TUBES RCA MADE IN CHILE

The "Victor Talking Machine Company of Chile" was established in 1927. Its location was at the intersection of Chacabuco and Rosas streets in Santiago County. It began making phonograph records and Victrolas under licence from the Victor Talking Machine Company of Camden, New Jersey, USA.

Fig. 1. Personalized tube. Note the "Made in Chile" stamping.

When the Victor Company was acquired by the Radio Corporation of America in 1929, the company in Chile changed its name to "RCA Victor Chileña Inc." It moved in 1932 to No. 1680 Vicuña Mackenna St., Santiago town. Later the name became "RCA Victor Chileña S. A.," continuing at the same address. In 1938 a new move took it to No. 3333 on the same street. All of the stock in "RCA Victor Chileña S. A." was held by the U. S. RCA.

In 1939, under the growth plan of the Chilean president Pedro Aguirre Cerda, the company changed its name to "Corporación de Radio de Chile" (CRC), with 66% of the stock owned by the U. S. RCA and the remainder held by the "Corporación de Fomento de Chile" (CORFO, or Chilean Promotion Corporation).

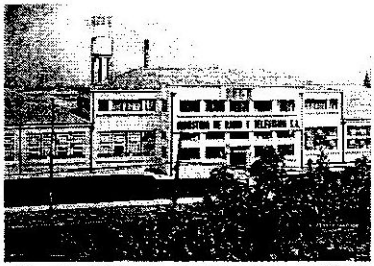

Fig. 2. IRT plant in Santiago, 1975

Production of radio receivers and turntables also began in 1939. The electron-tube division inside the company was inaugurated in October, 1956, with production beginning at the end of the year.

Figs. 3A and 3B. Chilean tubes with familiar RCA graphics. The lower one is a late-vintage 80 in a T9 bulb.

A technical chief of the electron-tube division was an engineer, Mr. Armando Vallarino. At that time he was 36 years old, and today he tells us that when tube

production began, the works manager gave him and each supervisor of the tube division a tube with the name of each chief painted on the plate. See the "cage" of the tube in Figure 1. Armando Vallarino left the "Corporación de Radio de Chile" as a senior manager in September, 1964.

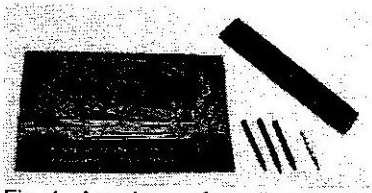

Fig. 4. A package of needles, "made with actual cactus spines, selected and specially treated." The bar-shaped object appears to be a bit of sandpaper for resharpening them.

The "good old days" of the "Corporación de Radio de Chile" were between 1950 and 1960, when the manufacture of TV sets began under the trade mark RCA, but manufactured by "Industrias Nacionales Leopoldo Sanz." Those receivers were made with electron tubes that RCA made in Chile but with cathode-ray tubes produced by Philips, also in Chile. Later the "Corporación de Radio de Chile" made its own black-and-white picture tubes.

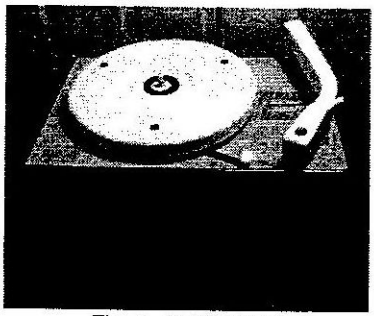

Fig. 5. V-10 phono

In 1970 the "Corporación de Radio de Chile" was renamed "RCA S. A." In 1971 the Chilean government intervened, partially separating the company from the U. S. RCA, and naming it "Industrias de Radio y Televisión" (IRT), with a subsidiary in Arica County named "ILESCO," in which were made radio receivers, turntables and TV sets. These used electron tubes made in Chile, under licence from RCA USA, but trademarked "IRT."

Fig. 6. RCA Victor 526X

In the "IRT" factory in Santiago town there were some 800 workers and at the "ILESCO" factory about 200 more, the majority being women. In this latter factory was made the famous 12" black-and-white TV set named "Antú," assembled totally in Chile. Also in this factory were made vinyl records (singles and long-play), until 1980, when the recording division closed down. However, after the shutdown of this division, vinyl records were again made in Chile by the company "RCA Records," running from 1982 to 1991.

