8001 product, because that is the only domestic industry product identified by Ricoh as of February 23, 2010. (Citing Tr. at 778:8-23.) Nonetheless, Oki Data asserts that its argument applies equally to the MP 4000 and MP 8001 products.

Oki Data claims that the only evidence offered by Ricoh is that the MP 4000 and MP 8001 devices practice the '771 patent by being connected to a computer via a network connection, with an intervening network device. (Citing CX-271 at Q. 1088, 1110-1111; Tr. at 471:4-15, 474:20-475:5.) Oki Data thus claims that Ricoh has failed to demonstrate that the Ricoh products meet the "host computer" limitation under Oki Data's proposed construction. Oki Data argues that the Ricoh products also fail to meet the "inputting the image data..." and "setting an operation code..." limitations of element 13, for the same reasons discussed in the infringement section.

In its reply brief, Oki Data states that neither the "Open AndX Request" nor the "NT Create AndX Request" are operation codes because neither command results in an operation performed "on the image data," as required by claim 13. (Citing RIB at 147-152; RPHB at 254-256, 258-259.) Oki Data further argues that neither Ricoh device performs a "plurality of operations" because the devices only perform a single operation – scanning to file. According to Oki Data, scanning to a different filename cannot be a different operation, because exactly the same alleged operation code is used. (Citing RIB at 147-152; RPHB at 254-256, 258-259.)

Staff's Position: Staff contends that Ricoh has failed to demonstrate that either of the MP 4000 or MP 8001 products practice claim 13.

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Staff's argument implies that Staff believes that claim 13 includes step-plus-function limitations. Staff asserts that Mr. Weadock failed to identify the necessary structure that performs the elements of claim 13. Staff claims that the MP 4000 and MP 8001 products use a color scanner, while the claim requires a monochrome scanner.

Staff asserts that the MP 4000 and MP 8001 connect to a computer over the network, thus meaning that they do not meet the "host computer" limitation. (Citing CX-271 at Q. 1108; Tr. at 463-465, 471.) Staff claims that while the MP 4000 and MP 8001 devices include USB ports, Mr. Weadock only tested the products while connected via a network connection.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to demonstrate that either the MP 4000 or the MP 8001 products practice claim 13 of the '771 patent.

While Ricoh claims that the MP 4000 and MP 8001 can be connected to a computer via a USB connection, Mr. Weadock only testified about the products meeting claim 13 while they were connected to a computer via a network connection. (CX-271 at Q. 1084, 1105, 1111.) Thus, Ricoh has offered no evidence to support the assertion that the MP 4000 and MP 8001 products meet claim 13 if connected to a computer through a USB connection.

Mr. Weadock identified certain SMB requests sent from the MP 4000 and MP 8001 as the operation codes. In the MP 4000, he identifies the requests "NT Create AndX Request" as the operation code. (CX-271 at Q. 1088.) In the MP 8001, he identifies the requests "Open AndX Request." (CX-271 at Q. 1111.) This is similar to Mr. Weadock's analysis of the network-only Oki Data products, where he identified SMB directives as the operation codes. (See, e.g., CX-271 at Q. 1348.)

As explained in Section V.C.1 *supra*, the transmission of a series of SMB requests does

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not constitute the transmission of a “operation code” to perform an operation. Mr. Weadock has not offered evidence to establish that the SMB request that he identified as the “operation code” for each Ricoh product actually contains the full contents of the instruction for the host computer. (CX-271 at Q. 1088, 1111.) Thus, Ricoh has not demonstrated that there is an “operation code which represents contents of the instruction.” (RX-370C at Q. 135, 139.)

3. The ‘048 Patent

Ricoh’s Position: Ricoh contends that its MP 4000 and MP 8001 products each practice claim 1 of the ‘048 patent. (Citing CX-271 at Q. 79; CX-19; CX-13; CX-19.)

Ricoh states that the MP 4000 is a “peripheral,” as it is multifunction printing and scanning device that responds to document requests provided through a user’s Web browser. (Citing CX-271 at Q. 86, 93-97; CX-19; CX-13.) Ricoh asserts that the MP 4000 meets the additional limitations of claim 1. (Citing CX-271 at Q. 100-102, 114-118; CX-19; CX-13.)

For the same reasons as offered for the MP 4000, Ricoh claims that the MP 8001 practices claim 1. (Citing CX-271 at Q. 126-160; CX-68; CX-69; CX-292.) Ricoh claims that for the same reasons as discussed in the infringement analysis, Mr. Edwards’ opinions are incorrect regarding the “peripheral,” “document requests,” and “control...directly” limitations. (Citing RX-371C at Q. 131-133.)

Ricoh notes that Mr. Edwards also opines that the MP 8001 lacks the “interconnected online documents” limitation. (Citing RX-371C at Q. 133.) Ricoh argues that Mr. Weadock’s testimony demonstrates that the MP 8001 meets this limitation because the MP 8001 provides access to Web pages that can be accessed by HTTP requests from a Web browser. (Citing CX-271 at Q. 135, 142-143; CX-292.)

Oki Data’s Position: Oki Data contends that Ricoh failed to prove the technical prong

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of the domestic industry requirement for the '048 patent.

Oki Data argues that the MP 8001 and MP 4000 devices do not practice claim 1 because they lack the “HTTP document request” limitation. Oki Data states that the URI Mr. Weadock identifies is a call than invokes a CGI script, not an HTTP document request. (Citing CX-271 at Q. 111; RX-371C at Q. 131; RDX-172.) Oki Data claims that the evidence shows that a CGI script is not a document request at all, but rather a computer program. (Citing Tr. at 567:20-568:15, 616:7-24; RX-371C at Q. 132.) Oki Data asserts that Mr. Weadock failed to present evidence that the Ricoh devices have a structure corresponding to a “server” or that its operations are directly controlled by the issuance of an HTTP document request. (Citing RX-371C at Q. 133.)

In its reply brief, Oki Data argues that the Ricoh products are not “peripherals” because the unrebutted evidence of record demonstrates that the Ricoh devices require drivers for their operations. (Citing CX-54; CX-57; CX-58.)

