

UNITED STATES TARIFF COMMISSION

STEREO 8-TRACK TAPE CARTRIDGE PLAYING AND RECORDING
SYSTEMS: FORMER WORKERS OF LEAR JET STEREO, INC.,
SUBSIDIARY OF GATES LEARJET CORP., DETROIT, MICHIGAN

Report to the President on Investigation No. TEA-W-28
Under Section 301(c)(2) of the
Trade Expansion Act of 1962



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UNITED STATES TARIFF COMMISSION

Glenn W. Sutton

Bruce E. Clubb

Will E. Leonard, Jr.

George M. Moore

Kenneth R. Mason, *Secretary*

Address all communications to
United States Tariff Commission
Washington, D. C. 20436

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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.

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REPORT TO THE PRESIDENT

U.S. Tariff Commission
December 11, 1970

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 October 14, 1970, Mary Freeman, Sophie Kowalski, Octavia Griffin, and Kate Cable filed a petition for a determination of eligibility to apply for adjustment assistance on behalf of the former workers of the Detroit, Michigan, plant of Lear Jet Stereo, Inc., a subsidiary of Gates Learjet Corp. The Commission instituted the investigation (TEA-W-28) on October 27, 1970, to determine whether, as a result in major part of concessions granted under trade agreements, articles like or directly competitive with the stereo 8-track tape cartridge playing and recording systems produced by Lear Jet Stereo, Inc., at Detroit, Michigan, 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 Detroit plant.

Public notice of this investigation was given in the Federal Register (35 F.R. 16878) on October 31, 1970. 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 herein was obtained from Mary Freeman, Sophie Kowalski, and Octavia Griffin; from Local Union No. 243 of the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America; from Lear Jet Stereo, Inc.; from other domestic producers and importers of tape players and tape recorders; and from the Commission's files.

FINDING OF THE COMMISSION

On the basis of its investigation, the Commission unanimously finds that articles like or directly competitive with the stereo 8-track cartridge playing and recording systems produced by Lear Jet Stereo, Inc., of Detroit, Michigan, 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 of the Detroit plant.

CONSIDERATIONS SUPPORTING THE COMMISSION'S FINDINGS

On October 14, 1970, a group of four former employees of the Detroit, Michigan, plant of Lear Jet Stereo, Inc., a subsidiary of Gates Learjet Corporation, filed a petition for adjustment assistance under section 301(a)(2) of the Trade Expansion Act of 1962 on behalf of the former workers at the Detroit plant.

The Detroit plant produced * * * 8-track stereophonic cartridge tape players until September 1969, when Lear Jet Stereo transferred this operation to its "twin" plants in Nogales, Sonora, Mexico, and Tucson, Arizona. Lear Jet Stereo now partly assembles in Mexico, and completes in Arizona, * * * articles formerly produced in Detroit.

In addition, Lear Jet Stereo began in 1967 to import from Japan many additional lines of 8-track stereophonic cartridge tape players and recorders * * *.

The petitioners contend that, as a result of these circumstances, the workers formerly employed in the production of these articles at the Detroit plant are eligible to apply for adjustment assistance.

The Tariff Commission has frequently stated that the Trade Expansion Act of 1962 establishes four criteria to be met in order for an affirmative determination to be made. Those criteria are as follows

- (1) The imports in question must be increasing;
- (2) The increased imports must be a result in major part of concessions granted under trade agreements;

- (3) The workers producing the like or directly competitive article must be unemployed or underemployed, or threatened with unemployment or underemployment; and
- (4) The increased imports resulting from trade-agreement concessions must be the major factor in causing or threatening to cause the unemployment or underemployment.

If any one of the above criteria is not satisfied in a given case, the Commission must make a negative determination. In the Commission's judgment, the fourth criterion has not been met in the case at hand. The Commission, therefore, has made a negative determination.

As just indicated, the fourth criterion is that increased imports (resulting in major part from trade-agreement concessions) must be the major factor causing or threatening to cause unemployment or underemployment among the workers in the Detroit plant of Lear Jet Stereo, Inc. The Commission has concluded, for the reasons set forth below, that the increased imports have not been the major factor causing the Detroit plant to curtail its employment.

