UNITED STATES TARIFF COMMISSION

COILS
FORMER WORKERS OF THE PARIS, TENN., PLANT OF CLIPPARD INSTRUMENT, INC.

Report to the President
on Investigation No. TEA-W-227
Under Section 301(c)(2) of the Trade Expansion Act of 1962

TC Publication 664
Washington, D.C.
April 1974

UNITED STATES TARIFF COMMISSION

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C O N T E N T S

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Note.--The whole of the Commission's report to the President may not be made public since it contains certain information that could result in the disclosure of the operations of an individual concern. This published report is the same as the report to the President, except that the above-mentioned information has been omitted. Such omissions are indicated by asterisks.

REPORT TO THE PRESIDENT

U.S. Tariff Commission,
April 22, 1974.

To the President:

In accordance with sections 301(f)(1) and (f)(3) of the Trade Expansion Act of 1962 (19 U.S.C. 1801), the U.S. Tariff Commission herein reports the results of investigation No. TEA-W-227 made under section 301(c)(2) of the act to determine whether, as a result in major part of concessions granted under trade agreements, articles like or directly competitive with coils (of the types provided for in items 682.05 and 682.60 of the Tariff Schedules of the United States (TSUS)) produced by the Paris, Tenn., plant of Clippard Instrument, Inc., are being imported into the United States in such increased quantities as to cause or threaten to cause, the unemployment or underemployment of a significant number or proportion of the workers of such firm or an appropriate subdivision thereof.

The investigation was instituted on February 26, 1974, on the basis of a petition for adjustment assistance filed under section 301(a)(2) of the act on behalf of the former workers of the Paris, Tenn., plant. The petition was received February 20, 1974.

Notice of the investigation was published in the Federal Register (39 F.R. 8393) on March 5, 1974. No public hearing was requested and none was held.

A field investigation was conducted and the information herein was obtained from Clippard Instrument, Inc. and its affiliate, Leonard Electric Products Co., Inc., other domestic producers, importers and consumers of electronic coils, the Electronic Industries Association, the U.S. Customs Service, the Tennessee Department of Employment Security, the petitioners, and the Commission's files.

Finding of the Commission

On the basis of its investigation, the Commission 1/ finds unanimously that articles like or directly competitive with coils (of the types provided for in items 682.05 and 682.60 of the Tariff Schedules of the United States) produced by Clippard Instrument, Inc., Paris, Tenn., are, as a result in major part of conesssions granted under trade agreements, being imported into the United States in such increased quantities as to cause the unemployment or underemployment of a significant number or proportion of the workers of such firm or an appropriate subdivision thereof.

1/ Commissioners Leonard and Young did not participate in the decision.

Views of Chairman Bedell, Vice Chairman Parker, and Commissioners Moore and Ablondi

This investigation relates to a petition for adjustment assistance filed under section 301 of the Trade Expansion Act of 1962 on behalf of former workers of the Paris, Tenn., plant of Clippard Instrument, Inc.

Under the Trade Expansion Act of 1962, four criteria must be met in order for an affirmative decision to be made. These criteria are as follows:

(1) Imports of an article like or directly competitive with an article produced by the petitioning workers must be increasing;

(2) The increase in imports must be a result in major part of trade-agreement concessions;

(3) A significant number or proportion of the workers concerned must be unemployed or underemployed, or threatened with unemployment or underemployment; and

(4) The concession-generated increased imports must be the major factor in causing or threatening to cause the unemployment or underemployment.

It is our judgment that each of the four criteria outlined above has been met. Therefore, we have made an affirmative determination.

Clippard began producing electronic coils for use in radio and television receivers in a plant in Paris, Tenn., in the mid-1950's. In 1972 Clippard established an electronic coil-manufacturing facility in Matamoros, Mexico, and in November 1973, Clippard closed its Paris, Tenn., plant. Throughout the period Clippard operated the Paris plant, it was used exclusively to produce electronic coils. Production of

these coils for use in consumer electronic products has been a highly competitive business and has been characterized by a large number of small producers, such as Clippard.

Imports of electronic coils increased from 45.8 million units in 1969 to 99.8 million units in 1973--representing an increase of 118 percent. The ratio of imports to U.S. consumption of electronic coils increased from 12.0 percent in 1969 to 23.4 percent in 1973.

