



ANTIQUE RADIO CLASSIFIED

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M-EMERSON- MULTIVALVE



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ANTIQUE RADIO CLASSIFIED

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1/2 V	12 7/16 x 3 9/16	7 3/4 x 2 1/4	7 3/4 x 2 1/4	7 3/4 x 2 1/4	136.00	363.00	629.00*	1095.00**	37.00†
1/4	5 1/4 x 3 9/16	3 5/16 x 2 1/4	3 5/16 x 2 1/4	3 5/16 x 2 1/4	69.00	184.00	319.00	555.00	19.00†
1/8	2 5/8 x 3 9/16	1 5/8 x 2 1/4	1 5/8 x 2 1/4	1 5/8 x 2 1/4	35.50	95.00	165.00	285.00	9.00†
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ANTIQUE RADIO CLASSIFIED



EDITOR'S COMMENTS

The big news of the day in the radio community continues to be the Marconi Archive Auction. As reported last month, concern about the impending dispersal throughout the world of such a significant collection was on the rise. That concern has escalated to the point of pressure from widely diverse sources on GEC-Marconi to cancel the sale. In fact, just as we went to press last month, Christie's notified us that the auction had been put on hold. (By the way, we were able to report this information on the A.R.C. web site.)

To further inform our readers, we asked Jonathan Hill, British writer, radio historian, and organizer of the upcoming National Vintage Communications Fair, to report his view of the ongoing Marconi archive saga from the other side of the "pond." His chronology appears this month. The story is not over, so stay tuned to A.R.C. The latest scuttlebutt is that lesser and duplicate items may still be sold at auction.

GEC-Marconi probably wonders where all this interest in the archive was prior to its announcement of the auction. Apparently, the company has been trying for some time to find a suitable place for the collection and a way to fund its maintenance. But for the longer term, the challenge for the collecting community is to insure support for the continuation of the archive after the Centenary celebration of Marconi's invention this summer.

[Latest on the Marconi Auction: As of press time, our sources in England have indicated that, although Christie's still awaits instructions from GEC-Marconi, the Marconi Archive Auction is unlikely to take place.]

The cover this month introduces our lead article on the very interesting Emerson Multivalve tube and the radio sets that use it. Although the idea of several tubes within a single envelope was commonplace in the heyday of vacuum tube technology, the scarcity of early sets with multielement tubes indicates that Emerson and a few other manufacturers were ahead of their time. I personally have owned both the Emerson and Standardyne sets for several years but have never seen a comprehensive article on them. To solve this problem, I asked A.R.C. staff member Ray Bintliff to research and write an article on the subject for this issue.

The story of collector Les Rayner's search for a rare and early shortwave receiver is reported this month by Robert Grinder, the author of *The Radio Collector's Directory and Price Guide*. Although the Norden-Hauk

Super DX-5 was never manufactured, the advertisements for it prompted Les Rayner to look for one. He finally found a prototype on another collector's shelf, and eventually he purchased it. The results of his careful research on the Super DX-5 are included in Robert's article.

Two auctions are reported this month, one in Vienna, Austria, and the other in Olney, Illinois. Erwin Macho reports on the third Dorotheum Antique Radio Auction in Vienna. A number of U.S. sets, as well as many European sets, were included. (And yes, Erwin does have the nearly 400 crystal sets he mentions in his classified ads; your editor had a very cordial tour of his collection a couple of years ago.)

Ron Ramirez reports on Eric's 7th Antique Radio Auction in Olney, Illinois. Although Catalin sets were the highlight of this event, Ron, author of the definitive book on Philco, must have been pleased to see so many Philco cathedrals and consoles represented.

Radio Miscellanea includes feedback on the Thompson Neutrodyne article in the February 1997 issue, as well as further questions on Trans-Oceanic restoration. *Photo Review* shows an interesting radio figurine, a cathedral radio by Lacrosse, and an ERLA Superflex.

Reviewed this month by A.R.C. staff member Dick Desjarlais are Mark Stein's two volumes of *Machine Age to Jet Age*. These two books amply cover the radios of the '30s, '40s and '50s with over 4,000 photos and descriptions.

Coming Radio Events. As the seasonal club and auction scene picks up, over four dozen events are planned in April across the U. S. and elsewhere. Since it appears that the Marconi Auction will not be held, just shift your trip to England a week or so and hit Jonathan Hill's National Vintage Communications Fair in Birmingham, England, on May 4.

Happy collecting!