Staff's Position: Staff contends that Ricoh failed to prove the technical prong. Staff states that Mr. Weadock's analysis fails to identify the specific structures that satisfy the means-plus-function elements of claim 1. (Citing CX-271 at Q. 126-160.)

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed to prove that either the MP 8001 or MP 4000 products practice claim 1.

Mr. Edwards testified that the alleged “HTTP document request” of the MP 8001 is a call to invoke a CGI script. (RX-371C at Q. 131.) Mr. Edwards explained that a call to invoke a CGI script is not a “document request” because a CGI script is a program, and a call for a CGI script is a call to run the program, and not a call to request a document. (*Id.* at Q. 132; RX-337C at Q. 78.) As Mr. Edwards explains: “CGI is what is know [*sic*] as Common Gateway Interface,

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and it is a standard way that web servers use to launch programs in response to HTTP requests, and if required gather the program output and send it back as an HTTP response.” (RX-337C at Q. 78.)

Mr. Weadock opines that the calls to invoke a CGI script are requests for a “program document.” (CX-271 at Q. 111.) Mr. Edwards responds that “[t]his term is not a recognized term of art, and is not found anywhere in the ‘048 patent but, rather appears to have been coined by Mr. Weadock for the purposes of his report.” (RX-371C at Q. 132.)

I construed “HTTP document requests” to mean “document requests issued in accordance with the Hypertext Transfer Protocol.” Based on Mr. Edwards’ testimony, I find that Mr. Weadock’s testimony regarding a “program document” is not credible and does not prove the existence of an “HTTP document request.”

Mr. Weadock later opines that “[i]n an HTTP request, a document may or may not be returned. For example, if the request is for a program, the program may or may not return anything; it may go off and perform an operation.” (CX-271 at Q. 121.) This testimony demonstrates that Mr. Weadock attempts to read out the term “document” from “HTTP document requests,” as he attempts to show that an “HTTP request” that initiates a program somehow satisfies claim 1. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (stating that “claims are interpreted with an eye toward giving effect to all terms in the claim.”).

Based on the foregoing, I find that Ricoh has not offered sufficient evidence that invoking a CGI script is a “document request” as required by claim 1. Thus, I find that Ricoh has failed to prove that either the MP 8001 or MP 4000 products practice claim 1 of the ‘048 patent.⁶⁴

⁶⁴ Mr. Weadock acknowledged that the MP 4000 and MP 8001 operate identically with respect to the issue of “HTTP document requests.” (CX-271 at Q. 154-155.)

4. The '343 Patent

Ricoh's Position: To meet the technical prong of the domestic industry requirement, Ricoh contends that its C200 Series of color laser printers practices claim 20 of the '343 patent. Ricoh addresses what it says is the only argument raised by Oki Data concerning whether or not Ricoh's C200 Series practices claim 20, which is whether or not "[i]n the Ricoh products, the narrow-wide part of the developing blade lies flush against the side seals." (Citing RPHB at 35.) Ricoh says that Oki Data contends this means that the requirement that the blade be configured to have a length "that enables the narrow-width part to be bent ... between the side seals arranged at sides of the toner exit" is not met. (Citing RPHB at 35.)

Ricoh contends that first, the narrow-width part of the developing blade in the Ricoh products does not face the side seals, but rather bends between them. Ricoh alleges that the photograph in CDX-101, shows one end of the blade of the Ricoh process cartridge with the wide-width part facing the side seal at the side of the toner exit. Ricoh says the blade is somewhat flat in this photograph because the developing roller has been removed for clarity of the view. Ricoh contends, "[a]s with the Oki Data blade, the narrow-width part contacts the developing roller as assembled. This creates a force that bends the blade. While the wide-width part continues to face the side seals, the narrow-width part, being shorter, is able to continue bending between the side seals." (Citing CX-267, Qs. 260-261.) Ricoh avers that the actual bending can be seen in the cross-sectional view at page 17 of CX-122.

Ricoh argues second, (referring to its argument in its infringement section) the claim language does not require actual bending, but rather simply requires the blade to be configured to have a length that enables the narrow-width part to be bent between the side seals. Ricoh contends that there can be no serious dispute that the Ricoh blades have a length that permits this

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bending. (Citing CX-122 at 31.)

Oki Data's Position: Oki Data says that Ricoh has taken the position throughout this investigation that the '343 patent requires the narrow-width part of the blade as described in claims 18, 19, 20, and 21 to bend between the side seals. (Citing CX-267 at Q. 191-192; CX-305 at Q. 79.) Oki Data asserts that Ricoh has failed to prove that its own product practices this aspect of claim 20 of the '343 patent. Oki Data contends that the evidence conclusively shows this element is not met by the Ricoh product.

Oki Data says that its expert, Dr. Fraser, tested Ricoh's C220 product and concluded from those tests that the C220 does not have a narrow-width part of its developing blade that bends between the Ricoh side seals. (Citing RX-85C at Q. 97-103; RX-354; RX-355; RX-356; RDX-238; RDX-239.) Oki Data alleges that Dr. Fraser found, and Ricoh did not contest at trial, that the narrow-wide part of the Ricoh developing blade faces (or lies flat against) the side seals. Oki Data then says, "Dr. Fraser documented that the Ricoh product does not face the side seals with photographs and with his detailed testimony." (Citing RX-85C at Q. 97-103; RX-354; RX-355; RX-356; RDX-238; RDX-239.)

Oki Data avers that Ricoh's expert stated without explanation that the "the wide-width part continues to face the side seal, the narrow-width part, being not as long, is able to continue bending between the side seals." (Citing CX-267 at Q. 261.) Oki Data argues that the testimony is conclusory and does not carry Ricoh's burden of proof. (Citing *Intellectual Sci. & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1184 (Fed. Cir. 2009).) Oki Data adds that the testimony contrasts sharply with Ricoh's analysis of the Oki Data products. Oki Data says that, for its products, Ricoh's expert conducted tests to show how the Oki Data blades were bent between the side seals. (Citing CX-267 at Q. 191-192.) Oki Data contends that no similar tests were

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performed on the Ricoh C220 product.