This large increase in imports coincided with the 50-percent reduction in the rate of duty--from 15 percent to 7.5 percent ad valorem--negotiated during the Kennedy Round of trade negotiations. This reduction in the duty was implemented in five annual stages during 1968-72. In earlier trade negotiations the 1930 rate of duty had already been reduced by more than half, from 35 to 15 percent ad valorem. The duty reductions on these highly competitive, low-priced articles were, in our judgment, sufficiently large to provide imported coils with an important price advantage over their domestically produced counterparts.

The number of production and related workers engaged in the production of electronic coils in the Paris, Tenn., plant decreased from *** in 1969 to *** in November 1973, the last month the plant was in operation. In view of the foregoing, it is clear that a significant number of workers have been unemployed or underemployed within the meaning of the statute.

Clippard reached a decision in October 1973 to close the Paris plant because it could no longer operate that plant profitably in competition with concession-generated imports. Thereafter, Clippard

transferred its coil-manufacturing materials and equipment to the Matamoros, Mexico, plant.

In view of the foregoing we have determined that, as a result in major part of concessions granted under trade agreements, electronic coils are being imported into the United States in such increased quantities as to cause the unemployment or underemployment of a significant number or proportion of the workers of Clippard Instrument, Inc., or an appropriate subdivision thereof.

INFORMATION OBTAINED IN THE INVESTIGATION

Description and Uses

The Paris, Tenn., plant of Clippard Instrument, Inc., manufactured a wide variety of coils of the type used in the electronic circuitry of radio and television receivers. On the average, a radio receiver contains about seven coils, whereas television receivers usually contain from 20 coils (monochrome set) to 40 coils (color set).

Coils, also commonly known as inductors, can generally be divided into three major classes:

(a) self-supporting coils, which have no core,

(b) coils which have a core that does not affect the inductance of the coil and is used only to support the winding(s), and

(c) coils in which the core material does affect the inductance of the coil; in some of these coils the core can be moved up and down inside the coil to vary the coil's inductance within predetermined limits.

Coils are of many different sizes and shapes and are used in many places in radio and television receivers. They are essential components of tuned circuits in radio, video, and intermediate frequency stages, and are also used in peaking circuits, convergence circuits, chroma circuits, raster correction circuits, and other circuits in which inductive reactance is required.

Deflection and focus coils and transformers and chokes used in power supplies and audio components were not manufactured in the Paris plant of Clippard Instrument, Inc. These articles, although similar in some respects to the coils manufactured by Clippard, are generally more complex and more expensive than the units produced by Clippard. Furthermore, deflection and focus coils, transformers, and chokes used in power supplies and audio components are not substitutable for the coils made by Clippard. In view of these circumstances, the statistical data presented in this report are limited to electronic coils of the type produced by Clippard and do not include the above-mentioned articles, which are sometimes included under the heading of electronic coils.

U.S. Tariff Treatment

Under the Tariff Act of 1930, electronic coils, 1/ television receivers, and solid-state radio receivers were classifiable under paragraph 353 at a rate of 35 percent ad valorem which remained unchanged through 1938.

Pursuant to successive trade-agreement concessions beginning in 1939, the rates of duty applicable to the above-named articles have been substantially reduced. The current rates of duty (1974) on these articles range from 5 percent to 12.5 percent ad valorem. The effective dates and authority for the various rates of duty applicable to the aforementioned articles under the Tariff Act of 1930, as modified by trade-agreement concessions and the Tariff Classification Act of 1962, are given in the following table.

1/ Some coils produced in Clippard's Paris, Tenn., plant (less than *** percent by value), if imported into the United States, would have been classified for duty purposes as transformers. Such articles were dutiable under par. 353 until the TSUS was adopted in 1963, when they became dutiable under item 682.05.

Coils, transformers, television receivers, and radios (solid-state): U.S. rates of duty, 1930-72

(In percent ad valorem)

Authority for and year of rate change	Rate of duty on--			
	Coils (TSUS item 682.60)	Transformers (TSUS item 682.05)	Tele-vision receivers (TSUS item 685.20)	Solid-state radio receivers (TSUS item 685.23)
Tariff Act of 1930	35	35	35	35
Bilateral agreement with United Kingdom, 1939	25	25	25	25
GATT, 1948	15	15	15	15
GATT, 1951	15	12.5	12.5	12.5
GATT, 1956	15	12.5	11.5	12.5
GATT, 1957	15	12.5	11	12.5
GATT, 1958	15	12.5	10.5	12.5
GATT, 1962	15	12.5	10	12.5
Tariff Classification Act of 1962	15	12.5	10	12.5
GATT, 1968	13	12.5	9	12
GATT, 1969	12	12.5	8	11.5
GATT, 1970	10	12.5	7	11
GATT, 1971 1/	9	12.5	6	10.4
GATT, 1972	7.5	12.5	5	10.4

1/ An additional 10-percent import duty was imposed from Aug. 16, 1971, to Dec. 19, 1971 (Presidential Proclamations 4074 and 4098).

