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UNITED STATES TARIFF COMMISSION

ELECTRONIC RECEIVING TUBES AND TRANSISTORS
PRODUCTION AND MAINTENANCE WORKERS AT RCA CORPORATION
PLANT, CINCINNATI, OHIO

Report to the President on
Investigation No. TEA-W-89
Under Section 301(c)(2) of the Trade Expansion Act of 1962



396

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REPORT TO THE PRESIDENT

U.S. Tariff Commission,
May 17, 1971.

To the President:

In accordance with section 301(f)(1) of the Trade Expansion Act of 1962 (76 Stat. 885), the U.S. Tariff Commission herein reports the results of an investigation made under section 301(c)(2) of the act in response to a petition filed by a group of workers.

On March 17, 1971, the International Union of Electrical, Radio and Machine Workers, AFL-CIO, Washington, D.C., filed a petition for a determination of eligibility to apply for adjustment assistance on behalf of a group of workers at the Cincinnati, Ohio, plant of the RCA Corporation. The Commission instituted the investigation (TEA-W-89) on March 29, 1971, to determine whether, as a result in major part of concessions granted under trade agreements, articles like or directly competitive with the receiving tubes and semiconductors produced at the Cincinnati plant of the RCA Corp. 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 the plant.

Public notice of this investigation was given in the Federal Register (36 F.R. 6124) on April 2, 1971. No public hearing was requested by any party showing a proper interest in the subject matter of the investigation, and none was held.

The information in this report was obtained principally through field interviews with officials of RCA Corp., from discussions with officials of Local 771, International Union of Electrical, Radio and Machine Workers, from data submitted to the Commission by domestic producers, and from the Commission's files.

Finding of the Commission

Based on its investigation, the Commission 1/ finds that articles like or directly competitive with the receiving tubes and semiconductors produced at the Cincinnati plant of the RCA Corp. are not, as a result in major part of concessions granted under trade agreements, being imported into the United States in such increased quantities as to cause, or threaten to cause, unemployment or underemployment of a significant number or proportion of the workers at that plant.

1/ Commissioner Clubb did not participate in the decision.

Considerations Supporting the Commission's Finding 1/Views of Presiding Commissioner Sutton
and Commissioner Leonard

This investigation relates to a petition filed on behalf of workers at the Cincinnati plant of the RCA Corporation, for a determination under section 301(c)(2) of the Trade Expansion Act of 1962 of their eligibility to apply for adjustment assistance. Our determination is in the negative. The criteria established by section 301(c)(2) have not, in our judgment, been met.

The petitioning workers have been engaged primarily in the manufacture of electronic receiving tubes; some have been employed intermittently in the production of transistors. While there may be some question whether U.S. imports of receiving tubes have increased within the meaning of the statute, we have concluded that any increased imports of receiving tubes and transistors have not resulted in major part from trade-agreement concessions. 2/ The rate of duty applicable to receiving tubes in the Tariff Act of 1930 was 35 percent ad valorem; the same rate would have applied to transistors had they been articles of commerce in 1930. Trade-agreement concessions resulting in reductions in that rate of duty were made in 1939, 1948, and 1951; the duty was reduced thereby to 25 percent, 15 percent, and 12½ percent ad valorem. In our view, these concessions granted 20 to 30 years ago could not have been the major cause of recent increases in imports of the articles

1/ Commissioner Young concurs in the result.

2/In other recent cases, we held that the increased imports of transistors have not resulted in major part from trade-agreement concessions (see, for example, Capacitors and Semiconductors: Sprague Electric Company . . ., Investigation No. TEA-F-22, TC Publication 394, May 1971).

concerned here. More recent concessions were granted in the Kennedy Round of negotiations under the General Agreement on Tariffs and Trade; those concessions have resulted in a reduction in the rate on receiving tubes and transistors from $12\frac{1}{2}$ percent to 7 percent ad valorem. We have concluded, however, that the Kennedy Round concessions, which reduced already moderate rates, were too small to have been the major cause of any increased imports of those articles. Most of the increased imports of transistors, moreover, have entered the United States under the provisions of items 807.00 or 806.30; these tariff provisions, which have not been the subject of trade-agreement concessions, accord under specified circumstances, a duty exemption on the value of the U.S. fabricated components or metal articles contained therein.