Oki Data says that depending on which claim constructions are adopted, Ricoh may also be unable to prevail on other limitations of claim 20. Oki Data asserts that, when Ricoh filed its complaint and in its opening infringement report, Ricoh pointed to the diagonal section of the developing blade as the “wide-width” part. (Citing Tr. at 167:10-168:4; RX-368C at Q. 104; CX-122 at 32, 33.) Oki Data states that under Ricoh’s later, invalidity driven “repeated features” definition, this diagonal section does not infringe.

In its reply brief, Oki Data says Ricoh contends that the narrow-width part of the developing blade bends between the side seals; but Ricoh has no documentary evidence of this alleged fact. Oki Data says that CDX-101 shows only that the wide-width part of the blade faces the side seals. Oki Data says that Ricoh describes no tests performed by its expert, and it has no documentation to support its expert’s unsupported assertion. Oki Data contends that Dr. Stauffer’s testimony on this point should be disregarded, alleging that he “misrepresented other facts to support his conclusions.” (Citing Tr. at 100:13-105:16, 178:6-10, 187:10-188:17.) Oki Data asserts that Dr. Fraser tested the Ricoh product and documented his findings in photographs that Ricoh has never attempted to rebut.

Oki Data argues that Ricoh relies on the latest iteration of its construction of this claim element; but from the beginning of the investigation through trial, Ricoh and its witnesses asserted that this claim element *required* the blade to be bent between the seals. Oki Data contends that Ricoh has not proven that Ricoh’s blade has a length that “permits this bending,” let alone bending between the side seals. (Citing at CIB 9-20.)

Staff’s Position: Staff argues that Dr. Stauffer’s photograph at “paragraph 47, Exh. 17” appears to show that the gap is “filled” by the blade. Staff says that the blade “is not bent

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perpendicular (orthogonally) to the axis of the developing roller at the point of contact with the developing roll as required by claim 20.” Staff concludes that Ricoh has not demonstrated that the C220n cartridge satisfies the technical prong of the domestic industry requirement of Section 337(a)(2) with respect to the ‘343 patent.

In its reply brief Staff submits that Ricoh’s “new argument regarding the phrase ‘enables . . . the narrow-width part to be bent’ is a tacit admission that its device does not satisfy that element.”

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has failed in its burden to prove by a preponderance of evidence that its designated C200 series of products practices claim 20 of the ‘343 patent.

The parties argue two main points of contention, which are: (1) whether or not the Ricoh C220 product has a narrow-width part of its developing blade that bends between the Ricoh side seals; and (2) whether or not the Ricoh C220 product contains “a step part forming a boundary between the wide-width part and the narrow-width part.”

Oki Data’s expert, Dr. Fraser, testified that he tested Ricoh’s C220 product and concluded from those tests that the C220 does not have a narrow-width part of its developing blade “that bends between the Ricoh side seals.” (RX-85C at Q. 97-103.) To support his testimony, Dr. Fraser cited RX-354, RX-355, and RX-356 to show the position of the narrow-width portion of the blade in relation to the side seals. Ricoh’s expert also testified on this point and cited CDX-101 to support his testimony that the narrow-width portion of the blade is configured to have a length that enables it to be bent between the side seals. CDX-101 is a demonstrative exhibit and will not be accepted as evidence to prove the fact alleged. It is merely an aid to assist in clarifying testimony. Therefore, I reviewed CX-122, page 31, which is the

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same view of the blade and side seals as CDX-101.

Comparing the exhibits offered to corroborate testimony by both Ricoh and Oki Data, I note that the Oki Data exhibits show a clear picture that the narrow-width portion of the blade overlaps and “faces” the side seal, and does not fit “between the sides seals.” (RX-354; RX-355; RX-356.) While CX-122, page 31, appears to show that the narrow-width portion of the blade would fit between the side seals, I note that the inside edge of the side seal depicted appears to be irregular, as opposed to the machined smooth edge represented on the inside edge of the side seals shown in RX-354-356. I find Oki Data’s evidence to be more convincing on this point.

I conclude that Ricoh has not met its burden to show by a preponderance of evidence that its C200 Series (represented by the C220 product) practices the limitation of the 6th element of claim 20 that teaches “a narrow-width part ... configured to have a length that enables the narrow-width part to be bent ... between the side seals arranged at sides of the toner exit.”⁶⁵

A review of CX-122, page 31, and RX-354-356 confirms that the Ricoh C220 product does, in fact, practice the limitation of the 6th element of claim 20 that requires “a step part forming a boundary between the wide-width part and the narrow-width part” of the blade. There is an obvious and clear abrupt change in the width of the blade, and there is a clear extension of the narrow-width part of the blade that demonstrates that part of the blade to have a “length” to it. The fact that the inside 90° corner of the “step part” is slightly curved does not have a material impact on the clarity of the “boundary” formed by the step part. The evidence supports a finding that Ricoh has proved its C220 product practices this limitation of the 6th element of

⁶⁵ While the parties do not argue the limitation that teaches “direction orthogonal to a longitudinal direction of the developing roller,” I note that my previous discussion of this limitation found Ricoh’s expert not credible on this particular point and that Ricoh had failed to show by a preponderance of evidence that Oki Data’s products met that limitation. The same rationale applies to Dr. Stauffer’s credibility in his testimony at CX-267 at Q. 258-259 on the subject of a “direction orthogonal.” Ricoh, thus, fails to prove by a preponderance of evidence that its C220 product practices this limitation of claim 20 as well.

claim 20.

Based upon the foregoing, I find that Ricoh has failed in its burden to prove by a preponderance of evidence that its designated C200 series of products practices each and every element of claim 20 of the '343 patent. Therefore, Ricoh has failed to establish that it satisfies the technical prong of the domestic industry requirement for the '343 patent. As a result, I find that there is a lack of a domestic industry in the United States for the '343 patent.

5. The '690 Patent

Ricoh's Position: Ricoh alleges that Oki Data does not contest Ricoh's showing of technical domestic industry for the '690 patent. Ricoh says that the C200 Series includes the C220N, C221N and C222DN color laser printers, and the C220S, C221SF and C222SF multifunction color laser printers, each of which contains the identical print cartridge. (Citing CX-277C at Q. 8, 15; CX-275C at Q. 18.)

