



It looks American, it has a Majestic International tag on it: it was made in England in 1932

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○ Vol-22

○ 2016



Thomas Edison phonograph improvements in the 1800s



NEW MEXICO

RADIO

COLLECTORS CLUB



Restored antique radios sell in New York

Next NMRCC meeting: AUGUST 14th - Theme Foreign Radios

So you just saw a very interesting radio on eBay and it's made somewhere in Europe, maybe Russia and it has a '50s German radio look and it has a long wave band but no FM but the price is right and the shipping is reasonable but you don't know about the duty. The seller knows less about the radio then you do; do you buy it? take the risk route? In most cases the radio is classic and winner; go for it.

Linnet & Laursen Capella 5711 FM-AM Radio by Richard Majestic

History of the manufacturer Linnet & Laursen of Denmark

Also known under the abbreviation LL, this company produced radio and TV sets until the 1965. A series of radios from 1950 was named "Minerva", but there is no relation to the Austrian radio company Minerva. The radio for discussion is the Linnet & Laursen Capella FM/AM 5711 model.

Linnet & Laursen was a Danish radio factory, founded in 1946 by Harald Linnet and Valdemar Hofman Laursen, who both came from B & O . In addition to great radio receivers with good sound, was prepared from 1950 also television . After Poul Henningsen's strong criticism of the appearance of Danish radio

sets in 1956 , the factory began to let architects designing appliance boxes. The factory closed in 1965 , shortly after it had begun to develop a color TV.

The full history of the company Linnet & Laursen hasn't made it to the USA and Google. I had the opportunity to work on the model 5711 "Capella" a 4-band AM receiver covering part of the long wave, the US broadcast across two bands and one SW. it also has the UK FM band 88 to 100MHz.. the radio appears to have been made in 1959 through 1961.



L L Capella 5711

(Continued on page Four)



Thomas A. Edison's Phonographs Improvement in Phonograph or Speaking Machines

The title of Thomas A. Edison's, of Menlo Park, New Jersey December 24, 1877 patent application and it was granted on February 19, 1878. In his patent application he describes his research into why vertical modulation was superior to lateral; lower noise, better fidelity, less distortion, less record wear and louder playback. Also included in his discussion was why the cylinder was needed for the recording; because of the linear velocity of the recorded sounds grooves, discs would cause the frequency response to vary or cause distortion. The patent covered the first phonograph to be built exclusively for the purpose of sound recording and reproduction any time later. This was the tin-foil phonograph built for Edison by his colleague John Kruesi and which first repeated Edison's voice reciting "Mary had a Little Lamb...". There continues, even today attempts

(Continued on page Five)

The NMRCC Meeting Minutes by John Hannahs

NMRCC July 10th meeting

Today's theme was early TV going back as far as 1895. The meeting began with our auction at 1:30pm. John Estock brought 13 boxes of many NOS tubes, mostly from the 40's through the 60's. Many were never used, but the boxes got wet and so they were sold unsorted and untested. I estimated around 2000 tubes were sold.

Commentary was made regarding our venture with the upcoming Duke City Ham Fest, August 12,13, and 14. This will be at the Marriott Pyramid hotel. Apparently we have committed to 3 tables inside the hotel. In the past we displayed antique table radios, manned the tables with club volunteers and talked to anyone who would listen. Last year it was stated we gained 3 new members as a result. (*actually none: ed*) As a group we never made any final decisions and so our participation will be on an individual basis as of this writing.

Don Menning brought in 3 individual representations of what could be loosely classified as "tele-vision". Each was a wooden framework supporting a variable speed disk with a spiral arrangement of rotating LED diodes. Speed was controlled with a rheostat. The 3rd unit had a viewing screen at the bottom. This was what we call a concept version and was an excellent example of Don's craftsmanship. It was a version of the flying spot scanner system, a precursor to modern tv.