In light of the above circumstances, we have made a negative determination.

Views of Commissioner Moore

My determination is in the negative for the reason that the conditions imposed by section 301(c)(2) of the Trade Expansion Act of 1962 have not been satisfied. Before an affirmative determination could be made, each of the following conditions would have to be met:

1. Articles like or directly competitive with the electronic receiving tubes and transistors produced at the Cincinnati, Ohio, plant of RCA Corporation must be imported in increased quantities;
2. The increased imports must be in major part the result of concessions granted under trade agreements;
3. A significant number or proportion of the petitioning workers must be unemployed or underemployed; and
4. The increased imports resulting in major part from trade-agreement concessions must have been the major factor causing or threatening to cause the unemployment or underemployment.

In my judgment, condition 4 has not been met in the instant case. While increased imports were a factor causing distress to RCA and consequent unemployment, they were not "the major factor" (emphasis added) required by the Trade Expansion Act of 1962.

A number of factors caused the unemployment of the workers at the RCA Cincinnati plant. First, the soft economic conditions in the United States during the course of 1970 appreciably dampened sales of consumer electronic products, which were the major outlets for the receiving tubes and transistors produced by the workers at the Cincinnati plant. Apparent U.S. consumption of television receivers, for example,

was about 15 percent less in 1970 than in 1969. The decrease in demand for the end products likewise affected the demand for receiving tubes and transistors.

Second, production at the Cincinnati plant was suspended as a consequence of a strike for more than 3 months in the summer of 1970.

* * *

Third, technological changes have resulted in extensive displacement of receiving tubes with solid state devices, predominantly transistors, in electronic equipment. For a decade or more, an industry-wide trend toward solid state electronic equipment has adversely affected the demand for receiving tubes. * * *

Finally, the imports of receiving tubes and transistors, alone and as integral components of radios, TV's, and other finished products, were one factor contributing to the company's decision to close the plant which resulted in unemployment of the petitioning workers.

Among the complex of factors that have affected the plant's operation, however, the increased imports were not the major factor. Thus, the fourth condition established by the provisions of the Trade Expansion Act for worker cases has not been met. I have therefore made a negative determination.

INFORMATION OBTAINED IN THE INVESTIGATION

Description and uses of the articles under investigation

The RCA Cincinnati plant has been engaged principally in the production of electronic receiving tubes. For a short period the plant also produced a few types of transistors. Both the tubes and transistors are for use primarily in home entertainment devices.

Receiving tubes generally consist of a base on which are mounted the functioning parts of the tube, such as the cathode, anode, and grids, as well as the contacts for external connections. When assembled, these parts of the tube are referred to collectively as mounts. The tube is completed by placing a glass envelope over the mount, sealing the envelope to the base, exhausting the air from the interior to create a vacuum, and then sealing the envelope. Manufacturing the components of the mount requires a number of machine operations such as stamping mica spacers and metal parts and winding fine wire coils to form grids. Assembling the components requires numerous meticulous operations such as welding fine wire connections. For those tubes produced in large volume, a high degree of mechanization is possible. However, setting up automatic machinery for long production runs is both time consuming and costly and is often accompanied by a high rejection rate during initial production. Some operations cannot be automated, and mounts for tubes made in limited quantities are usually assembled more economically by hand. After completion, each receiving tube undergoes extended testing.

Receiving tubes are used in radio and TV receivers and in other electronic products, such as amplifiers, tuners, detectors, and modulators. The largest use of tubes has been in consumer goods. In recent years, technological advances in solid-state components (semiconductors) such as transistors and integrated circuits have permitted these devices to displace tubes in many applications.

Semiconductor devices are made of what are ordinarily nonconducting materials, such as high-purity silicon. As the result of imperfections in the crystalline structure or through the carefully controlled introduction of minute quantities of chemical impurities, such materials exhibit special electrical properties which enable devices made from them to perform the functions of receiving tubes as well as of many power and special-purpose tubes. Most semiconductor devices are small, lightweight, operate at low voltages, dissipate less heat than tubes, and are usually more reliable. In the production of silicon transistors, the basic material is sliced into thin wafers which are then cut to pellets. The latter are cleaned, doped, wired, wrapped, and sealed, and the finished transistors are then tested.