Ricoh avers that Dr. Giacomini tested a C220N fuser roller, and confirmed that it practices every step of claim 1 of the '690 patent. (Citing CX-268C at Q. 144-146, 149, 150-56; CPX-11.) Ricoh says Dr. Giacomini's testing confirmed the fuser roller in the C220N has adhesive characteristics such that a ratio of a first adhesion constant to a second adhesion constant is less than about 8.0. (Citing CX-268C at Q. 157; CX-265 at 8-9.) Ricoh argues that the C220N therefore practices claim 1, and says that Oki Data does not dispute that conclusion. (Citing CX-268C at Q. 58.)

Oki Data's Position: Oki Data argues that the evidence does not support a finding that "the C200 series [specifically the C220N] is used to print here in the United States." (CX-268C at Q. 147-148.) Oki Data alleges the only support for Dr. Giacomini's opinion is specific paragraphs of Mr. Vidal's witness statement that were excluded at trial. (Citing CX-268C at Q.

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147 (referring to CX-177C at Q. 28-32; Tr. 979:18-980:7.) Oki Data argues that for this reason alone, it should be determined that Ricoh has failed to meet the technical prong of the domestic industry requirement for the '690 patent.

Oki Data continues that Dr. Giacomini never attempted to practice the claimed method using the C220N. (Citing CX-268C at Q. 150-154; Tr. at 344:1-16.) Oki Data says he “simply proclaims that the claimed processes are ‘necessarily’ part of the process of printing.” (Citing CX-268C at Q. 150-154.) Oki Data asserts that Dr. Giacomini should have been able to perform proper infringement testing.

Oki Data adds that Dr. Giacomini’s domestic industry analysis fails, because Dr. Giacomini failed to take contact angle measurements at fixing temperature, and instead performed them at “the temperature of the room,” in contravention of the ASTM standard and despite advisories that temperature can impact contact angles. (Citing CX-134 at § 10.1; CX-135 at RITC0497882; Tr. at 279:6-280:14, 287:10-289:9; RX-123C at Q. 68.) Oki Data concludes that Dr. Giacomini’s measurement of the receding contact angle was defective for the reasons set forth in the infringement section of its argument, which, for reasons of economy, I do not repeat here.

Staff’s Position: Staff argues that Dr. Giacomini did not conduct any test using an actual printing device. (Citing Tr. at 344.) Staff reasons, therefore, “the record does not contain any evidence of actual use of the MP 8001 device.” Staff argues that with respect to the C220n model MFP, Dr. Giacomini relied upon Mr. Vidal’s testimony (answers to questions 28-32). (Citing CX-268 at Q. 147-148.) Staff argues that, since Mr. Vidal’s responses to those questions was stricken, the record does not contain any evidence that any Ricoh device practices the ‘690 patent. (Citing Tr. at 979.)

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Staff asserts that the evidence shows that Dr. Giacomini conducted the measurements of the receding contact angle with respect to Ricoh's products in the same manner as with Oki Data's products. (Citing CX-268 at Q. 46.) Staff alleges that those measurements were improperly conducted, and the evidence fails to show that Ricoh's C220n product satisfies claim 1 of the '690 patent. Staff says several of the ratios exceeded 8. (Citing CX-265 at JG 009, 4th column from the right; Tr. at 307-308; CX-268 at Q. 147-158.)

In its reply brief, Staff argues that in support of its contention that the C220 device practices claim 1 of the '690 patent for purposes of domestic industry, "Ricoh relies upon Dr. Giacomini's testimony relating to his tests and on testimony of Messrs. Vidal and Mandernach testimony [*sic*] relating to sales and support of Ricoh's C200 series." (Citing CIB at 49-50.) Staff urges that this evidence is deficient for the same reasons set forth above in its discussion related to alleged infringement. Staff contends that the results of Dr. Giacomini's tests are unreliable.

Discussion and Conclusion: Based on the evidence in the record, I find that Ricoh has proved by a preponderance of evidence that its C200 Series products (as represented by the C220n product) practice each and every element of claim 1 of the '690 patent and, therefore, satisfy the technical prong of the domestic industry standard.

Oki Data's and Staff's arguments regarding whether or not Ricoh has proved that it satisfies the technical prong of the domestic industry requirement for the '690 patent echoes portions of their arguments in Section V.F.1, *supra*, regarding infringement. Specifically, there are two lines of dispute. First, they argue that Dr. Giacomini did not test the toner fuser rollers to insure that they do, in fact, print. Second, they argue that Dr. Giacomini's methods both for making contact angle measurements, and for calculating the ratio of a first adhesion constant to a

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second adhesion constant, are flawed, and “cannot be relied upon.”

Ricoh’s expert, Dr. Giacomini, testified credibly that the Ricoh C220n fuser is the Ricoh product he tested. He said the C220n is designed to perform a printing operation, which necessarily includes a toner image fixing method. Dr. Giacomini said that the Ricoh C220n product provides a thermofusible toner image on an image supporting material (*e.g.* paper). He concluded, “[t]his is necessarily how printing is carried out.” Dr. Giacomini testified that the C220n includes two fixing members with a nipped section. He said the fuser includes an orange heating roller and a brown roller that define a nipped section. Dr. Giacomini stated that the C220n heats the nipped section of the two fixing members, which is necessarily how printing is carried out. He said the radiant internal heating is also reflected in the warning sticker attached to the cartridge. Dr. Giacomini testified that the C220n fixes the thermofusible toner image on the image supporting material, such as paper, by contacting the thermofusible toner image with the heated nipped section of the two fixing members. Again, he said this is necessarily how printing is carried out. Dr. Giacomini added that this claim limitation is also reflected in the entrance pathway and exit pathway defined in the cartridge that houses the two rollers; the pathway defines where the paper (or other image supporting material) passes through the cartridge. Dr. Giacomini’s testimony is unrefuted.⁶⁶ (CX-268C, Qs. 145, 146, 149-158.)