John V. Terrey, Editor

ON THE COVER

Our cover this month pictures a Baby Emerson and a Standardyne Multivalve, as well as an Emerson Multivalve tube and its tube box, all from your editor's collection. The photo is by our professional photographer Tim Morse, who also photographed the colorful June 1996 cover. Note that the box design shows three tubes crossed out since the Multivalve tube does the work of three.

WITH THE COLLECTORS

The Emerson Multivalve Tube and its Applications

BY RAY BINTLIFF

A.R.C. staff member, the "multi-talented" Ray Bintliff, recalls the development of the revolutionary Multivalve tube with some excellent examples of single tube Emerson Multivalve radios built in the 1920s. He cites the advantages of the early multi-element tube, which prompted the development in later years of an ever increasing number of elements in a single tube. (Editor)

As vacuum tube technology advanced, the number of tube types that had two or more functional tubes in the same glass envelope became quite common. But surprisingly enough, the use of multiple-element tubes began quite early.

THE BABY EMERSON

The Baby Emerson "loud-speaker set" manufactured by Clapp-Eastham, ca. 1927, is shown in Figures 1 and 2, with an interior view in Figure 3. At first glance this small set looks like a 1-tube radio with a Type 01-A tube protruding from the top of the metal cabinet. But how can a 1-tube set drive a loudspeaker? Easily — the single tube contains three triodes with a common filament. One tube does the work of three.

The name Emerson refers to the Emerson Multivalve tube used in the radio and manufactured by the Emerson Radval Corporation, 25 West 43rd Street, New York City, N. Y., which should not be confused with the Emerson Radio & Phonograph Company.

The circuitry consists of a regenerative detector and two stages of audio frequency (AF) amplification. The front panel reads "Clapp-Eastham Co., Brooklyn, N.Y." rather than the earlier, and perhaps more familiar, Cambridge, Massachusetts, address. The Baby Emerson that I had the opportunity to examine seemed to fall short of the earlier Clapp-Eastham quality with wiring that looked very "homebrewish."

THE EMERSON MULTIVALVE TUBE

Before delving into the mysteries of Multivalve radios, let's consider the Multivalve tube itself. An advertisement from the March 1927 issue of *Radio*

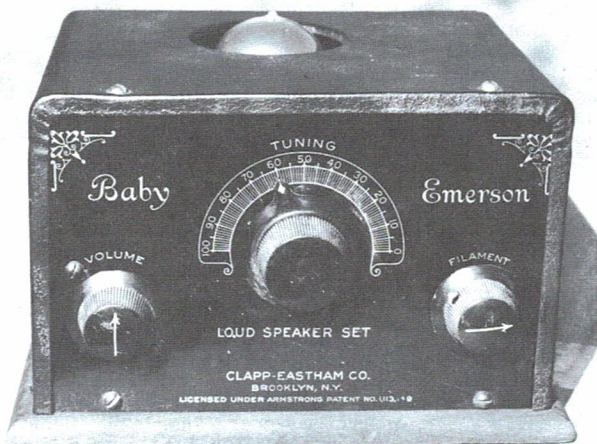


Figure 1. The compact Clapp-Eastham Baby Emerson with its Multivalve tube.

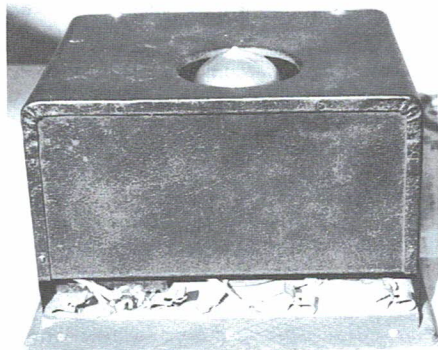


Figure 2. A rear view of the Baby Emerson and its Fahnestock clip battery connections.

News, reproduced here in part as Figure 4, includes an illustration of the tube, along with some 1920s style hype. Despite some of the exaggerated claims, the Multivalve tube was an interesting concept — three tubes in one. The use of a common filament (really three separate filaments in series) plus three grids and three plates resulted in a tube that functions like three tubes.