U.S. Producers

The domestic producers of coils consist essentially of two classes of manufacturers: (a) the integrated producers, which make coils exclusively for their own use, and (b) the independent producers, which make coils solely for sale to others.

The integrated producers consist of nine large firms, which account for the great bulk of domestic production of coils, and a number of smaller independent producers. The large, integrated producers are also major producers of radio and television receivers. These firms make a substantial portion of their requirements for coils; the remainder are secured from other domestic sources or from imports. The integrated producers are mostly situated in Illinois, Indiana, and New York. Most of them operate one or more plants that produce parts for their radio- and television-receiver assembly plants.

There are a large number of independent domestic coil manufacturers, nearly all of which are smaller and less diversified than the integrated producers. They supply, in part, the supplemental needs of the integrated producers and the needs of other producers of radio and television receivers. The independent producers are situated in the same States as the integrated radio- and television-receiver manufacturers but also operate plants in many other States.

U.S. Consumption, Shipments, and Imports

Electronic coils

Data on U.S. consumption, shipments, and imports of electronic coils of the types produced by Clippard Instrument, Inc., are not reported separately in official U.S. Government statistics. Therefore, such data were obtained by questionnaire from nine major U.S. producers of radio and television receivers. These firms are believed to manufacture more than 90 percent of the radio and television receivers produced domestically and to consume more than 90 percent of all the coils used in the production of radio and television receivers in the United States.

Apparent U.S. consumption of electronic coils decreased from 383 million units, valued at $47.6 million, in 1969 to 313 million units, valued at $38.2 million, in 1970 and then increased to 427 million units, valued at $60.7 million, in 1973 (table 1). Coil consumption was almost directly proportional to U.S. production of radio and television receivers during the 1969-73 period.

U.S. shipments of electronic coils followed the same trend as U.S. consumption, decreasing from 338 million units, valued at $42.7 million, in 1969 to 256 million units, valued at $31.7 million, in 1970 and then increasing irregularly to 327 million units, valued at $47.5 million, in 1973. The average unit value decreased from 12.6 cents in 1969 to 12.4 cents in 1970, but increased in each year thereafter to 14.5 cents in 1973. The increases in unit value

in 1971-73 are believed to have been caused by a combination of inflation in the United States and an increase in the ratio of color to monochrome television receivers produced during that period. The average unit value of coils used in color television receivers is somewhat higher than that of coils used in monochrome receivers.

U.S. imports of electronic coils increased each year from 45.8 million units, valued at $5.0 million, in 1969 to 99.8 million units, valued at $13.3 million, in 1973. Unit values of U.S. imports increased each year from 10.8 cents in 1969 to 13.3 cents in 1973. The majority of imported coils are from the Far East and Mexico. The ratio of imports to consumption of electronic coils increased from 12.0 percent in 1969 to 23.4 percent in 1973.

The data obtained by the U.S. Tariff Commission on total item 807.00 imports of electronic coils are not presented in this report because they are believed to be incomplete. This is attributable to the fact that the nine respondents to the Commission's questionnaire frequently did not know, except with respect to direct imports, whether or not the imported electronic coils were produced under item 807.00. Reported item 807.00 imports of electronic coils were negligible in 1971, amounted to 11.6 percent of total direct imports in 1972, and increased to 27.9 percent in 1973 (based on quantity).

Table 2 shows the rates of duty applicable to electronic coils during 1960-73 and the value of U.S. imports of these articles during 1969-73; data on imports for earlier years are not available. Exports of electronic coils during 1969-73 were negligible.

Radio receivers

Apparent U.S. consumption of all types of radio receivers amounted to 51.4 million units, valued at $693 million, in 1969; decreased to 44.7 million units, valued at $617 million, in 1970; and then increased each following year to 55.9 million units, valued at $970 million, estimated for 1973 (table 3).