Fig. 7. ILESCO plant

In 1972 the manufacture of electron tubes ceased. Later (1980) "IRT" closed down and was purchased by "Radio Center Ltda." (RCL), an importer of electronic products.

Figure 2 is a photo of the building located at No. 3333 Vicuña Mackenna street in Santiago, as of 1975.

Figures 3A and 3B show some valves RCA made in Chile and their cartons. Figure 4 shows a curiousity: needles for 78-RPM phonographs. Made by RCA in Chile, these were manufactured with cactus spines which were longer than similar needles made in steel, of which one can seen at right in the figure.

Figure 5 depicts the "RCA Victor Victrola Junior V-10," made in the '60s by the "Corporación de Radio de Chile." This simple two-speed turntable lacked a top cover, and used the tubes 50EH5 and 35W4. It was made for 220-V, 50-Hz power.

Figure 6 shows the RCA Victor 526X receiver which was assembled by the "Corporación de Radio de Chile" in the '50s, with a chassis imported from the USA. The bakelite cabinets were molded in Chile. This receiver was a Chilean version of the "Little Master IV" model sold in the USA. It was made for long-wave (550-1600 kHz) only and had a phono connector on the rear panel. It drew 48 watts at 220 V AC-DC. It used the tubes 12SK7, 12SQ7, 12SA7, 50L6GT, and 35Z5GT. *[This puts the notion of "All-American Five," familiar to U. S. readers, in a new light! - Ed.]*

Figure 7 shows the building of "ILESCO," the subsidiary of "IRT," located at No. 23, Panamericana Route, Arica County.

ACKNOWLEDGEMENTS:

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RCA VIEWS TELEFUNKEN 12AX7s

Ludwell Sibley

There's always been a lot of buzz in tube-audio circles around the Telefunken version of the 12AX7 preamp tube. Some of it is sound-and-fury. But there may be some substance in this area. Here's a bit of evidence from RCA.

In 1962, H. W. McCord, a Tube Division engineer, wrote an eight-page "Coded Engineering Letter 653 - #806," titled "Flicker Noise Test."

The report described a test set for measuring the noise generated in a tube at very low frequencies, as opposed to shot noise in the tube or thermal noise in the circuit components.

The motive for the investigation was complaints from "manufacturers of medical and geological recording systems and of radio broadcasting and other high quality audio equipments. Flicker noise is of interest in the Sonobuoy nuvistor, and the military is concerned with [it] in infrared detection equipment."

In the test system, the output of the tube under test went through a three-stage amplifier. It then fed a bandpass filter (center frequency 10 Hz, bandpass six Hz at three dB down) and drove a vacuum-tube voltmeter. The voltage measurements were converted to Equivalent Noise Resistance ("that value of resistor which produces thermal noise voltage equal to the equivalent noise voltage of a tube, referred to its grid"), the lower the better.

The tube under test, and the following amplifier, were powered by 12-volt and 90-volt batteries, and housed in a screened room, to control hum and noise.

The report gives test results for a variety of tubes. Quoting, "Readings on Telefunken and RCA 12AX7s and several RCA Nuvistor types are shown . . . ***As usual, Telefunken is our model*** (*emphasis added*), with Rn values largely below 7500 ohms. All of the RCA 12AX7As were above 100K."

The summary of the report reaffirms "Telefunken 12AX7s are very good for flicker noise, largely below 7500 ohms. RCA 6CW4s are very good also. Other tubes read so far are not impressive."

Here are more results from the report:

		Resistance, kilohms		
Type	Samples	Min.	Median	Max.
TF ECC83/12AX7	20	5	7.5	80
RCA 12AX7A	11	110	230	1200
RCA Nuvistors				
6CW4	6	9.3	10	114
7586	6	28	50	170
7895	6	11.5	20	50
8056	6	30	70	170
A15133	6	80	200	550

Anyway, enjoy those Telefunken 12AX7s in your stereo. They may in fact be superior!