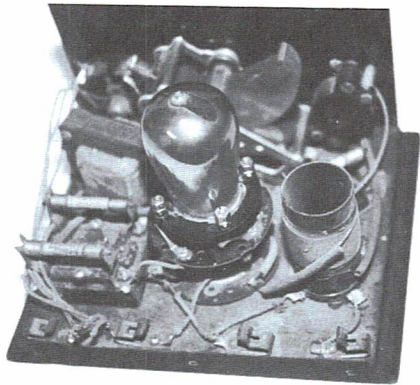
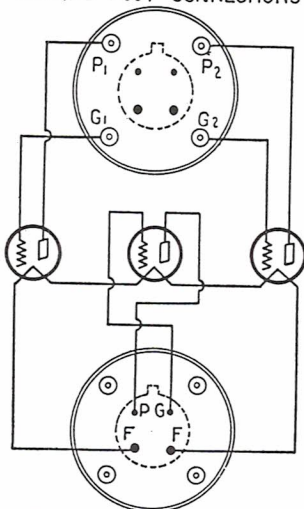


Figure 3. An interior view of the Baby Emerson showing the single Multivalve tube.

The tube's base is a modification of the UX-style, 4-pin base used for the Type 01-A and other similar tubes. A Bakelite ring, containing four binding posts, is mounted at the top of the base. The binding posts are used to make electrical connections to grids 1 and 2 and plates 1 and 2 (G₁, G₂, P₁ & P₂). The 4 pins in the base are configured like a 01-A — two large pins for the filament (F- & F+) and two small pins for the grid and plate connections (G₃ & P₃). A schematic drawing of the base configuration is shown in Figure 5. The Emerson Multivalve has the same filament rating as the Type 01-A — 5.0 volts at 0.250 amperes.

As other writers have noted, the schematic carries the notation "Illustration courtesy of Cleartron Vacuum Tube Co." The address of Cleartron was 28 West 44th Street, New York

BINDING POST CONNECTIONS



BOTTOM PIN CONNECTIONS

Figure 5. A schematic drawing of the base connections for the Multivalve tube.

City, near the back door of Emerson Radval on West 43rd Street. Although both companies marketed the Multivalve tube, it appears that the tube was produced by Cleartron.

In another advertisement (*Radio News*, May 1927), Emerson Radval described the tube as "a seven-element tube with 201A filament, three plates and three grids." This description seems to sum things up quite well.

The Emerson Multivalve was not the only vacuum tube to use the multiple-element concept. The Apco Twin tube was produced by the Apco Manufacturing Co. of Providence, Rhode Island, ca. 1925. Later in this article I will mention some European multiple-element tubes and radios. But for now, let's return to Multivalve radios made in the U. S.

THE STANDARDYNE MULTIVALVE

Another of the early Multivalve sets, the Standardyne Multivalve, was manufactured by the Standard Radio Corporation of Worcester, Massachusetts. A front and rear view of the radio is provided in Figures 6 and 7. Figure 8 shows a top interior view, while Figure 9 prominently shows the two RF coils in a bottom interior view. Various publications date this radio as a 1925 model.

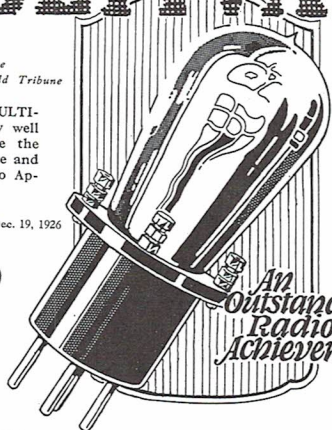
The radio, a reflexed TRF, (Continued on following page)

The New MULTIVALVE

From the New York Herald Tribune

—The New MULTIVALVE may well revolutionize the manufacture and use of Radio Apparatus.

Dec. 19, 1926



An Outstanding Radio Achievement

PRICE \$6.50

ONE MULTIVALVE—Many tube performance

Figure 4. A 1927 advertisement for the Emerson Multivalve tube.

Gives Power, Distance Quality, Clarity of Tone, Maximum Volume, Distant Reception All on the Loud Speaker

(Multivalve Radios, continued)

utilizes 2-dial tuning and a single filament rheostat. The Multivalve tube is employed as an RF amplifier, detector and AF amplifier.

This compact radio measures 12" wide x 8 $\frac{1}{4}$ " high x 9 $\frac{1}{2}$ " deep at the base. The sloping front panel results in a smaller top dimension of 7 $\frac{3}{4}$ " deep. Of course, the use of the Multivalve tube contributes to the radio's small size, but the set's designers went one more step by making it a reflexed TRF.

In a reflex circuit the audio signal is fed back through an RF stage to obtain additional amplification. The use of a reflex circuit was used sometimes in very compact radios because it produced more amplification without the need to add another tube to the radio.