U.S. tariff treatment

Receiving tubes and transistors, the articles produced at the Cincinnati plant of RCA Corp., are classified under item 687.60 of the Tariff Schedules of the United States (TSUS), which also provides for certain other electronic tubes, semiconductors, and related parts.

Under the Tariff Act of 1930 these articles were classified for duty purposes under paragraph 353 at the rate of 35 percent ad valorem. This rate remained unchanged from June 18, 1930, through December 31, 1938.

Between January 1, 1939, and June 6, 1951, pursuant to a succession of trade agreements, the rate was reduced to 12.5 percent. No further reductions were made until the concessions granted under the Kennedy Round negotiations became effective on January 1, 1968. The current rate of 7 percent ad valorem reflects the fourth stage of the five-stage Kennedy Round reduction. On January 1, 1972, when the fifth and final stage becomes effective, the rate will be reduced to 6 percent (table 1).

TV receivers, radios, and phonographs--products cited in the petition as containing articles competitive with the Cincinnati plant's products--were also originally classified under paragraph 353 of the Tariff Act of 1930 at the rate of 35 percent ad valorem. The rates of duty applicable to these articles have been reduced through trade agreements to 1971 rates ranging from 6 percent ad valorem to 10.4 percent ad valorem (table 1). Currently, TV receivers are provided for under TSUS item 685.20; radios, under items 685.23 and 685.25; and phonographs, under items 685.30 and 685.32.

U.S. producers

The number of manufacturers of electronic receiving tubes in the United States has declined in recent years. At present, there are about seven large producers, three of which probably account for the

bulk of domestic shipments. Most of the companies making receiving tubes are multiplant, multiproduct corporations.

Approximately 40 U.S. companies manufacture transistors. The majority of these are small and make limited lines of products. About 10 concerns are substantial producers, but a large part of the transistors produced are made by only three companies.

U.S. shipments, consumption, and foreign trade

Receiving tubes.--Both U.S. producers' shipments and domestic consumption of electronic receiving tubes have declined for 5 successive years, reflecting the gradual displacement of tubes by transistors in new TV sets, as well as reduced domestic production of the sets themselves. By 1970, the quantity of tubes shipped by U.S. producers and their apparent consumption were down to almost half of the 1966 volume; as the quantity of tubes fell off, their value dropped even faster, so that 1970 dollar valuations for shipments and consumption were each at only about 37 percent of 1966 levels. The actual quantities and values, based on statistics of the Electronic Industries Association and the U.S. Department of Commerce, showed that U.S. producers shipped 361 million tubes (valued at \$444 million) in 1966, and 185 million tubes (valued at \$166 million) during 1970. The pattern of decline was about the same for apparent consumption: 424 million units (valued at \$460 million) were used in 1966, and 219 million units (valued at \$170 million), in 1970 (table 2).

U.S. exports of receiving tubes were relatively small in comparison with domestic shipments and consumption in 1966-70, and were also smaller in both quantity and value than imports. Exports showed a drop in that period, with most of the decline occurring in 1967, when exports amounted to 14 million units (valued at \$14 million), down from 19 million units (valued at \$17 million) in 1966. After 1967, exports were stable through 1970 at around 12 million units (valued at \$13 million). Destinations of exports were widely scattered, with Canada and Mexico, the leading markets, together accounting for just over one-third of the trade during 1970 (table 3).

The quantity of receiving tubes imported into the United States decreased sharply from 1966 to 1967 (from 82 million to 53 million units), and their value also fell (from \$33 million to \$21 million). Thereafter, imports leveled off at about 47 million tubes a year during 1968-70, with an annual value of about \$18 million. Although the quantity and value of U.S. tube imports in 1970 were down slightly from 1969, they represented increases of about 3 percent each in the ratios of imports to apparent domestic consumption. U.S. tube imports in 1970 were equivalent to about 21 percent of total domestic consumption in quantity and to about 10 percent in value. Japan has been supplying about 60 percent of U.S. tube imports annually, and most of the remainder have come from the Netherlands and other countries of Europe (table 4).