U.S. factory shipments of radio receivers, mostly automobile radios in recent years, amounted to 15.7 million units, valued at $373 million, in 1969. In 1970, shipments decreased to 12.0 million units, valued at $286 million. Shipments increased to 12.3 million units in 1971 and 1972 and then declined to 11.8 million units in 1973. The value or factory shipments increased in each year during 1971-73, rising from $366 million to an estimated $472 million. The number of units imported, expressed as a percentage of apparent U.S. consumption, has shown a steady increase from 71 percent in 1969 to 81 percent in 1973.

Exports of radio receivers decreased from 770,000 units in 1969 to 677,000 units in 1970, increased regularly to 814,000 units in 1972, and again decreased, to 754,000 units, in 1973. The value of exports of radio receivers decreased from $16 million in 1969 to $13 million in 1970 and then increased to $20 million in 1972 and 1973.

Imports of radio receivers amounted to 36.5 million units, valued at $336 million, in 1969; decreased to 33.4 million units, valued at $344 million, in 1970; and then increased to 45.4 million

units, valued at $540 million, in 1973. The number of units imported in 1969-73, primarily home and portable types, increased both in absolute amount and in relation to U.S. consumption. In 1973, imports accounted for about 81 percent of consumption, compared with 71 percent in 1969.

Table 2 shows rates of duty and the values of U.S. imports of radio receivers in 1960-72; data on imports for earlier years are not available.

Television receivers

Apparent U.S. consumption of television receivers increased from 12.6 million units in 1969 to an estimated 17.1 million units in 1973. The value of apparent U.S. consumption decreased from $2.1 billion in 1969 to $2.0 billion in 1970, then increased each year thereafter to an estimated $3.3 billion in 1973 (table 4).

U.S. factory shipments of television receivers declined from 8.7 million units in 1969 to 8.3 million units in 1970 and thereafter increased annually to an estimated 11.0 million units in 1973. The value of television receiver shipments decreased from $1.9 billion in 1969 to $1.7 billion in 1970, then steadily increased to an estimated $2.9 billion in 1973, reflecting an increase both in the total number produced and in the number of color sets manufactured.

U.S. exports decreased from 157,000 units in 1969 to 126,000 units in 1970 and increased each year thereafter to 314,000 units in 1973. The value of exports decreased from $33 million in 1969 to $26 million in 1970 and then regularly increased to $84 million in 1973.

Imports of television receivers increased each year from 4.0 million units, valued at $296 million, in 1969 to 6.4 million units, valued at $531 million, in 1973. The ratio of imports to consumption (based on quantity) increased from 32 percent in 1969 to 39 percent in 1972 and then decreased slightly to an estimated 37 percent in 1973. Table 2 shows the U.S. rates of duty applicable to television receivers during 1960-73 and the value of annual U.S. imports of these articles during 1963-73; data on imports in earlier years are not available.

Clippard Instrument, Inc.

The corporation

In 1937 Mr. W. L. Clippard began to produce electronic instruments in the basement of his home in Cincinnati, Ohio, on a part-time basis. This modest beginning led to the establishment of Clippard Instrument Laboratory (unincorporated), which manufactured large quantities of RF coils for proximity fuses during World War II, in addition to electronic instruments.

At the end of World War II, with the cancellation of virtually all of his Government contracts, Mr. Clippard formed Clippard Instrument Laboratory, Inc., in 1945 for the purpose of manufacturing coils for the consumer electronics industry. At that time, his largest customers were radio manufacturers, but soon television receiver producers purchased most of Clippard's coil output.

As the result of attempts to increase the efficiency of the production machinery used in the manufacture of its products, Clippard developed unique miniature fluid and control devices. These were so successful that Clippard Instrument Laboratory, Inc., an Ohio corporation, devoted itself exclusively to the manufacturing and marketing of these items. In 1955 a new company, Clippard Instrument, Inc., was formed in Paris, Tenn., for the exclusive production of electronic coils. After that time the electronic coils which are the subject of this investigation were not produced in any Clippard facility other than the Paris plant until the Matamoros, Mexico, plant opened in 1972.

In late 1971 Clippard Instrument, Inc., purchased the inventory, plant equipment, and corporate name of Leonard Electric Products Co., Inc., Brooklyn, N.Y., and changed the State of incorporation to Ohio. About the same time, Lepco, SA, was formed as a subsidiary of Leonard Electric Products Co. (Ohio) for the purpose of producing coils in Matamoros, Mexico, from components purchased in the United States. At present, *** percent of the coils produced by Lepco, SA, are used in television receivers. A sales, engineering, and warehouse facility was established in Brownsville, Tex., by Leonard Electric Products Co. Inc., in November 1973. Clippard Instrument, Inc., is currently being dissolved as a separate corporation.