THE HAYNES DX-2 MULTIVALVE

The use of the Multivalve tube was not limited to factory-produced radios. The February 1927 issue of *Radio News* carried a construction article for the Haynes DX-2 Multivalve receiver. The circuit uses a Multivalve tube as an RF amplifier, detector and AF amplifier. Either a Type 112 or 171 was recommended as the audio output tube. The Cleartron Vacuum Tube Company was listed in the parts list as the source for all tubes.

THE LODGE "N" CIRCUIT

The famous Sir Oliver Lodge "N" circuit was also adapted to use the Multivalve tube. A construction article by the Precision Coil Co. was described in the June 1924 issue of the *Old Timer's Bulletin*. This circuit utilized a Multivalve tube as the detector and two stages of AF amplification. A Type 112 tube served as the audio output tube.

OTHER MULTIVALVE RADIOS

The *McGraw-Hill Radio Trade Catalog*, dated February 1927, contains a catalog page for the Emerson Radval Corporation in which Radval listed "examples of modern circuits practically built around the Multivalve." In addition to the radios described above, Radval claimed that the following circuits employed Multivalve tubes: the Haynes and Cockaday Univalve Receiver, Doctor Lovejoy's Multivalve Receiver, Browning-Drake, and Mignon Mastertone Senior Single Control.

Did Browning-Drake ever pro-

duce a radio that used a Multivalve tube? Did the Mignon ever see the light of day? Many questions about Multivalve radios remain unanswered. Perhaps some A.R.C. readers have information that they can share with us.

EUROPEAN MULTIPLE-ELEMENT TUBES AND RADIOS

In addition to Emerson Multivalve and Cleartron, there were companies in Europe that offered multiple-element tubes. In 1925, Cleartron began producing conventional valves in Birmingham, England. However there is no evidence to indicate that Multivalves were ever produced there.

In Germany, Loewe Radio AG specialized in multiple-element tubes and produced small radios that utilized its tubes. Another firm, TKD, produced 2-in-1 and 3-in-1 tubes.



Figure 6. The Standardyne Multivalve radio.

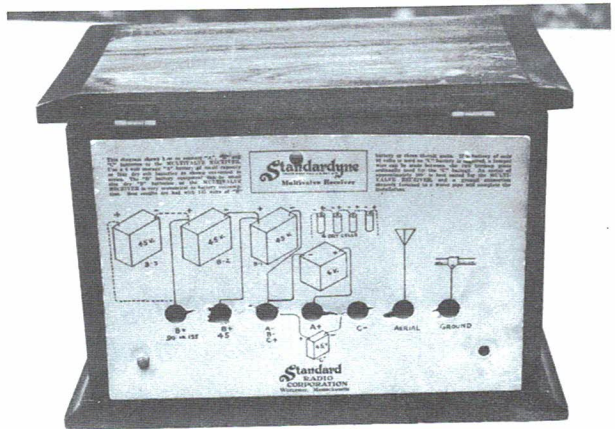


Figure 7. A rear view of the Standardyne Multivalve with its pictorial battery hookup diagram.

In England, Ediswan produced its prototype ES220 tube and "One-Der" receiver. In addition, British Thompson-Houston (B.T.H) marketed radios that used 2-in-1 tubes produced solely for use in its radios.

A more complete description of these companies and their products appear in John Stokes' excellent book *70 Years of Radio Tubes and Valves*.

LIMITED SUCCESS

Radios designed to use a multiple-element tube had a number of advantages. By eliminating two tubes, the cabinet could be made much smaller. Also, the A-battery drain was lower—the Multivalve's filament operated on one-third of the current required for three Type 01-A tubes. The lower current requirement meant that the radio could be operated from dry cells as well as from a storage battery.

From a cost standpoint, the Multivalve had only a marginal advantage at best. The Multivalve sold for \$6.50 when 01-A tubes were selling in the \$2 to \$2.50 range. However, use of the Multivalve permitted the elimination of two tube sockets which resulted in a lower cost for material.

Why then did the Multivalve radios have such a short marketing life? Perhaps sales volume was not adequate to cover the start-up costs. Certainly the timing was poor because the Great Depression was just around the corner.

Even though these radios were not a commercial success, the idea of multiple-element tubes did not die. In 1933, the Type 19 twin-triode tube came on the market. The Type 19 is a twin power triode with a 6-pin base. These tubes were followed by more twin triodes, triodes with two diodes, triodes with pentodes, and on and on. The multiple-element tube wasn't such a bad idea after all.

References:

Drakes Radio Cyclopedia.

McGraw Hill *Radio Trade Catalog*, February 1927, p. 120.