First, there is such a wide disparity in costs between the imported 8-track stereophonic cartridge tape players and those produced at the Detroit Lear Jet Stereo plant that the imposition of 1930 rates of duty would not have substantially affected the ability of this plant to compete with imports. * * *

It is apparent, therefore, that even without the impetus imports received from trade-agreement concessions, Lear Jet Stereo's Detroit product would not have been able to compete with the imported article.

Second, the other problems of the Detroit plant were many and serious, and competition with imports was not the major one. Lear Jet Stereo located its headquarters and plant in Detroit in anticipation of selling its automotive tape players to the motor-vehicle manufacturers * * *. * * *, the Detroit location became more of a liability than an asset.

* * * None of the other domestic producers of these articles * * * were located in Detroit. Lear Jet Stereo was forced to pay higher wages than other firms manufacturing similar products--salaries and wages approaching those paid by the automotive firms. Materials for the production of Lear Jet Stereo's products were difficult to obtain in Detroit; material suppliers generally filled the orders for their best customers--e.g., the motor-vehicle manufacturers and their sub-contractors--before filling orders for their smaller customers, regardless of whose orders were received first. * * *, lack of an available pool of technical workers, and costs associated with the plant's location in an area having a high incidence of crime resulted in * * * losses for Lear Jet Stereo's operations, * * *.

As a result of these factors, the Detroit plant was unable to compete successfully even with its domestic rivals. U.S. shipments of domestically produced 8-track stereophonic cartridge tape players by other U.S. manufacturers increased annually from * * * 1965 to * * * 1969, although they were smaller in the first 9 months of 1970 than in the corresponding period of 1969. * * *

Since the criteria established by the Trade Expansion Act of 1962 have not fully been satisfied, the Commission must determine in the negative.

INFORMATION OBTAINED IN THE INVESTIGATION

Description of Articles Under Investigation

Stereophonic cartridge-type tape players and recorders are one of three principal types of tape devices commonly used to reproduce sound for entertainment purposes. The three principal types, which differ chiefly in terms of their mechanical configuration, are (1) reel-to-reel, (2) cartridge, and (3) cassette. The reel-to-reel type consists of two separate reels which are independently mounted; the tape must be manually threaded from the "supply" reel past the playback head and inserted into the "take-up" reel. Both cartridges and cassettes are merely snapped into place in a slot or carriage in the playback device, and are easily removed afterwards. A cartridge and a cassette each consist of a single container mounted as a unit. The cartridge has two reels (or hubs) mounted one on top of the other on the same shaft; the cartridge tape is continuous. The cassette consists of a miniature reel-to-reel system encased in a small cartridge-type container; the ends of the tape, which is not continuous, are fastened to the "supply" and "take-up" reels so that, when a reel runs out, both of the reels stop automatically. In both the cassette and cartridge, there is an opening into the cartridge or cassette at the point closest to the playback head of the player or recorder. The tape is pulled past this point by the reel(s) in order to reproduce sound.

Sound is stored on the magnetizable tapes on so-called tracks--narrow areas, the length of the tape, affected by magnetic fields

produced by the recorder. Various tapes can store one, two, four, or eight tracks--depending on the width of the tape and the capability of the recording or playback device. Stereophonic sound is created by using two tracks simultaneously. The sound is transmitted simultaneously from each track to separate speakers. Recording a stereophonic program requires the use of two or more separate microphones. An 8-track stereophonic cartridge contains four different programs with two tracks of sound used for each program.

Whereas tape recorders are machines which are used both to record and reproduce sound, tape players do not record, but only reproduce sound. Reel-to-reel and cassette units are usually recorders. Until recently, cartridge devices were usually only players. Currently, however, many cartridge machines are also recorders. Cartridge systems, originally developed for the automotive market, continue to dominate that market although cassettes have recently begun to penetrate it. The speed of the tape past the recording head is often said to indicate the quality of sound recording or reproduction--the faster the movement of the tape, the better the sound. Reel-to-reel tape speeds are most frequently 3-3/4 or 7-1/2 inches per second, cartridge tape speeds are usually 3-3/4 inches per second, and cassette tape speeds are usually 1-7/8 inches per second. Tape players or recorders may or may not be included in a single unit with other devices such as radios, phonographs, televisions, and clocks.