David Wilson brought in a sample of what was an example of TV broadcasting of the 50's when color tv was in its infancy. His display was a black and white photograph of John F Kennedy being interviewed by a reporter. The B&W rendering was retouched to remove background individuals and colorize JFK and the reporter. This was then televised to early color TV receivers utilizing the now obsolete RGB traditional monitors. Unfortunately most of the current LED televisions are manufactured in Asia by folks like LG, Sony (*is still Japan:ed*), and Samsung (at Apple we used to snidely call them "Samdung" .. no more). Too bad we invent, they build and market.

Chuck Burch brought in an interesting piece of antique television test equipment called Pic-Pro. Back when tv re-

pairs were made in the home this device eliminated bringing the whole very heavy unit back to the shop. Only the chassis was brought back to the shop. The big cabinet and CRT was left behind, as normally the case was back in the early days. The device was then slipped into the deflection yoke at the shop to capture sync and the CRT connector for video. These signals went to an oscilloscope where the raster and video could be monitored to complete repairs.

Robert Gibson brought a serious collection of TV camera tubes from those big cameras of the 50's, an exception being an iconoscope taken from an air force glide bomb camera. These early tubes were not very sensitive and did lack resolution. They were first used in early tv, but replaced by the image orthicon. Robert brought several samples of these expensive looking tubes, each having a diameter of around an inch and a half at the base and around 15 inches long. They employed an image multiplier. Early units were susceptible to "blooming" when sudden light increases occurred. Along came the vidicon which was much smaller and adapted to color tv. (several were brought in for inspection). Today all of these vacuum tube image tubes have been replaced by CCD devices as used in cellphones, cameras, and other applications. Other samples included a projection tv tube, three normal required for RGB convergence onto a screen. Robert brought some special purpose tubes, one being used by the FAA to indicate radar targets. He brought a one inch CRT that had a standard octal base. One was only about 4 inches high and looked like a steel clad vacuum tube; not sure of its application.

All of the presentations were sterling and we had at least 4 winners.
~ John Hannahs



NMRCC 2016 MEETINGS

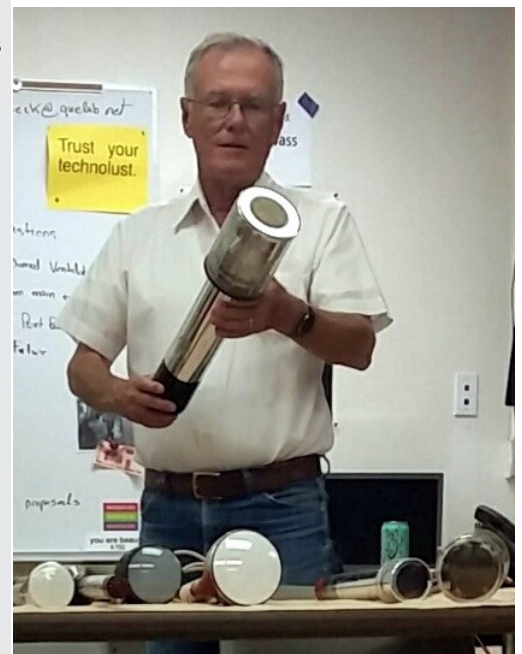
AUG 14th - Foreign Radios

SEP 11th - Field day/radio reception contests

OCT 9th - Fall picnic, ribeye steaks Las Cruces

NOV 13th - Wild Card Sunday" (nifty science gizmos, novel science toys, or non- radio collection, electronics, or science related that you think will dazzle your fellow members

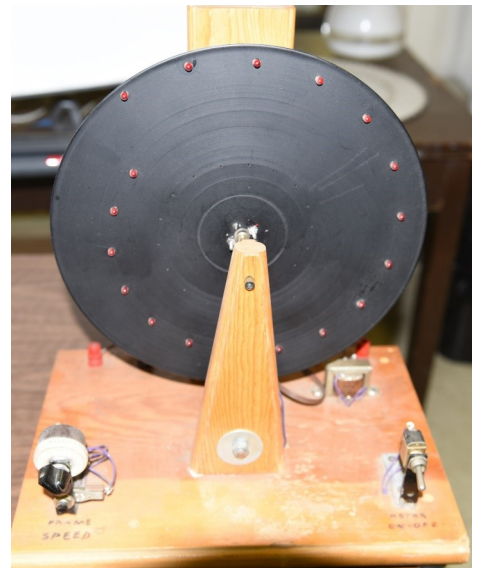
DEC 11th - Holiday party – theme: Little-known radio manufacturer and rare radios