Transistors.--U.S. producers' shipments of transistors declined progressively each year from 1966 through 1970; 312 million units were shipped in the latter year, 56 percent less than the 706 million units shipped in 1966. However, the value of shipments in that period dropped by only 31 percent, from \$463 million to \$317 million, and average unit value, which had been about 66 cents during 1966-68, rose to 79 cents in 1969 and to \$1.02 in 1970.

Domestic consumption of transistors, while showing some fluctuation, was sustained during the first 4 years of the 1966-70 period by an increasing supply of imports. Consumption in 1969 amounted to 906 million units, up slightly from the previous high of 895 million units in 1966. However, in 1970, consumption joined the downtrend in producers' shipments and imports and fell to 665 million units. The value of transistors consumed, which was \$438 million in 1966, declined to \$288 million in 1970, depressed by both shrunken volume and the low average unit value (about 10 cents) of the imported transistors being used (table 5).

Exports of transistors have been smaller in quantity than imports, but higher in value. The quantity of exports increased from 72 million units in 1966 to 280 million in 1969, then dropped to 250 million units in 1970. The value of exports increased in most years following 1966, from \$54 million in that year to \$89 million in 1970. The trade has been largely with Europe and the Far East, with Japan and West Germany the leading markets in 1970 (table 6).

During the period 1966-70, U.S. imports of transistors more than doubled in both quantity and value. Increases, which occurred almost annually, raised imports from 261 million units (valued at \$29 million) to 602 million units (valued at \$60 million) in 1970. An even more spectacular rise occurred in that portion of domestic consumption which was supplied by imports. In 1966, imports furnished about 29 percent of the quantity and 6 percent of the value of transistors consumed; in 1970, imports accounted for about 91 percent of the quantity and 21 percent of the value. Mexico displaced Hong Kong during 1970 as the leading source of transistor imports on a value basis; in terms of quantity, Hong Kong retained its leadership of past years and was followed by Ireland, Mexico, Singapore, and Japan (table 7).

TV receivers, radios, and phonographs

Statistics for TV receivers, radios, and phonographs are included in this report because the union alleges in its petition that imports of such consumer electronic home entertainment products containing components of the types made at the Cincinnati plant have contributed to unemployment there.

TV receivers.--U.S. imports of TV receivers have risen steadily since 1966, increasing from 1.5 million units in that year to 4.5 million units in 1970, accompanied by a rise in value from \$116 million to \$316 million. The portion of U.S. consumption supplied by imports also increased during the 5-year period from 12 percent to 37 percent of the quantity and from 5 percent to 18 percent of the value of sets

consumed. During the same years, U.S. producers' shipments of TV receivers declined by about one-third (from 11.7 million units to 7.8 million) and by about three-eighths in value (from \$2.4 billion to \$1.5 billion). U.S. exports of TV sets have represented only a very small part of domestic output (table 8).

Radios.--As the number of radio sets imported into the United States increased, from 25 million in 1966 to 33 million in 1970, the annual value more than doubled, rising from \$144 million in 1966 to \$334 million in 1970. Imports also accounted for a growing share of the U.S. market, increasing from 53 percent of the radios available for consumption in 1966 to 71 percent in 1969, with value up from 25 percent to 48 percent (data for 1970 are not available). Conversely, U.S. producers' shipments of radios gradually slipped from 23 million units (valued at \$434 million) in 1966 to 16 million units (valued at \$375 million) in 1969, drops of 30 percent in number of sets and 14 percent in value. U.S. exports of radio sets in the foregoing years were minor (table 9).

Phonographs.--While U.S. producers' shipments of phonographs and radio-phonograph combinations have been relatively stable in recent years, an uptrend has been apparent in the total value of imports of such articles as well as gains in the number of sets imported. Shipments by domestic manufacturers were between 6 million and 7 million units annually during 1966-69, with small increases apparent for 1968 and 1969; the value of these shipments was generally between

\$500 million and \$600 million. The value of imports of these articles increased by 34 percent (from \$71 million in 1966 to \$95 million in 1970), accompanied by an 11-percent gain in quantity--from 5.4 million to 6.0 million sets for the 1968-70 period. During 1967 and 1968, the only years for which directly comparable data are available, imports supplied about 45 percent of domestic consumption on a unit basis and accounted for 11 to 14 percent of annual value of consumption. U.S. exports have been quite small in terms of units and were equivalent in value to about 4 percent of annual producers' shipments (table 10).