Lear Jet developed the 8-track stereophonic tape cartridge system primarily for the automotive market. Essentially the system is an

adaptation of the 4-track cartridge tape system originally developed for radio broadcasting use. Lear Jet redesigned the system to 8-tracks, providing for more than an hours' playing time per cartridge as compared to 30 minutes' playing time for the earlier systems; it also incorporated the automatic switch-on and automatic track switching necessary in automotive applications. Lear Jet is the holder of all U.S. patents on the 8-track cartridge system, whether for home, automotive or portable use. In order to create a market for these articles, prior to their production in 1964, the firm obtained a commitment from RCA Corporation that its entire collection of music would be recorded onto 8-track cartridges for sale to the public. Many other companies, including all of the "major recording companies" have recorded their offerings on cartridge, cassette, and reel-to-reel tapes. Cassette systems were developed subsequent to the 8-track stereo cartridge systems.

* * * * *

U.S. Tariff Treatment

Prior to the effective date of the Tariff Schedules of the United States (TSUS), August 31, 1963, imports of tape players were classified under Paragraph 353 of the Tariff Act of 1930. Under the TSUS, imports of tape players were classified under item 685.32 until May 29, 1967, when the classification was changed to TSUS item 678.50. Tape recorders have a complex rate history which can be traced to Paragraphs 1542, 353, and 372 of the Tariff Act of 1930. Currently they are dutiable under TSUS item 685.40. Phonographs were classified under Paragraphs 353 and 1542 of the Tariff Act of 1930; under the TSUS they are dutiable under item 685.32.

The rates of duty applicable to tape players, tape recorders, phonographs, and radio-phonographs, are as follows:

Rates of Duty Applicable on:	Tape Players	Tape Recorders	Phonographs	Radio- Phono- graphs
Dec. 31, 1930--:	35% ad val.	27-1/2-35% ad val.	30% ad val.	30-35% ad val.
July 1, 1948---:	15% ad val.	15% ad val.	15% ad val.	15% ad val.
Sept. 1, 1963--:	10% ad val.	11.5% ad val.	11.5% ad val.	13.75% ad val.
Dec. 31, 1967--:	10% ad val.	11.5% ad val.	11.5% ad val.	13.75% ad val.
Jan. 1, 1968---:	9% ad val.	10% ad val.	10% ad val.	12% ad val.
Jan. 1, 1969---:	8% ad val.	9% ad val.	9% ad val.	11% ad val.
Jan. 1, 1970---:	7% ad val.	8% ad val.	8% ad val.	9.5% ad val.
Jan. 1, 1971---:	6% ad val.	6.5% ad val.	6.5% ad val.	8% ad val.
Jan. 1, 1972---:	5% ad val.	5.5% ad val.	5.5% ad val.	6.5% ad val.

The rates of duty applicable to all of the articles considered in the above tabulation have been subject to trade-agreement concessions under the General Agreement on Tariffs and Trade (GATT) since 1948, and all were subject to 50 percent (or greater) reductions in duty pursuant to U.S. concessions granted in the Kennedy Round of trade-agreement concessions under the GATT.

* * * Under the provisions of TSUS item 807.00, which is not subject to a trade-agreement concession, articles assembled abroad in whole or in part of U.S. fabricated components are dutiable only on the value added abroad, the value of the U.S. components being duty free.

Tape players entered under 807.00 are only partly assembled; as such, they are classifiable for duty purposes as tape players. If, however, the player is combined with other items, such as clocks, radios, or record changers, the individual components, e.g., clocks, radios, or record changers, are each dutiable at the rates provided for such components. On the other hand, if the combination units are imported completely assembled, they are dutiable at the rates of duty provided for tape players.

Imports of automotive tape players and recorders, if Canadian articles and original motor-vehicle equipment, have entered the United States free of duty since January 18, 1965, the effective date of the Automotive Products Trade Act of 1965 (APTA).

U.S. Producers

As noted earlier, Lear Jet Stereo was the first firm to produce 8-track stereophonic cartridge tape players in the United States and holds all patents on 8-track cartridge systems. * * * Two firms * * * in addition to Lear Jet Stereo began production of 8-track cartridge systems in 1965. * * * [Two other major producers] began production in 1966, and * * * [one more], in 1969. A number of smaller manufacturers also produced these systems in the United States during 1965-70. There were three major U.S. producers of 8-track stereophonic cartridge tape players in 1965, five in 1966 and 1967, four in 1968, five in 1969, and four in 1970. Most U.S. producers have also been importers of these systems in recent years.