In section V.F.1, *supra*, I treated the issue of whether or not Dr. Giacomini was required to test the accused devices to see if they actually printed. My finding and rationale here are quite similar. I note that “[t]he test for satisfying the ‘technical prong’ of the industry requirement is essentially same as that for infringement, *i.e.*, a comparison of domestic products to the asserted claims.” *Alloc v. Int’l Trade Comm’n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). Addressing the

⁶⁶ Although Dr. Giacomini made reference to excluded testimony, Oki Data correctly objects to use of that testimony to corroborate Dr. Giacomini. Thus, the excluded portion of Mr. Vidal’s testimony is not considered.

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cases cited by Staff, I noted that in *Miniauction* the Federal Circuit said, “[t]he law of this circuit is axiomatic that a method claim is directly infringed only if each step of the claimed method is performed.” 532 F.3d at 1328. In *BMC Resources*, the Federal Circuit held that where steps of a method claim are performed by multiple parties, the entire method must be performed at the control or direction of the alleged direct infringer. 498 F.3d at 1380-1381.

The cited cases require only that a complainant’s expert confirm that all of the elements of a method claim are practiced. The first four elements of claim 1 have all been shown to be well-known in the prior art. I note that Oki Data has not alleged that the Ricoh products cannot or do not print as Dr. Giacomini has opined, and they do not deny that he did, in fact, examine the C220n product. They merely argue that he was required to actually test them to determine that they print. What is required by *Miniauction* and *BMC Resources* is that it be proved that each step of the claimed method is performed in order to show that a method claim is directly infringed. This Dr. Giacomini has done with his un rebutted testimony.

Regarding the 5th element of claim 1, Oki Data repeats its argument from Section V.F.1 that Dr. Giacomini failed to take contact angle measurements at fixing temperature, and instead performed them at “the temperature of the room” in contravention of the ASTM standard and despite advisories that temperature can impact contact angles. Oki Data concludes that Dr. Giacomini’s measurement of the receding contact angle was defective for the reasons set forth in the infringement section of its argument, which, for reasons of economy, I do not repeat here.

Dr. Giacomini testified that he tested liquids having the characteristics set forth in the 5th element of claim 1 (*i.e.* one liquid having a dipole moment of greater than 3.0 debye when n is 1 and the second liquid having a dipole moment of 0.0 debye when n is 2). He described his testing process in detail and provided a chart detailing the results of his goniometry

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measurements for the C220n product, referring to CX-265, Page JG008 as his raw data and page that the blue box on page JG009 is a summary chart of his measured ratios for that product. (CX-268C at Q. 156, 157.)

Dr. Giacomini testified that the adhesion constants were then calculated using the formula in the 6th element of claim 1 of the '690 patent. Focusing on the "blue boxes" shown in CX-265, page JG009, he testified that the orange heating roller in C220n contacts the toner image and has adhesive characteristics such that a ratio of a first adhesion constant to a second adhesion constant, $\mu_{s-b}(1)/\mu_{s-b}(2)$, is less than about 8.0. He said that through his $\mu_{s-b}(1)/\mu_{s-b}(2)$ measurements in the blue box in page JG009 of CX-265, he has determined that the C220n product has $\mu_{s-b}(1)/\mu_{s-b}(2)$ less than about 8.0. (CX-268 at Q. 157; CX-265 at JG009.)

Regarding the accuracy of Dr. Giacomini's contact angle measurements related to the C220n, there is no testimony at trial that he failed to use the prescribed number of drops.⁶⁷ Oki Data's infringement argument, however, included the temperature of the liquids when measured, and that Dr. Giacomini did not take into account the curved surface of the fuser rollers being tested, but instead relied upon the automated software, which assumes a planar surface. My findings and rationale on these allegations are identical to those set forth in Section V.F.1., *supra*, and I do not repeat them here. They are, however, incorporated herein by reference.

In addition to the foregoing, I note that no evidence was produced at the hearing that counters the contact angle measurements of Dr. Giacomini. I will, therefore, accept his measurements as set forth in CX-265, pages JG008-JG009 as reasonably accurate.

Oki Data is unconvincing when it says that Dr. Giacomini did not follow the method required by the patent, because he testified that he measured the receding contact angle when

⁶⁷ His cross-examination testimony specifically covered accused product testing and CX-265, through page JG008; but did not discuss page JG009. (Tr. at 308:20-309:12, 310:17-312:7, 314:24-315:6, 315:19-22, 316:1-11.)

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“common line movement” was observed. Oki Data argues that a measurement cannot form the basis for infringement where the patent explicitly requires a different measurement technique. This issue, too, was treated in depth in Section V.F.1, *supra*, and my findings and rationale on this point are equally applicable here. I refrain from repeating the extensive discussion; but incorporate it here by reference.

I reiterate that Dr. Giacomini testified in detail on the subject of measuring a receding contact angle, explaining the process of measuring a contact angle and the importance of the movement of the common line. (See CX-268C at Q. 53-54.) Dr. Giacomini’s testimony on this issue is unrefuted and credible. In addition, contrary to Oki Data’s assertion it does not practice a different method than set forth in the ‘690 specification, it practices the exact same method. Dr. Giacomini’s testimony merely provides more detail regarding how and when the contact angle reaches the point at which it remains the same while the volume of the drop decreases – it is the precise point at which the common line begins to move relative to the fuser.

Based upon all of the foregoing, I find that Ricoh has proved by a preponderance of evidence that its C200 series products (as represented by the C220n product) practice each and every element of claim 1 of the ‘690 patent and, therefore, satisfies the technical prong of the domestic industry standard.

VII. REMEDY & BONDING

A. Limited Exclusion Order

Ricoh’s Position: Ricoh seeks a limited exclusion order directed toward the named respondents. Ricoh does not seek an exclusion order against unnamed respondents, nor does it seek an exclusion order for downstream products.

Ricoh argues that the exclusion order should not be limited by product or model numbers.

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Ricoh asserts that an adequate exclusion order must also extend to infringing components of printing and imaging devices, including toner or toner cartridges.