The Antique Wireless Association *Old Timers Bulletin*, June 1974.

Radio News, February, March & May 1927.

Stokes, John. *70 Years of Radio Tubes*. Vestal, N. Y.: The Vestal Press Ltd., 1982.

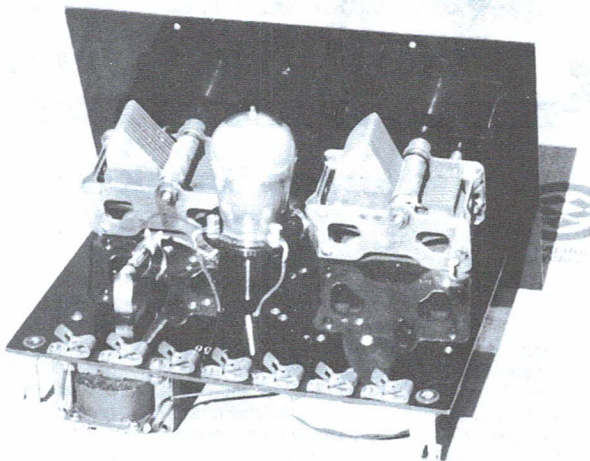


Figure 8. An interior top view of the Standardyne Multivalve showing the two brass variable condensers and the Multivalve tube.

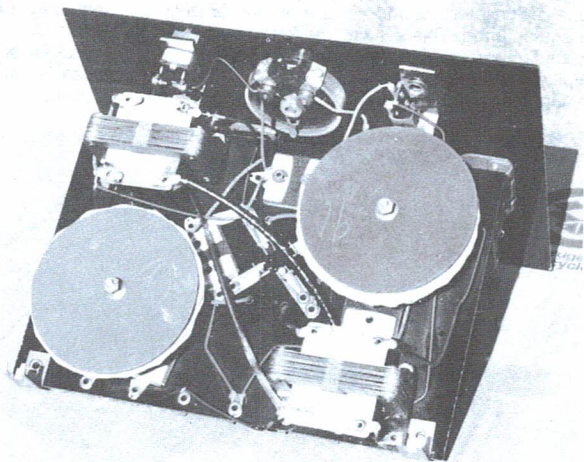


Figure 9. An interior top view of the Standardyne Multivalve showing the two audio transformers and the two RF coils.

Tyne, Gerald F.J. *Saga of the Vacuum Tube*. Tempe, AZ.: Antique Electronic Supply, 1987.

Additional Information Credit:

Jeff Goldsmith and Robert Lozier, Jr.

(Ray Bintliff, 2 Powder Horn Ln., Acton, MA 01720)

Ray Bintliff, W1RY, holds an Amateur Extra Class license. A member of the A.R.C. staff and a retired RCA engineer, he enjoys repairing and restoring pre-1945 radios and test equipment. In addition to Amateur Radio, his interests include electronic equipment design and audio reproduction.

WITH THE COLLECTORS

Norden-Hauck Super DX-5 One of a Kind

BY ROBERT E. GRINDER

Robert Grinder shares with A.R.C. readers the tale of collector Les Rayner's youthful infatuation with the Norden-Hauck Super DX-5 shortwave receiver, and of Rayner's search for this one-of-a-kind radio. This is a story with a happy ending.

An earlier version of this paper appeared in the "California Antique Radio Gazette," Volume 16, May 1991, pp 12-15. (Editor)

The saga of the Norden-Hauck Super DX-5 — a presuperheterodyne, shortwave receiver — is one of the more curious in the annals of radio manufacturing. This set was marketed but never manufactured and, apparently, only one prototypical model was constructed.

On the one hand, Norden-Hauck engineers

regarded the Super DX-5 initially as an extraordinary technological marvel. In 1930, they proudly proclaimed it to be the most advanced shortwave receiver ever! However, the force of their commitment and the strength of their enthusiasm succumbed eventually to anguish, disappointment, and hand-wringing.

After declaring in national publications that the Super DX-5 would be forthcoming soon, Norden-Hauck engineers recognized that they had overlooked insurmountable flaws in its design. Consequently, the Super DX-5 was never manufactured. On the other hand, the engineers had produced at least one prototypical model of it, which is owned by Les Rayner of Scottsdale, Arizona.