* * * * *

U.S. Consumption

8-Track stereophonic cartridge tape players

Apparent annual consumption of 8-track stereophonic cartridge tape players in the United States increased from * * * [269,000] units valued at * * * [\$14.8] million in * * * [1966] to 4.2 million units valued at \$138 million in 1969 (table 1). * * *

Tape players

Apparent annual consumption of all tape players, including 8-track cartridge systems, in the United States increased from * * * [269,000] units valued at * * * [\$14.8] million in * * * [1966] to

5.8 million units valued at \$154 million in 1969 (table 2). * * *

In 1965-66, 8-track stereophonic tape cartridge players accounted for virtually all of U.S. consumption of tape players; they accounted for more than 70 percent of consumption in 1969, * * *.

Tape players and tape recorders

Apparent annual U.S. consumption of all tape players and recorders increased from * * * [4.5] million units valued at * * * [\$145] million in * * * [1966] to 12.7 million units valued at \$352 million in 1969 (table 3). Apparent consumption increased from * * * January-September 1969 to * * * the same period of 1970. Consumption of tape recorders has increased at a much slower pace than consumption of tape players during 1965-70. Tape players accounted for less than 4 percent of consumption of the combined total of tape players and recorders in 1965; nearly half of all units consumed in 1969 were tape players.

Tape players, tape recorders, phonographs, and record changers

Apparent annual U.S. consumption of tape players, tape recorders, phonographs, and record changers increased from * * * [13.5] million units valued at * * * [\$404] million in * * * [1966] to 22 million units valued at \$600 million in 1969 (table 4). Consumption of phonographs and record changers, which accounted for two-thirds of the total in 1965, accounted for only two-fifths of the total in 1969, owing to the more rapid rate of increase in consumption of tape recorders and players (table 5).

U.S. Producers' Shipments

Tape players

U.S. producers' shipments of all tape players increased from * * * [269,000] units valued at * * * [\$14.8] million in * * * [1966] to 583,000 units valued at \$31 million in 1969; they declined * * * from January-September 1969 to * * * the same months of 1970 (tables 1 and 2). * * *

Tape players and tape recorders

U.S. producers' shipments of tape players and recorders combined increased from * * * [1.1 million] units valued at * * * [\$80] million in * * * [1966] to 1.3 million units valued at \$87 million in 1969 (table 3). Such shipments declined * * * [between] the first 9 months of 1969 * * * [and] the first 9 months of 1970. Less than 20 percent of the total quantity of shipments in 1965 consisted of 8-track stereophonic cartridge tape players; such players accounted for more than two-thirds of total shipments during January-September 1970.

Tape players, tape recorders, phonographs, and record changers

U.S. producers' shipments of tape players, tape recorders, phonographs, and record changers combined increased from * * * [6.1] million units valued at * * * [\$302] million in * * * [1966] to 6.3 million units valued at \$305 million in 1969 (table 4). Tape players and recorders accounted for 16 percent of the total in 1965, and for 20 percent of the total in 1969.

U.S. Exports

Exports of tape players and recorders during 1965-70 were nil or negligible. The only exports of such items were of tape recorders or playback devices which are thought to be associated with sophisticated computer and data processing apparatus, rather than of types associated with entertainment. Exports of phonographs amounted to 60,000-70,000 units annually over the 1965-70 period and accounted for less than 5 percent of producers' shipments of such articles during those years.

U.S. Imports

8-Track stereophonic cartridge tape players

U.S. imports for consumption of 8-track stereophonic cartridge tape players were nil or negligible prior to 1967; they increased from 341,000 units valued at \$6.6 million in 1967 to 3.6 million units valued at \$107 million in 1969 (table 1). Imports increased from 2.2 million units valued at \$69 million in January-September 1969, to 4.1 million units valued at \$113 million during the comparable period of 1970. It is not unreasonable to expect, therefore, that in 1970, the quantity of imports will be nearly twice that of 1969. The ratio of the quantity of imports to that of consumption increased from nil in 1965 to 86 percent in 1969, * * *.