In its reply brief, Ricoh asserts that there is no basis to institute a quarterly reporting requirement to monitor Ricoh's domestic industry for the '343 and '690 patents. Ricoh argues that its domestic industry has grown during the pendency of the investigation. (Citing Tr. at 1297:23-1298:13.) Ricoh claims that it will be supporting and servicing its domestic industry products, including the C200 Series, for the next five to ten years. Ricoh thus asserts that there is no need for a reporting requirement.

Oki Data's Position: Oki Data contends that if a violation of Section 337 is found, the proper remedy is a limited exclusion order directed solely at the accused products found in violation of Section 337. Oki Data asserts that any such exclusion order should not cover consumables such as toners or cartridges or replacement parts for devices already in the possession of Oki Data's U.S. customers.

Oki Data argues that any exclusion order related to the '343 or '690 patents should include a quarterly reporting requirement to monitor Ricoh's domestic industry for those patents. Oki Data claims that Ricoh stopped manufacturing the domestic industry product, the C200 Series, in 2008 and stopped selling those products in the U.S. in early 2009. (Citing Tr. at 983:13-984:3.) Oki Data argues that imposing a quarterly reporting requirement will ensure that any exclusion order will continue to protect an ongoing domestic industry.

Staff's Position: Staff contends that if a violation of Section 337 is found, the Commission should issue a limited exclusion order barring the importation and sale of all infringing printing and imaging devices manufactured and/or imported by or for Oki Data. Staff does not believe that any such order should extend to toners or toner cartridges because those

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items are consumables. Staff argues that excluding such products would harm consumers who currently own Oki Data devices that use such products.

Discussion and Conclusion: Should the Commission find a violation of Section 337, I recommend that the Commission issue a limited exclusion order that applies to the respondents found to violate Section 337, as well as all of their affiliated companies, parents, subsidiaries, or other related business entities, or their successors or assigns, and covers the printing and imaging devices and components thereof found to infringe the asserted patents. I further recommend that the exclusion order provide an exception for the provision of service and replacement parts for third party customers that purchased their covered devices prior to the date of issuance of the exclusion order.

I decline to recommend an exclusion order that is limited to the specific product names or model numbers that are found to infringe. Commission precedent establishes that it is not appropriate to include specific product names in an exclusion order, as the exclusion order should extend to the products that are within the scope of the investigation and that are found to infringe the applicable patent or patents. *See Certain Integrated Repeaters, Switches, Transceivers & Products Containing Same*, Inv. No. 337-TA-435, Commission Opinion at 22-23, USITC Pub. 3547 (Oct. 2002); *Certain Hardware Logic Emulation Systems & Components Thereof*, Inv. No. 337-TA-383, Commission Opinion, 1998 WL 307240 (Mar. 1998) (“[T]he Commission’s long-standing practice is to direct its remedial orders to all products covered by the patent claims as to which a violation has been found, rather than limiting its orders to only those specific models selected for the infringement analysis.”)

I recommend that any exclusion order provide an exception to make clear that the order does not cover replacement parts for devices that were already in the possession of third parties

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prior to the issuance of the exclusion order. The purpose of this exception is prevent harm to Oki Data's customers in the U.S. who already own Oki Data printing and imaging devices and will need replacement parts, such as additional toner cartridges, to continue to use the devices.

Certain Systems for Detecting & Removing Viruses or Worms, Components Thereof, & Products Containing Same, Inv. No. 337-TA-510, Comm'n Op., 2007 WL 4473083 (Aug. 23, 2005).

I recommend that any exclusion order covering the '343⁶⁸ or '690 patents include a quarterly reporting requirement. As discussed *supra* with respect to the economic prong, Ricoh relies upon the C200 Series product as its domestic industry product for the '343 and '690 patents. The evidence demonstrates that Ricoh stopped manufacturing the C200 Series products in 2008, and last sold the C200 Series products in the U.S. in 2009. (Tr. at 983:25-984:14.) Because the domestic industry product is no longer sold in the U.S., I find that a quarterly reporting requirement would be proper to ensure that Ricoh's domestic industry continues to exist throughout the lifetime of any exclusion order. *Certain Variable Speed Wind Turbines & Components Thereof*, Inv. No. 337-TA-376, Comm'n Op., 1996 WL 1056209 (Sept. 23, 1996) (issuing a limited exclusion order containing a quarterly reporting requirement to monitor complainant's practice of the patent-in-suit).

B. Cease & Desist Order

Ricoh's Position: Ricoh seeks a cease and desist order against Oki Data. Ricoh contends that Oki Data maintains a commercially significant inventory of infringing products in the United States. According to Ricoh, Oki Data stipulated that its inventory in the United States included 39,725 units of accused devices and components thereof as on January 18, 2010.

Oki Data's Position: Oki Data contends that if a violation of Section 337 is found, no

⁶⁸ I have found that there is no section 337 violation related to the '343 patent; but in the event that the Commission finds otherwise, I recommend the quarterly reporting requirement be instituted for the '343 patent as well as the '690 patent.

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cease and desist order should be entered. Oki Data contends that Ricoh is unable to demonstrate that significant inventories of accused products are in the United States.

Staff's Position: Staff contends that if a violation of Section 337 is found, the Commission should issue a cease and desist order because Ricoh demonstrated that Oki Data maintains significant inventories of accused products in the United States. (Citing CX-227C at 19, 62, 64-65.) Staff asserts that any cease and desist order should not apply to consumables for the reasons discussed with respect to the limited exclusion order.

Discussion and Conclusion: Section 337 provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a cease and desist order as a remedy for violation of section 337. *See* 19 U.S.C. § 1337(f)(1). The Commission generally issues a cease and desist order directed to a domestic respondent when there is a “commercially significant” amount of infringing, imported product in the United States that could be sold so as to undercut the remedy provided by an exclusion order. *See Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, USITC Pub. 2391, Comm’n Op. on Remedy, the Public Interest and Bonding at 37-42 (June 1991); *Certain Condensers, Parts Thereof and Products Containing Same, Including Air Conditioners for Automobiles*, Inv. No. 337-TA-334, Comm’n Op. at 26-28 (Aug. 27, 1997). The complainant bears the burden of proving that a respondent has a commercially significant inventory in the United States. *Certain Integrated Repeaters, Switches, Transceivers & Products Containing Same*, Inv. No. 337-TA-435, Comm’n Op., 2002 WL 31359028 (Aug. 16, 2002).