NMRCC Officers for 2016

- Don Menning: President
- John Estock: Vice President
- Chuck Burch/RMajestic: Treasurer
- John Hannahs: Secretary
- Mark Toppo/RMonty: Membership
- David Wilson: Director
- Richard Majestic: Director
- Ray Trujillo: Director
- Richard Majestic: Newsletter Editor (President pro-tem)

NMRCC meeting photos



Don Menning's early mechanical television reproductions. Lots of woodworking skill and electronic engineering to reproduce what was invented in the early 1900s.



Robert Gibson's collection of early television camera tubes. The back to back tube to the right is a scan-converter. To far right a 1" CRT.

It was designed for 110VAC/DC and 220VAC/DC power, using two 110V series string tube heaters. They had no accommodation for DC power supply so the radio works on 150VDC or 300VDC. And as I found it worked very nicely on just 120VAC which produced 150VDC.

The AM circuit used a single RF amplifier stage, a pentagrid local oscillator-mixer, a single 455kHz. IF stage, into a diode envelope detector. The FM circuit used dual triode as RF amplifier and local oscillator/mixer. Here's where it gets clever, the FM RF unit drives the AM RF amplifier which acts as the first FM 10.7MHz. IF amplifier, the AM IF amplifier is also the FM IF amplifier, but inside the 2nd IF transformer they included a germanium diode and integrator capacitor that acts as a limiter driving the primary of the last IF which is coupled to the ratio detector portion. The two stage audio is pentode amplifier that drives a beam tetrode similar to a EL84. They use negative feedback to provide bass and treble boost/cut tone control and reduce distortion. 5711 Capella uses two 8" speakers of different compliance. In the normal setting the two speakers are in phase with the second on couple with a large value capacitor so that it acts as mid-range and tweeter, in the other speaker setting the second speaker's phase is reversed and smaller coupling capacitor is used making the second speaker a tweeter. The out of phase speaker makes the radio sound larger or wider making it sound like stereo. Cleaver and amusing. Three lever switches to left are 3-position and control boost and cut for bass, mid-range and treble. The fourth lever is for selecting the rotatable ferrite AM antenna, which works on all three AM bands, or an external antenna. The fifth lever selects the in-phase two speakers or out of phase effect. The tubes are very common functional types except for the high filament voltages. The Capella also uses an eye tube signal strength indicator with a 17V filament and a NOS replacement is \$66.00.

Performance Summary

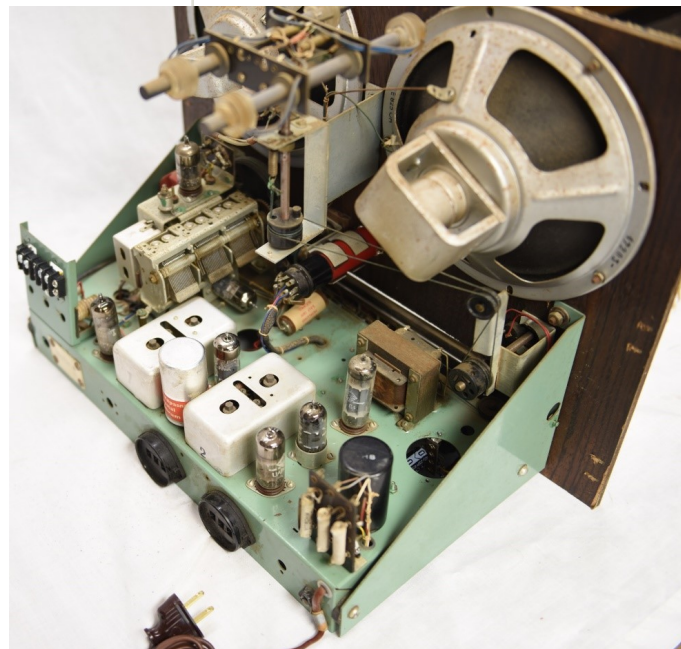
The Capella 5711 performs exceptionally well for so few tubes, the FM tunes like a professional FM tuner, not at all like common German large, tube radios or the common Zenith 7-tube AM and FM radios from the early '60s. AM also performs well and sounds as though it's audio bandwidth is 5kHz. The radio construction is quite remarkable, quality components used, except for the 0.01uF 400V film capacitors, the plastic case broke open on every one if the leads