Tape players

U.S. imports of all tape players increased from 432,000 units valued at \$7.1 million in 1967, to 5.2 million units valued at \$123 million in 1969 (table 2). Imports increased from 3.4 million units

valued at \$81 million during the first 9 months of 1969 to 4.6 million units valued at \$121 million during the comparable period of 1970. The ratio of the quantity of imports to that of consumption increased from nil in 1965 to 90 percent in 1969 * * *. Imports of 8-track stereophonic tape cartridge players accounted for about 80 percent of the total imports of tape players in 1967 and for about 70 percent in 1969.

Imports of tape players have been predominantly from Japan in recent years. During the first 9 months of 1970 Japan accounted for more than 95 percent of all units imported (table 6). Canada accounted for about 2 percent, and Taiwan, Mexico, Austria, West Germany, the Netherlands, Hong Kong and other countries all accounted for lesser quantities. Nearly all of the imports from Canada were duty free under the Automotive Products Trade Act of 1965.

Tape players and tape recorders

U.S. imports of all tape players and recorders increased from 2.8 million units valued at \$50 million in 1965 to 11.4 million units valued at \$265 million in 1969 (table 3). Imports increased from 7.6 million units valued at \$180 million during January-September 1969 to 9.1 million units valued at \$223 million during the like period of 1970. The ratio of the quantity of imports to that of consumption of all tape players and recorders declined from * * * 1965 to 75 percent in 1966, but then increased steadily to 90 percent in 1969; * * *. Imports of tape recorders accounted for virtually all of these imports

during 1965 and 1966. Tape recorders, however, accounted for only half of all such imports during the first 9 months of 1970.

Tape players, tape recorders, phonographs, and record changers

Imports of tape players, tape recorders, phonographs, and record changers increased from 5.9 million units valued at \$86 million in 1965 to 15.7 million units valued at \$313 million in 1969 (table 4). The ratio of the quantity of imports to that of consumption increased, * * * [from 1966 to 1969], from * * * [55] percent to 71 percent. Phonographs and record changers accounted for 51 percent of the quantity of all imports in 1965; in 1969 phonographs and record changers accounted for 27 percent of the total.

Gates Learjet Corporation

The Corporation

Gates Learjet Corporation, of Wichita, Kansas, a subsidiary of the Gates Rubber Company, of Denver, Colorado, was incorporated in Delaware in 1960 as the Swiss American Aviation Corporation. Subsequently, the name of the corporation was changed to Lear Jet Corporation, and then to Lear Jet Industries, Inc. The Gates Rubber Company purchased controlling interest in Lear Jet in April 1967 and the current name of the corporation, Gates Learjet Corporation, was adopted in December 1969. As of mid-1970, Gates Rubber owned 63 percent of the stock of Gates Learjet; Gates Rubber is currently considering the sale of its holdings in Gates Learjet.

Most of the corporate operations of Gates Learjet are concentrated in the manufacture and marketing of business jet aircraft. In 1969,

the aircraft operations were expanded by the merger of Gates Learjet with the Gates Aviation Corporation, formerly the U.S. and Canadian distributor of Gates Learjet aircraft. In 1968, Gates Learjet acquired AVSCO, Inc., a manufacturer of plastic injection moldings; AVSCO manufactures many of the plastic cartridges used in 8-track stereophonic cartridge tape systems. Another subsidiary is Jet Electronics and Technology, Inc., formerly the Avionics Division. Lear Jet Stereo, Inc., also a subsidiary of Gates Learjet, manufactures and markets 8-track stereophonic tape cartridge systems.

As of December 31, 1969, Gates Learjet employed a total of 2,600 workers; * * *.

Since 1964, when Lear Jet first offered stock to the public, the corporation's overall operations have been characterized by annual losses, * * *.