Oki Data stipulated that as of January 18, 2010, it possessed an inventory of { } of accused devices and components thereof in the United States. (May 14, 2010 Stipulation of Material Facts Relating to Importation & Inventory). Ricoh asserts that this stipulation

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demonstrates that Oki Data has a “commercially significant” amount of accused product stored in the United States. Oki Data offers no opposition to this assertion, other than to generally argue that Ricoh is unable to meet its burden. (*See* RIB at 192-193.)

Based on the parties’ stipulation, should the Commission find a violation of Section 337, it is recommended that the Commission issue a cease and desist order prohibiting Oki Data and any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and/or majority owned business entities, successors, and assigns, and to each of them from selling, distributing, advertising, promoting, marketing, storing, exhibiting, demonstrating, or testing the infringing printing and imaging devices and components thereof in the United States. It is further recommended that the exception for replacement parts discussed in Section VII.A *supra* apply to the cease and desist order as well.

C. Bonding

Ricoh’s Position: Ricoh contends that a bond of 100 percent is appropriate. Ricoh asserts that Oki Data either failed or refused to produce reliable pricing information for its accused products, and there is no established royalty rate for the asserted patents. Ricoh argues that the Commission should set a bond of 100 percent of entered value of the infringing imported products because it is impossible to calculate a bond based upon price differentials or royalty rates.

Oki Data’s Position: Oki Data contends that if a violation of Section 337 is found, the Commission should not set a bond. Oki Data claims that Ricoh has neither provided nor offered into evidence any price lists to establish the prices of Ricoh products. Oki Data states that in the absence of any reliable Ricoh pricing information, there is no evidence that Oki Data has

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obtained any competitive advantage from its alleged infringing activities.

Staff's Position: Staff offers no position on this issue.

Discussion and Conclusion: The administrative law judge and the Commission must determine the amount of bond to be required of a respondent, pursuant to section 337(j)(3), during the 60-day Presidential review period following the issuance of permanent relief, in the event that the Commission determines to order a remedy. The purpose of the bond is to protect the complainant from any injury. 19 CFR §§ 210.42(a)(1)(ii), 210.50(a)(3). The complainant has the burden of supporting any bond amount it proposes. *Certain Rubber Antidegradants, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-533, Comm'n Op., 2006 ITC LEXIS 591 (Jul. 21, 2006).

When reliable price information is available, the Commission has often set the bond by eliminating the differential between the domestic product and the imported, infringing product. *See Certain Microsphere Adhesives, Processes for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. at 24 (1995). In other cases, the Commission has turned to alternative approaches, especially when the level of a reasonable royalty rate could be ascertained. *See, e.g., Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, Comm'n Op. at 41 (1995).

The Commission has set a bond of 100% when the evidence supported a finding that it would be difficult or impossible to calculate a bond based on price differentials. *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, Comm'n Op., 1996 WL 1056209 (Sept. 23, 1996) (finding that a bond of 100% was appropriate "because of the difficulty in quantifying the cost advantages of respondents' imported Enercon E-40 wind

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turbines and because of price fluctuations due to exchange rates and market conditions.”); *Certain Systems For Detecting and Removing Viruses or Worms, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-510, Comm’n Op., 2007 WL 4473083 (Aug. 2007) (imposing a bond of 100% based on a finding that the parties had numerous models and products lines, and that a price comparison would be difficult because respondent’s products were a combination of hardware and software while the complainant’s products were software only); *Certain Flash Memory Circuits and Products Containing Same*, Inv. No. 337-TA-382, USITC Pub. No. 3046, Comm’n Op. at 26-27 (July 1997) (a 100% bond imposed when price comparison was not practical because the parties sold products at different levels of commerce, and the proposed royalty rate appeared to be *de minimis* and without adequate support in the record).

In *Certain Rubber Antidegradants*, the Commission did not require a bond. The presiding administrative law judge had set no bond, finding, “no evidence in the record to support any bond to offset any competitive advantage resulting from the unfair acts of [respondents] from their importations.” *Certain Rubber Antidegradants*, 2006 ITC LEXIS 591, at *59.

The respondent argued that the lack of pricing information was due to the complainant’s failure to adduce such evidence during the hearing and complainant should not be able to benefit from that failure. (*Id.* at 60.) In response, the complainant argued that it had no burden of proof with respect to bonding, and that the existence of a violation is sufficient to support a 100% bond. (*Id.*) In deciding the issue, the Commission stated:

We find the ALJ’s recommendation appropriate in the circumstances here and have determined not to require that a bond be posted for temporary importation. In our view, the complainant has the burden of supporting any proposition it

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advances, including the amount of the bond. [The complainant] did not meet that burden.

(Id.)

I find that Ricoh failed to meet its burden failed to meet its burden to support its argument that a 100% bond is appropriate based on the lack of adequate pricing information. Ricoh claims that Oki Data either failed or refused to produce reliable pricing information for its accused products. Ricoh offers nothing to support the assertion that it actively sought pricing information from Oki Data. Ricoh did not identify any document requests that it served that were directed to pricing information. Ricoh never filed a motion to compel the production of Oki Data pricing information. Merely stating that Oki Data either failed or refused to produce pricing information, without more, does not demonstrate that Ricoh is entitled to a bond of 100 percent. Further, Ricoh offers no evidence regarding the pricing of its own products, which is necessary for a price comparison.⁶⁹

There being no credible evidence of an appropriate bond amount in the record, I recommend that should the Commission find a violation of Section 337, no bond be set during the Presidential review period.

VIII. MATTERS NOT DISCUSSED

This Initial Determination's failure to discuss any matter raised by the parties, or any portion of the record, does not indicate that it has not been considered. Rather, any such matter(s) or portion(s) of the record has/have been determined to be irrelevant, immaterial or meritless. Arguments made on brief which were otherwise unsupported by record evidence or legal precedent have been accorded no weight.