RCA Corporation

The RCA Corporation, formerly known as the Radio Corporation of America, is a diversified multinational conglomerate, which had sales in 1970 amounting to \$3.3 billion.

* * * * *

Statistical Appendix

Table 1.--Television receivers, radios, phonographs, receiving tubes, and semiconductors: U.S. rates of duty, 1930-72

(In percent ad valorem)

Tariff act or trade agreement	Effective date	Tariff rate for--								
		Tele- vision re- ceivers	Radios		Phonographs		Receiving tubes	Semiconductors		
		(685.20)	Solid- state (685.23)	Other (685.25)	Radio- phono (685.30)	Other (585.32)	(687.6010)	Tran- sistors (687.6030)	Other (687.6035-45)	
Tariff Act of 1930--	1930	35	35	35	35	35	35	35	35	35
Bilateral trade agreements:										
GATT-----	1939	25	25	25	25	25	25	25	25	25
	1948	15	15	15	15	15	15	15	15	15
	1951	12.5	12.5	12.5	13.75	13.75	12.5	12.5	12.5	12.5
	1956	11.5	1/	1/	1/	1/	1/	1/	1/	1/
	1957	11	1/	1/	1/	1/	1/	1/	1/	1/
	1958	10.5	1/	1/	1/	1/	1/	1/	1/	1/
	1962	10	1/	1/	1/	12.5	1/	1/	1/	1/
TSUS-----	1963	1/	1/	1/	1/	11.5	1/	1/	1/	1/
GATT-----	1968	9	12	11	12	10	11	11	11	11
	1969	8	11.5	10	11	9	10	10	10	10
	1970	7	11	8.5	9.5	8	8.5	8.5	8.5	8.5
	1971	6	10.4	7	8	6.5	7	7	7	7
	1972	5	1/	6	6.5	5.5	6	6	6	6

1/ No change.

Note.--GATT=General Agreement on Tariffs and Trade; TSUS=Tariff Schedules of the United States.

Table 2.--Receiving tubes: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1966-70

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

Year	Producers' shipments ^{1/}	Imports	Exports	Apparent consumption	Ratio (percent) of imports to consumption
Quantity					
1966-----	361,313	81,572	18,630	424,255	19.2
1967-----	270,639	52,730	14,211	309,158	17.0
1968-----	254,240	47,386	11,504	290,122	16.3
1969-----	232,169	48,714	11,886	268,997	18.1
1970-----	184,689	46,714	12,656	218,747	21.3
Value					
1966-----	444,054	33,327	16,917	460,464	7.2
1967-----	289,313	21,346	13,518	297,081	7.2
1968-----	262,376	18,910	12,510	268,776	7.0
1969-----	234,528	18,404	13,175	239,757	7.7
1970-----	166,220	17,551	13,273	170,498	10.3

^{1/} Compiled from sales data supplied by the Electronic Industries Association and from average prices derived from U.S. Department of Commerce estimates.

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

Table 3.--Receiving tubes: U.S. exports of domestic merchandise, by principal markets, 1966-70

Market	1966	1967	1968	1969	1970
Quantity (1,000 units)					
Canada-----	5,868	3,998	2,967	2,824	2,953
Mexico-----	1,626	1,608	1,145	2,003	1,683
Italy-----	1,619	1,238	1,007	1,020	1,060
Taiwan-----	49	57	121	109	784
United Kingdom-----	468	355	458	721	685
Brazil-----	1,378	770	564	684	547
Venezuela-----	800	988	817	631	487
All other-----	6,822	5,197	4,425	3,894	4,456
Total-----	18,630	14,211	11,504	11,886	12,655
Value (1,000 dollars)					
Canada-----	5,238	3,555	3,330	3,666	3,284
Mexico-----	1,082	1,242	1,015	1,476	1,400
Italy-----	1,214	1,047	924	925	772
Taiwan-----	65	77	141	119	738
United Kingdom-----	791	577	829	1,008	933
Brazil-----	1,017	523	485	545	444
Venezuela-----	649	798	651	485	403
All other-----	6,861	5,699	5,135	4,951	5,299
Total-----	16,917	13,518	12,510	13,175	13,273