The [published] consolidated earnings report of the corporation--excluding Gates Rubber Corporation--during fiscal years (ending on April 30) 1965 through 1970 are shown as follows:

<u>Fiscal year</u> <u>(ending April 30)</u>	<u>Net sales</u> <u>(\$1,000)</u>	<u>Net earnings</u> <u>or (loss)</u> <u>(\$1,000)</u>	<u>Earnings or (loss)</u> <u>per share of</u> <u>common stock</u> <u>(dollars)</u>
1965	8,525	(3,416)	(1.71)
1966	54,349	<u>1/</u> 4,243	2.07
1967	31,064	(11,389)	(5.13)
1968	34,583	(4,612)	(2.00)
1969 <u>2/</u>	58,017	2,025	0.75
1970	93,394	(216)	(0.07)

1/ There was actually a net deficit of \$1.3 million as of April 30, 1966, because of a beginning deficit of \$3.4 million and excess production costs on research and development of \$2.1 million which should be charged against net earnings.

2/ The figures shown for the corporation do not include those for the Gates Aviation Corporation which merged with Gates Learjet during 1969. Including data for Gates Aviation in 1969 to provide comparability with data for fiscal 1970, the totals were: net sales of \$80.1 million; net earnings of \$2.4 million; and net earnings per share of \$0.77.

Lear Jet Stereo, Inc.

Background.--Lear Jet Stereo, Inc., the developer and holder of all U.S. patents on the 8-track stereophonic tape system, is the corporation's single venture into the production of consumer electronics products for the general public. Since Lear Jet's stereo system was originally developed for the automotive market, the manufacturing plant and general offices were located in Detroit, Michigan. * * * Detroit was chosen primarily to enable the company to have close contact with the automobile manufacturers and in order to secure large original equipment orders, * * *.

The Detroit plant had * * * square feet of floor space devoted to production, which commenced in 1965. Beginning in 1967, this production was supplemented by imports from Japan. 1/ Production in the Detroit plant ceased in September 1969, although the facility continues to be used by the company for nonproductive purposes. * * *

1/ In January 1968, Lear Jet entered a new joint venture in Japan--establishing Maruwa-Lear Jet, Ltd.--with the Maruwa Electronic and Chemical Company, in order to provide a Japanese base for worldwide sales and to provide control over Lear Jet purchases in Japan. Gates Learjet owns 49 percent of the new firm; Maruwa Electronics owns the remainder.

* * * losses in the Detroit operations of Lear Jet Stereo led the officers of Gates Learjet to press for substantial revisions in the production of 8-track stereophonic cartridge tape players in order to improve the profitability of the entire corporation. Lear Jet Stereo, according to company officers, was handicapped by its Detroit location. It was in competition for workers with automotive companies which paid higher than average salaries, thereby requiring Lear Jet to pay higher than the national average wages for the type of work to be done. It was one of very few electronics firms located in the Detroit area, making the pool of available technical workers (from which to draw) relatively small. Moreover, it was in competition with the automotive companies for basic manufacturing supplies. The plant was in a high crime area, making it difficult to schedule overtime or odd-hour shifts which might require night work; vandalism was an additional expense. According to a company official, these conditions did not permit the company to compete effectively with lower-priced imported products, thereby contributing to the losses mentioned earlier.

In view of the above conditions the company decided, * * * to close down the Detroit manufacturing operations * * * and to establish "twin plants" along the U.S.-Mexican border. These plants would reduce the costs of production sufficiently to allow the firm to compete with the Japanese, according to company spokesmen.

* * * the sites for the border plants--Nogales, in Sonora, Mexico,

and Tucson, Arizona--were chosen. In May 1969, the Nogales plant,
* * * was occupied. Temporary quarters in Tucson were occupied from
May 1969, until the Tucson plant, * * * was constructed. The plant
was occupied in December 1969. * * * The general offices of Lear Jet
Stereo were moved to Tucson at the same time. The Detroit plant cur-
rently serves as a warehouse and as a regional distribution center.
It is also a national service and parts center for the firm's
products. * * *

* * * * *

APPENDIX A

Table 1.--8-track stereophonic cartridge tape players: U.S. producers' shipments, imports for consumption, and apparent consumption, 1965-69, and January-September 1969 and 1970

Year	U.S. producers' shipments <u>1/</u>	U.S. imports <u>2/</u>	Apparent consumption	Ratio (percent) of imports to consumption
Quantity (1,000 units)				
1965-----	* * *	-	* * *	-
1966-----	269	-	269	-
1967-----	461	341	802	42.5
1968-----	577	1,825	2,402	76.0
1969-----	583	3,624	4,207	86.1
Jan.-Sept.:				
1969-----	430	2,207	2,637	83.7
1970-----	* * *	4,148	* * *	* * *
Value (1,000 dollars)				
1965-----	* * *	-	* * *	-
1966-----	14,754	-	14,754	-
1967-----	24,931	6,575	31,506	20.9
1968-----	* * *	50,548	* * *	* * *
1969-----	31,277	106,621	137,898	77.3
Jan.-Sept.:				
1969-----	22,114	68,532	90,646	75.6
1970-----	* * *	112,918	* * *	* * *

1/ Obtained from the U.S. producers of 8-track stereophonic cartridge tape players.