⁶⁹ Ricoh offers additional arguments in its reply brief regarding why calculating a bond would be difficult, but those arguments are not addressed in Ricoh's initial brief. (*See* CRB at 98-99; CIB at 189-190.) Pursuant to Ground Rule 11.1, Ricoh's additional arguments have been waived.

IX. CONCLUSIONS OF LAW

1. The Commission has subject matter jurisdiction, *in rem* jurisdiction, and *in personam* jurisdiction.

2. There has been an importation of the accused Oki Data bulk printing and imaging devices and components thereof, which are the subject of the alleged unfair trade allegations.

'866 Patent

3. An industry does not exist in the United States that exploits U.S. Pat. No. 5,746,866, as required by 19 U.S.C. § 1337(a)(2).

4. Claims 1-6 and 8 of U.S. Pat. No. 5,746,866 are valid and enforceable.

5. None of the accused Oki Data products infringe claims 1-6 or 8 of U.S. Pat. No. 5,746,866.

6. There is no violation of 19 U.S.C. § 1337(a)(1) with respect to U.S. Pat. No. 5,746,866.

'771 Patent

7. An industry does not exist in the United States that exploits U.S. Pat. No. 6,388,771, as required by 19 U.S.C. § 1337(a)(2).

8. Claims 1, 7, and 13 of U.S. Patent No. 6,388,771 are invalid pursuant to 35 U.S.C. § 102.

9. None of the accused Oki Data products infringe claims 1 or 7 of U.S. Pat. No. 6,388,771.

10. Oki Data's C3530n, MC360, MC860, and CX2633 products infringe claim 13 of U.S. Pat. No. 6,388,771.

11. There is no violation of 19 U.S.C. § 1337(a)(1) with respect to U.S. Pat. No.

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6,388,771.

'048 Patent

12. An industry does not exist in the United States that exploits U.S. Pat. No. 6,209,048, as required by 19 U.S.C. § 1337(a)(2).

13. Claims 1, 24, 25, 26, 28, 29, 31, 32, 33, 49, 50, 51, 53, 54, 56, and 57 of U.S. Patent No. 6,209,048 are invalid pursuant to 35 U.S.C. § 102.

14. Claims 19, 20, 21, and 23 of U.S. Patent No. 6,209,048 are valid and enforceable.

15. None of the accused Oki Data products infringe claims 1, 19, 20, 21, 23, 24, 25, 26, 28, 29, 31, 32, 33, 49, 50, 51, 53, 54, 56, and 57 of U.S. Patent No. 6,209,048.

16. There is no violation of 19 U.S.C. § 1337(a)(1) with respect to U.S. Pat. No. 6,209,048.

'343 Patent

17. An industry does not exist in the United States that exploits U.S. Pat. No. 6,212,343, as required by 19 U.S.C. § 1337(a)(2).

18. Claims 18, 19, 20, and 21 of U.S. Pat. No. 6,212,343 are valid and enforceable.

19. None of the accused Oki Data products infringe claims 18, 19, 20, and 21 of U.S. Pat. No. 6,212,343.

20. There is no violation of 19 U.S.C. § 1337(a)(1) with respect to U.S. Pat. No. 6,212,343.

'690 Patent

21. An industry exists in the United States that exploits U.S. Pat. No. 5,863,690, as required by 19 U.S.C. § 1337(a)(2).

22. Claims 1, 2, 5, 6, 9, 10, 13, and 14 of U.S. Pat. No. 5,863,690 are valid and

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enforceable.

23. Ricoh has proven that Oki Data infringes claims 1, 2, 5, 6, 9, 10, 13, and 14 of U.S. Pat. No. 5,863,690.

24. There is a violation of 19 U.S.C. § 1337(a)(1) with respect to U.S. Pat. No. 5,863,690.

XI. ORDER

Based on the foregoing, and the record as a whole, it is my Final Initial Determination that there is a violation of 19 U.S.C. § 1337(a)(1) in the importation into the United States, sale for importation, and the sale within the United States after importation of certain printing and imaging devices and components thereof.

I hereby **CERTIFY** to the Commission my Final Initial and Recommended Determinations together with the record consisting of the exhibits admitted into evidence. The pleadings of the parties filed with the Secretary, and the transcript of the pre-hearing conference and the hearing, as well as other exhibits, are not certified, since they are already in the Commission's possession in accordance with Commission rules.

It is further **ORDERED** that:

In accordance with Commission Rule 210.39, all material heretofore marked *in camera* because of business, financial and marketing data found by the administrative law judge to be cognizable as confidential business information under Commission Rule 201.6(a), is to be given *in camera* treatment continuing after the date this investigation is terminated.

The initial determination portion of the Final Initial and Recommended Determination, issued pursuant to Commission Rule 210.42(a)(1)(i), shall become the determination of the

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Commission sixty (60) days after the service thereof, unless the Commission, within that period, shall have ordered its review of certain issues therein, or by order, has changed the effective date of the initial determination portion. If the Commission determines that there is a violation of 19 U.S.C. § 1337(a)(1), the recommended determination portion, issued pursuant to Commission Rule 210.42(a)(1)(ii), will be considered by the Commission in reaching a determination on remedy and bonding pursuant to Commission Rule 210.50(a).

Within fourteen days of the date of this document, each party shall submit to the Office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date and must include a copy of this document with red brackets indicating any portion asserted to contain confidential business information to be deleted from the public version. The parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

Issued: 9/23/2010
DATE



Robert K. Rogers, Jr.
Administrative Law Judge

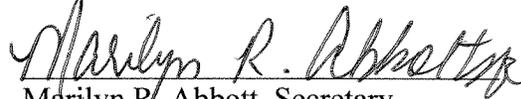
**CERTAIN PRINTING AND IMAGING
DEVICES AND COMPONENTS THEREOF**

Inv. No. 337-TA-690

PUBLIC CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **ORDER** was served upon **Juan S. Cockburn, Esq.**, Commission Investigative Attorney, and the following parties via first class mail and air mail where necessary on

October 21, 2010



Marilyn R. Abbott, Secretary
U.S. International Trade Commission
500 E Street SW, Room 112A
Washington, D.C. 20436

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