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 4.--Receiving tubes: U.S. imports for consumption,
by principal sources, 1966-70

Source	1966	1967	1968	1969	1970
Quantity (1,000 units)					
Japan-----	48,754	31,266	28,720	31,421	28,848
Netherlands-----	14,551	9,354	7,800	8,488	8,989
United Kingdom-----	8,262	4,895	4,831	4,704	3,626
France-----	711	738	1,467	1,246	1,951
West Germany-----	4,017	2,937	2,333	1,891	1,329
Canada-----	2,608	1,585	1,201	458	1,056
All other-----	2,669	1,955	1,034	506	915
Total-----	81,572	52,730	47,386	48,714	46,714
Value (1,000 dollars)					
Japan-----	20,590	12,737	11,411	11,469	11,443
Netherlands-----	5,116	3,262	2,775	3,199	2,790
United Kingdom-----	3,312	2,081	1,964	1,856	1,313
France-----	279	308	568	447	618
West Germany-----	1,573	1,121	976	832	543
Canada-----	1,564	1,076	839	336	497
All other-----	893	761	377	265	347
Total-----	33,327	21,346	18,910	18,404	17,551

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 5.--Transistors: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1966-70

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

Year	U.S. producers' shipments ^{1/}	Imports	Exports	Apparent consumption	Ratio (percent) of imports to consumption
Quantity					
1966-----	705,568	261,945	72,248	895,265	29.3
1967-----	584,346	296,657	85,410	795,593	37.3
1968-----	545,603	451,375	123,359	873,619	51.7
1969-----	484,927	701,360	280,222	906,065	77.4
1970-----	311,840	602,343	249,529	664,654	90.6
Value					
1966-----	463,169	28,657	54,053	437,773	6.5
1967-----	389,821	26,890	46,434	370,277	7.3
1968-----	357,270	44,889	51,052	351,107	12.8
1969-----	381,473	59,001	83,092	357,382	16.5
1970-----	317,496	59,819	88,898	288,417	20.7

^{1/} Estimated from data supplied by the Electronic Industries Association.

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

Table 6.--Transistors: U.S. exports of domestic merchandise,
by principal markets, 1966-70

Market	1966	1967	1968	1969	1970
	Quantity (million units)				
Japan-----	5.4	10.2	14.4	35.7	53.1
West Germany-----	2.8	3.9	8.7	23.9	41.6
Switzerland-----	12.7	9.6	9.1	27.8	33.2
United Kingdom-----	8.9	5.7	7.7	13.7	20.6
France-----	6.2	10.8	25.3	37.5	23.7
Canada-----	6.9	8.5	14.2	18.4	18.4
Hong Kong-----	16.3	19.9	20.3	63.2	24.4
All other-----	13.3	16.8	23.7	60.0	34.5
Total-----	72.5	85.4	123.4	280.2	249.5
	Value (1,000 dollars)				
Japan-----	3.6	4.8	5.4	10.0	16.3
West Germany-----	3.0	3.6	5.3	10.0	14.4
Switzerland-----	11.0	9.3	7.4	11.7	13.2
United Kingdom-----	8.2	5.0	6.4	8.3	10.2
France-----	7.3	6.5	7.2	11.2	9.6
Canada-----	6.3	5.5	5.9	6.4	5.9
Hong Kong-----	3.9	1.9	2.5	4.4	2.4
All other-----	10.8	9.8	11.0	21.1	16.9
Total-----	54.1	46.4	51.1	83.1	88.9

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 7.--Transistors: U.S. imports for consumption,
by principal sources, 1966-70