were moved. The mechanical parts are well-made and the overall construction well done. Although I would have liked to have seen a power transformer used but I guess Tesla won out in a few European areas and 220Volts DC was common.

The cosmetic construction is also interesting; the tuning dial is reverse painted glass but it floats an 1/8" off the front of the radio, it's edge lit with two #47 lamps under the ferrite and main tuning knobs. The lower panel is reverse painted plastic and screwed right to the face. With exception of the Saba Continental 410 model this Capella 5711 with less than half the tubes sounds and performs better than most other German radios from the '50-'60s era.

~R Majestic

Cover picture from Radio Museum



Thomas A. Edison's Phonographs by Richard Majestic

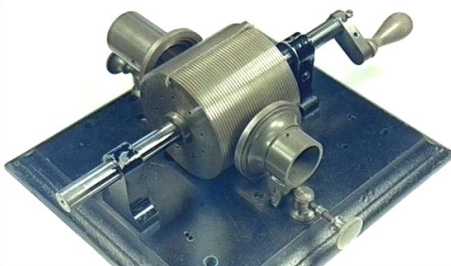
to diminish the importance of Edison's phonograph achievements, even attempts to take away the credit for the first conceptual ideas and drawings, saying Cros was the inventor even though he never built a machine. There was very little resemblance between proposed talking machines from Cros and either of Edison's phonograph concepts.

There were very little similarities between the Cros concepts and the Edison cylinder and disc phonographs built in later years by Edison. It's always appeared that Emile Berliner used Cros' work to discredit Edison, who after several years of fruitless endeavor was forced to abandon the photoengraving idea. Meanwhile the Edison phonograph became an established fact of life. Interestingly, both the vertical and lateral recording methods are described in Edison's granted patent and the validity of the patent was never challenged.

Later when Edison built disc playing machines he optionally sold both his vertical modulation playback heads and lateral playback head. They are very similar in design using higher compliance and much lower tracking force, both with Sapphire styluses, the vertical being 1mil and the lateral 3mil to comply with the available 78RPM discs. Edison's 1913 discs are very thick made up from compressed paper and cellulose with a hard bees wax recorded surface. Edison's discs were recorded at 80RPM and today you use a different electronic equalization playback response over laterally recorded acoustic 78RPM discs, mainly because Edison's recording process used more compliant diaphragm-stylus mechanical systems. Even though Edison had applied for patents on molding cellulose cylinders and discs others received patents and were producing cylinders for Edison machines in 1900. But the first records to be molded in commercial quantities by Edison's National Phonograph Co. were not celluloid but a metallic soap compound somewhat denser and harder than what was used for the original recording, these first records were made in 1901 by Edison. Because of prior patent grants to Lambert and later court battles that Edison lost Edison was not able to produce pressed celluloid cylinder recordings. Forced to continue to use the molded metallic soap compound while Lambert Co, sold their cylinders for use on Edison's machines and disc recording manufacturers continued to improve their recording process, pressing process and record compounds, this continued on through 1901 and 1902.

It wasn't until 1905 that Edison introduced the 4-minute cylinder, longer in length still with the 100 grooves per inch, 160RPM and the wax Amberol cylinders and later the Blue Amberol molded celluloid record surface with plaster of Paris mandrel core. About the same time Edison introduced a new reproducer that used a cork sealed floating diaphragm that further reduced stylus pressure and compliance with the recorded material. Edison's biggest sales year was 1907 with record and accessory sales over \$7 million dollars. Sales dropped to \$2.25 million dollars by 1913 when the Edison disc machine was introduced. One of the best discs in my collection is Valse in A Flat Op 42 written by Chopin and on the 'B' side Theme and Variations -- Sonata IX written by Mozart, performed by Sergei Rachmaninoff himself recorded in 1913. Edison sales peaked at \$20.5 million dollars in 1920, \$2.5 million dollars worth of Blue Amberol cylinders and players that year, mostly to the rural trade.