2/ Estimated from data obtained from the U.S. importers of 8-track stereophonic cartridge tape players and official statistics of the U.S. Department of Commerce.

Note.--Exports are believed to be nil or negligible. Average unit values are not provided in this table. The differing product mix, from year to year, of units which incorporate other media, such as radios and phonographs, makes such values meaningless.

Table 2.--All tape players: U.S. producers' shipments, imports for consumption, and apparent consumption, 1965-69, and January-September 1969 and 1970

Year	U.S. producers' shipments <u>1/</u>	U.S. imports <u>2/</u>	Apparent consumption	Ratio (percent) of imports to consumption
Quantity (1,000 units)				
1965-----	* * *	-	* * *	-
1966-----	269	-	269	-
1967-----	461	<u>3/</u> 432	893	48.4
1968-----	577	<u>3/</u> 2,535	3,112	81.5
1969-----	583	<u>3/</u> 5,177	5,760	89.9
Jan.-Sept.:				
1969-----	430	<u>3/</u> 3,448	3,878	88.9
1970-----	* * *	<u>3/</u> 4,558	* * *	* * *
Value (1,000 dollars)				
1965-----	* * *	-	* * *	-
1966-----	14,754	-	14,754	-
1967-----	24,931	7,147	32,078	22.3
1968-----	* * *	56,165	* * *	* * *
1969-----	31,277	122,553	153,830	79.7
Jan.-Sept.:				
1969-----	22,114	80,626	102,740	78.5
1970-----	* * *	121,417	* * *	* * *

1/ Obtained from the U.S. producers of tape players.

2/ Obtained from official statistics of the U.S. Department of Commerce.

3/ Partly estimated by the staff of the U.S. Tariff Commission.

Note.--Exports are believed to be nil or negligible. Average unit values are not provided in this table. The differing product mix, from year to year, of units which incorporate other media, such as radios and phonographs, makes such values meaningless.

Table 3.--All tape players and recorders: U.S. producers' shipments, imports for consumption, and apparent consumption, 1965-69 and January-September 1969 and 1970

Year	U.S. producers' shipments <u>1/</u>	U.S. imports <u>2/</u>	Apparent consumption	Ratio (percent) of imports to consumption
Quantity (1,000 units)				
1965-----	* * *	<u>3/</u> 2,847	* * *	* * *
1966-----	1,137	<u>3/</u> 3,405	4,542	75.0
1967-----	1,243	<u>3/</u> 4,767	6,010	79.3
1968-----	1,236	<u>3/</u> 7,449	8,685	85.8
1969-----	1,258	<u>3/</u> 11,431	12,689	90.1
Jan.-Sept.:				
1969-----	<u>3/</u> 949	<u>3/</u> 7,603	8,552	88.9
1970-----	* * *	<u>3/</u> 9,139	* * *	* * *
Value (1,000 dollars)				
1965-----	* * *	49,689	* * *	* * *
1966-----	80,375	<u>3/</u> 65,077	145,452	44.7
1967-----	81,650	<u>3/</u> 97,192	178,842	54.3
1968-----	* * *	166,426	* * *	* * *
1969-----	87,000	265,297	352,297	75.3
Jan.-Sept.:				
1969-----	<u>3/</u> 64,672	179,547	244,219	73.5
1970-----	* * *	222,734	* * *	* * *

1/ Obtained from statistics compiled by the Electronic Industries Association and from data provided by the U.S. producers of tape players.

2/ Compiled from official statistics of the U.S. Department of Commerce, except as noted.

3/ Partly estimated by the staff of the U.S. Tariff Commission.