Source	1966	1967	1968	1969	1970
	Quantity (1,000 units)				
Mexico-----	991	9,450	80,918	135,699	80,085
Hong Kong-----	154,045	161,122	200,555	277,270	255,160
Ireland-----	59,455	83,127	85,725	124,426	98,973
Singapore-----	-	-	-	33,153	52,179
Japan-----	22,754	13,574	25,052	26,832	17,161
Portugal-----	-	613	1,176	22,421	22,860
Taiwan-----	2,246	9,022	21,346	41,645	20,776
Korean Republic-----	7	2,616	3,539	9,752	31,705
All other-----	22,446	17,133	33,064	30,162	23,444
Total-----	261,944	296,657	451,375	701,360	602,343
	Value (1,000 dollars)				
Mexico-----	295	1,653	11,874	11,753	18,384
Hong Kong-----	11,563	11,394	13,930	19,422	17,257
Ireland-----	7,897	7,640	7,543	9,345	7,298
Singapore-----	-	-	-	4,790	5,334
Japan-----	3,358	2,411	3,824	4,295	3,283
Portugal-----	-	89	184	2,009	2,218
Taiwan-----	169	682	1,791	2,217	1,490
Korean Republic-----	2	256	349	565	1,421
All other-----	5,372	2,624	5,226	4,605	3,134
Total-----	28,656	26,749	44,721	59,001	59,819

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 8.--TV receivers: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1966-70

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

Year	Producers' shipments	Imports	Exports	Apparent consumption <u>1/</u>	Ratio (percent) of imports to consumption
Quantity					
1966-----	11,673	1,524	168	13,029	12
1967-----	9,701	1,614	139	11,176	14
1968-----	10,328	2,711	144	12,895	21
1969-----	8,914	4,034	157	12,791	32
1970-----	<u>2/</u> 7,800	4,513	126	12,200	37
Value					
1966-----	2,350,000	116,000	26,000	2,439,000	5
1967-----	2,192,000	126,000	24,000	2,294,000	6
1968-----	2,222,000	204,000	28,000	2,398,000	8
1969-----	1,859,000	296,000	33,000	2,122,000	14
1970-----	<u>2/</u> 1,500,000	316,000	26,000	1,800,000	18

1/ Calculated from unrounded figures.

2/ Estimated by the staff of the U.S. Tariff Commission.

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

Table 9.--Radio receivers: ^{1/} U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1966-70

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

Year	Producers' shipments	Imports	Exports	Apparent consumption	Ratio (percent) of imports to consumption
Quantity					
1966-----	22,956	25,129	342	47,743	52.6
1967-----	17,527	24,200	437	41,290	58.6
1968-----	17,510	30,161	644	47,027	64.1
1969-----	15,760	36,468	770	51,458	70.9
1970-----	<u>2/</u>	33,383	678	<u>2/</u>	<u>2/</u>
Value					
1966-----	434,149	144,107	8,001	570,255	25.3
1967-----	362,297	172,135	9,410	525,022	32.8
1968-----	394,920	254,798	11,595	638,123	39.9
1969-----	375,479	336,136	15,258	696,357	48.3
1970-----	<u>2/</u>	343,763	13,407	<u>2/</u>	<u>2/</u>

^{1/} Does not include transceivers.

^{2/} Not available.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 10.--Phonographs and radio-phonograph combinations: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1966-70

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

Year	Producers' shipments	Imports	Exports	Apparent consumption	Ratio (percent) of imports to consumption
Quantity					
1966-----	6,388	<u>1</u> / 828	81	<u>2</u> /	<u>2</u> /
1967-----	6,015	<u>1</u> / 1,315	79	<u>2</u> /	<u>2</u> /
1968-----	6,730	5,431	90	12,071	45.0
1969-----	6,969	5,918	98	12,789	46.3
1970-----	<u>2</u> /	6,030	86	<u>2</u> /	<u>2</u> /
Value					
1966-----	531,166	71,223	19,269	583,120	12.2
1967-----	525,363	63,526	19,734	569,155	11.2
1968-----	601,378	72,316	23,825	649,869	11.1
1969-----	555,091	83,631	21,907	616,815	13.6
1970-----	<u>2</u> /	94,721	25,675	<u>2</u> /	<u>2</u> /

1/ Radio-phonograph combinations only.

2/ Not available.

Source: Compiled from official statistics of the U.S. Department of Commerce.