~ R. Majestic



Replica of the Original first Edison phonograph

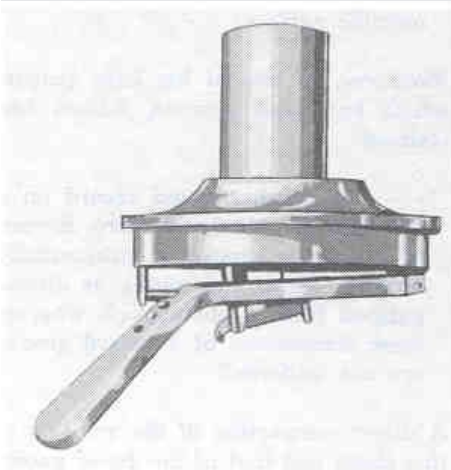
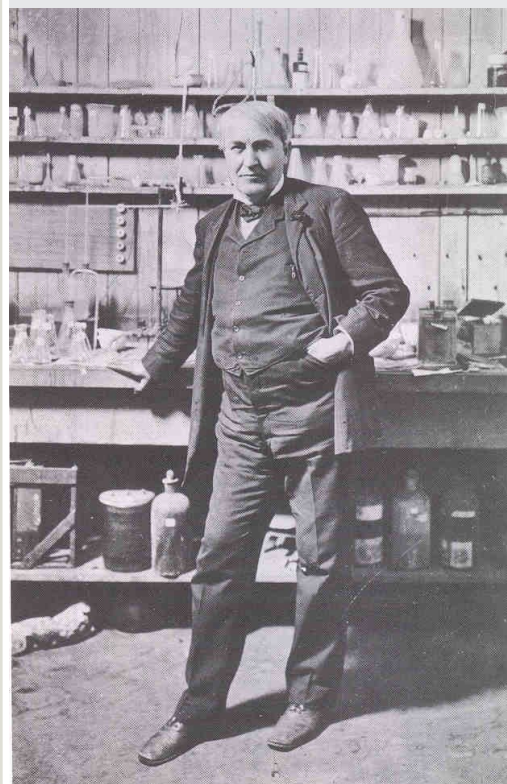


Fig. 14-1. Edison Model H reproducer had sapphire point with a tip radius of .0047 designed to play the new 4-minute records.

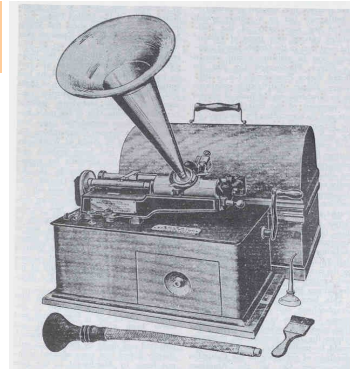


Edison "Standard" phonograph of 1911 with cygnet horn and supporting crane. Reproducer was Type O turnover. Played both two- and four-minute records. (Edison National Historic Site Museum.)



Thomas A. Edison in his chemical laboratory in 1906. This building is now a part of the Edison National Historic Site. (Courtesy of U. S. Park Service.)

Thomas A. Edison's Phonographs



EDISON GOLD MOULDED RECORDS

Any talking machine will reproduce the notes and the noise, but the charm of sound—that beauty and expression for which we prize music—is reproduced only by EDISON GOLD MOULDED RECORDS