Note.--Exports are believed to be nil or negligible. Average unit values are not provided in this table. The differing product mix, from year to year, of units which incorporate other media, such as radios and phonographs, makes such values meaningless.

Table 4.--All tape players, tape recorders, and phonographs: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1965-69

Year	U.S. producers' shipments <u>1/</u>	U.S. imports <u>2/</u>	U.S. exports <u>2/</u>	Apparent consumption	Ratio (percent) of imports to consumption
Quantity (1,000 units)					
1965-----	* * *	<u>3/</u> 5,868	69	* * *	* * *
1966-----	6,105	<u>3/</u> 7,494	64	13,535	55.4
1967-----	5,721	<u>3/</u> 7,598	61	13,258	57.3
1968-----	5,984	<u>3/</u> 11,269	71	17,182	65.6
1969-----	6,341	<u>3/</u> 15,691	70	21,962	71.4
Value (1,000 dollars)					
1965-----	* * *	85,768	18,922	* * *	* * *
1966-----	301,786	<u>3/</u> 119,529	16,981	404,334	29.6
1967-----	284,124	<u>3/</u> 134,987	17,128	401,983	33.6
1968-----	* * *	209,030	20,817	* * *	* * *
1969-----	305,249	312,615	18,088	599,776	52.1

1/ Obtained from statistics compiled by the Electronic Industries Association, from data provided by the U.S. producers of tape players, and from official statistics of the U.S. Department of Commerce.

2/ Compiled from official statistics of the U.S. Department of Commerce, except as noted.

3/ Partly estimated by the staff of the U.S. Tariff Commission.

Note.--Average unit values are not provided in this table. The differing product mix, from year to year, of the types of products included herein, makes such values meaningless.

Table 5.--All tape players, tape recorders, and phonographs, apparent U.S. consumption, by type, 1965-69, and January-September 1969 and 1970

Period	Tape players		Tape recorders	Phonographs	Total
	8-track stereo cartridge	Other			
Quantity (1,000 units)					
1965-----	* * *	-	3,500	7,245	* * *
1966-----	269	-	4,273	8,993	13,535
1967-----	802	91	5,117	7,248	13,258
1968-----	2,402	710	5,573	8,497	17,182
1969-----	4,207	1,553	6,929	9,273	21,962
Jan.-Sept.: 1969-----	2,637	1,241	4,674	<u>1/</u>	<u>1/</u>
1970-----	* * *	* * *	4,689	<u>1/</u>	<u>1/</u>
Value (1,000 dollars)					
1965-----	* * *	-	130,335	225,314	* * *
1966-----	14,754	-	130,698	258,882	404,334
1967-----	31,506	572	146,764	223,141	401,983
1968-----	* * *	* * *	159,813	244,483	* * *
1969-----	137,898	15,932	198,467	247,479	599,776
Jan.-Sept.: 1969-----	90,646	12,094	141,479	<u>1/</u>	<u>1/</u>
1970-----	* * *	* * *	110,254	<u>1/</u>	<u>1/</u>

1/ Not available.

Source: Tables 1 through 4 of this report.

Note.--Average unit values are not provided in this table. The differing product mix, from year to year, of units which are combined with other media and those which are not, makes such values meaningless.

Table 6.--All tape players: U.S. imports for consumption, by principal country of origin, 1968, 1969, and January-September 1970

Country	1968	1969	January-September 1970
Quantity (1,000 units)			
Japan-----	2,313	4,788	4,391
Canada-----	57	151	94
Taiwan-----	1/	1/	35
Mexico-----	-	1/	14
Austria-----	63	147	9
West Germany-----	4	7	6
Netherlands-----	53	41	6
Hong Kong-----	36	27	3
All other-----	9	16	1/
Total-----	2,535	5,177	4,558
Value (1,000 dollars)			
Japan-----	52,826	115,753	117,424
Canada-----	1,343	3,610	2,181
Taiwan-----	1	5	750
Mexico-----	-	7	399
Austria-----	696	1,847	272
West Germany-----	130	239	173
Netherlands-----	530	451	81
Hong Kong-----	264	214	99
All other-----	375	427	38
Total-----	56,165	122,553	121,417

1/ Less than 500 units.

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

Note.--Average unit values are not provided in this table. The differing product mix, from year to year, of units which are combined with other media and those which are not, makes such values meaningless.