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A-13 through A-20

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STATISTICAL APPENDIX

Table 1.--Electronic coils: U.S. shipments, imports for consumption, and apparent consumption, 1969-73

(Quantity in thousands of units; value in thousands of dollars)

Year	U.S. shipments 1/	Imports	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity			
1969	337,645	45,815	383,460	12.0
1970	256,122	59,892	313,014	19.1
1971	327,468	62,767	390,235	16.1
1972	333,891	92,624	426,515	21.7
1973	326,770	99,833	426,603	23.4
	Value			
1969	42,677	4,960	47,637	10.4
1970	31,671	6,568	38,239	17.2
1971	43,994	7,368	51,362	14.4
1972	45,205	11,752	56,957	20.6
1973	47,489	13,253	60,742	21.8
	Unit value			
1969	$0.126	$0.108	2/	2/
1970	.124	.110	2/	2/
1971	.134	.117	2/	2/
1972	.135	.127	2/	2/
1973	.145	.133	2/	2/

1/ Includes inter- and intra-plant transfers.
2/ Not applicable.

Source: Compiled from data supplied to the U.S. Tariff Commission by 9 major U.S. television and radio producers, accounting for more than 90 percent of total U.S. consumption.

Table 2.--Electronic coils, radio receivers (including automobile types), and television receivers: U.S. rates of duty and value of imports for consumption, 1960-73

Year	Electronic coils		Radio receivers		Television receivers	
	Rate of duty	Imports	Rate of duty	Imports	Rate of duty	Imports
	Percent ad valorem	Million dollars	Percent ad valorem	Million dollars	Percent ad valorem	Million dollars
1960	15	1/	12.5	68	10.5	1/
1961	15	1/	12.5	82	10.5	1/
1962	15	1/	12.5	88	10	1/
1963	15	1/	12.5	86	10	23
1964	15	1/	12.5	94	10	39
1965	15	1/	12.5	125	10	60
1966	15	1/	12.5	144	10	115
1967	15	1/	12.5	172	10	124
1968	13	1/	2/ 12 : 3/ 11	247	9	204
1969	12	5.0	2/ 11.5 : 3/ 10	336	8	296
1970	10	6.6	2/ 11 : 3/ 8.5	344	7	315
1971	9	7.4	2/ 10.4 : 3/ 7	358	6	413
1972	7.5	11.8	2/ 10.4 : 3/ 6	459	5	497
1973	7.5	13.3	2/ 10.4 : 3/ 6	540	5	531

1/ Not available.
2/ Solid-state (tubeless) units.
3/ Other than solid-state units.

Source: Value of imports of electronic coils compiled from data submitted in response to U.S. Tariff Commission questionnaires from 9 major U.S. producers; value of imports of radio and television receivers compiled from official statistics of the U.S. Department of Commerce.

Table 3.--Radio receivers (including automobile types): U.S. factory shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1969-73

(Quantity in thousands of units; value in millions of dollars)

Year	U.S. factory shipments	Imports	Exports	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity				
1969	15,682	36,468	770	51,380	71
1970	11,998	33,382	677	44,703	75
1971	12,307	34,138	719	45,726	75
1972	12,325	43,083	814	54,594	79
1973	1/ 11,800	45,367	754	1/ 55,913	1/ 81
	Value				
1969	373	336	16	693	48
1970	286	344	13	617	56
1971	366	358	16	708	51
1972	421	459	20	860	53
1973	1/ 472	540	20	1/ 970	1/ 56

1/ Estimated by the U.S. Tariff Commission.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 4.--Television receivers: U.S. factory shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1969-73

(Quantity in thousands of units; value in millions of dollars)

Year	U.S. factory shipments	Imports	Exports	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity				
1969	8,721	4,033	157	12,597	32
1970	8,308	4,512	126	12,694	36
1971	8,740	5,449	162	14,027	39
1972	10,219	6,376	224	16,371	39
1973	1/ 11,000	6,387	314	1/ 17,073	1/ 37
	Value				
1969	1,852	296	33	2,115	14
1970	1,714	315	26	2,003	16
1971	1,976	413	37	2,352	18
1972	2,248	497	59	2,686	19
1973	1/ 2,900	531	84	1/ 3,347	1/ 16

1/ Estimated by the U.S. Tariff Commission.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.