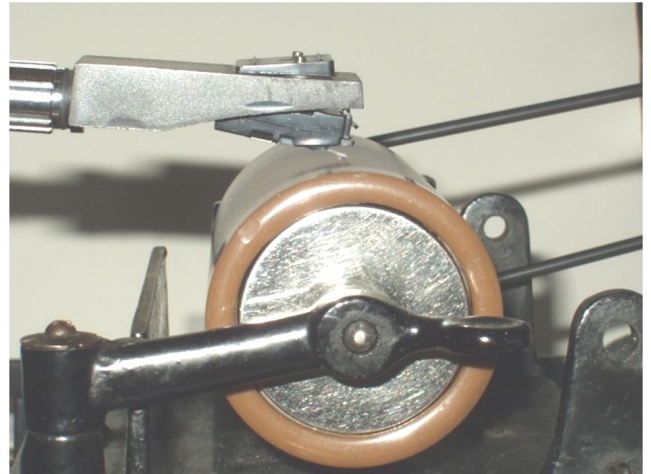
Do not judge the Phonograph by what you have heard—the imitations or the old styles—but go to the nearest dealer and hear the Genuine EDISON PHONOGRAPH with Mr. Edison's latest improvements. DEALERS EVERYWHERE.

SEND FOR CATALOGUE

NAME THIS PUBLICATION

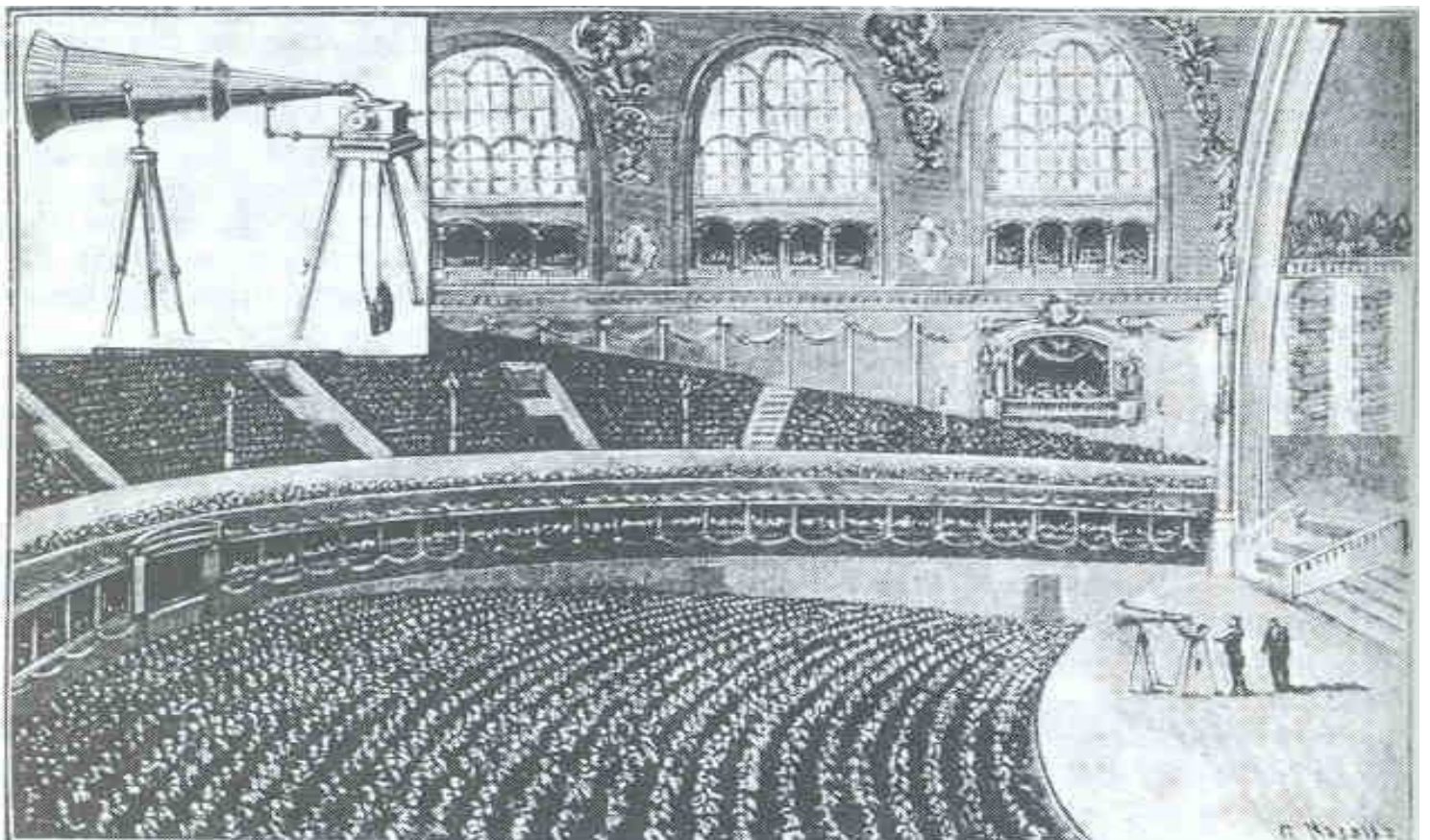
TRADE MARK
Thomas A. Edison
MARK

THE EDISON PHONOGRAPH
NATIONAL PHONOGRAPH COMPANY, ORANGE, N. J.
NEW YORK, CHICAGO, SAN FRANCISCO, LONDON.



A magnetic cartridge wired for vertical modulation and 1-mil stylus in tone arm cartridge mount. Typical tracking weights are 1-2 grams for brown wax, 2-4 grams for black wax.

An AD for Edison Phonographs as it appeared in 1903



The Lioret Phonograph Exhibition in a Large Hall Nov. 1897

The New York Times Store has successfully sold hundreds of antique radios, fully restored at the typical prices you see here.



Silvertone 6425 Restored
Antique Radio - 1940
\$1,700.00



Crosley E15WE Restored
Vintage Radio - 1953
\$625.00



RCA New York World's Fair
40X-56 Restored Antique
Radio - 1939
\$2,900.00



Crosley 11-119U Serenader
Restored Vintage Radio -
1951
\$595.00



Pacific 256 Tombstone
Restored Antique Radio -
1936
\$1,700.00



RARE

Philco 90 Mahogany Baby
Grand Restored Antique
Radio - 1931
\$2,900.00



Detrola 145 Restored Antique
Radio - 1936
\$1,575.00



Zenith 5R317 World's Fair
Special Restored Antique
Radio - 1939
\$3,900.00



RARE

Zaney Gill Music Box
Cathedral Restored Antique
Radio - 1933
\$3,300.00



RARE

Jackson Bell Swan Cathedral
Restored Antique Radio -
1932
\$3,275.00



Crosley 648 Restored Antique
Radio - 1939
\$1,300.00



RARE

Atwater Kent 10 Breadboard
Restored Antique Radio -
1923
\$3,500.00



Packard Bell 100 Restored
Antique Radio - 1939
\$1,200.00



Arvin 8561 Restored Vintage
Radio - 1955
\$795.00



RARE

Truetone D 690 Egyptian
Restored Antique Radio -
1937
\$23,000.00



Zenith R511V Hollywood
Restored Antique Radio -
1956
\$750.00



NEW MEXICO RADIO COLLECTORS CLUB

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FOR INFORMATION CHECK THE INTERNET
<http://www.newmexicoradiocollectorsclub.com/>

The New Mexico Radio Collectors Club is a non-profit organization founded in 1994 in order to enhance the enjoyment of collecting and preservation of radios for all its members.

NMRCC meets the second Sunday of the month at The Quelab at 680 Haines Ave NW, Albuquerque NM Tailgate sale at 1:00PM meetings start at 2:00 pm. Visitors Always Welcomed.

NMRCC NEWSLETTER

THIS PUBLICATION IS THE MONTHLY NEWSLETTER OF THE NEW MEXICO RADIO COLLECTORS CLUB. INPUT FROM ALL MEMBERS ARE SOLICITED AND WELCOME ON 20TH OF THE PRECEDING MONTH. RICHARD MAJESTIC PRO-TEMP NEWSLETTER EDITOR, SEND ALL SUBMISSIONS IN WORD FORMAT, PICTURES IN *.JPG FORMAT TO: RMAJESTIC@MSN.COM

USPS Stamp