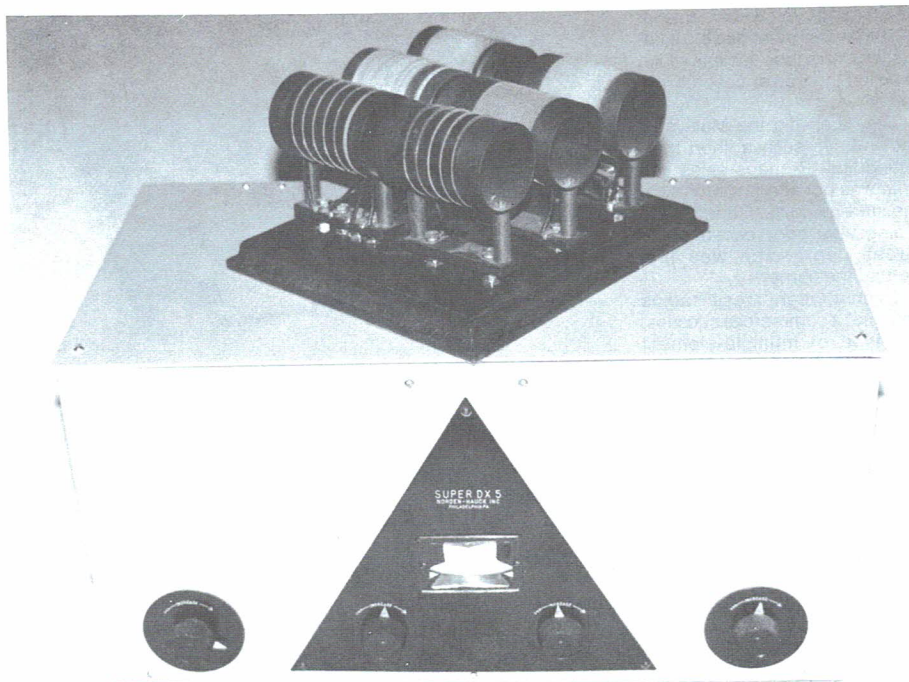


Figure 1. The Norden-Hauck Super DX-5.

Les Rayner is well known among collectors of premier vintage radios. His resources, perseverance, and good luck have enabled him to assemble an array of rare, relatively early shortwave receivers. He has possessed, in addition to the Norden-Hauck Super DX-5, a Pilot Super Wasp, an ICA Conqueror, a Hammarlund Comet-Pro, a Paragon RA-10/DA-2, a Grebe CR-18 Special, a Silver-Marshall Around the World Four, a DeForest Radiophone, a Leutz shortwave receiver, and, respectively, a National SW-2, SW-3, SW-4, and SW-5.

Les has special affection for the Norden-Hauck Super DX-5. The hyperbole associated with marketing this receiver in the early 1930s left him with a lifelong ambition to acquire it. When in the 1970s his desire to own a DX-5 intensified, he searched vigorously for it. He assumed that several of the receivers were in private collections,

augmented his allowance so that he could buy an A and B battery eliminator too.

During high school, Les advanced to an AC shortwave receiver — the ICA Conqueror. He read *Radio News* and *Shortwave Craft* avidly because they provided listings and frequencies of stations throughout the world. The magazines were bursting also with advertisements for receivers manufactured by Leutz, National, Silver-Marshall, RCA, etc. But, it was the lesser known engineering company Norden-Hauck's Super DX-5, shown in Figure 1, that particularly caught Les' eye.

Perhaps Les was mesmerized by the relatively compact, aluminum cabinet, the black, triangular Bakelite panel, or the single, knurled aluminum drum dial with illuminated celluloid scale. Maybe his interest was piqued because Norden-Hauck touted the Super DX-5, which covered from 20 to 205 meters via six plug-in coils, as the most sensitive, selective, stable, hum-free, and conveniently operated shortwave receiver on the market. Whatever the reasons, Les began dreaming of owning a Super DX-5. He did not know its retail price, but he was sure that it was out-of-reach, for his allowance was too meager ever to make its purchase possible.

When he reached young adulthood, Les was prompted to upgrade his ICA. First, he inquired about the availability of the DX-5, and he learned that production had been suspended. He settled on a Hammarlund Comet Pro. Shortly thereafter, he finished school, settled down to married life, embarked upon a career in lithographing, sold the Comet, and abandoned shortwave listening.

THE LATER YEARS

Forty years later, in the mid-1970s, while shopping in a Phoenix radio parts store, Les was introduced to the late Bill Pugh, then one of the more prominent radio collectors on the West Coast. Bill not only inspired Les to begin collecting vintage radios but rekindled his interest in searching for the one receiver he still dreamed of owning — the Super DX-5. For the next 14 years, at national and regional meets and conventions, Les met prominent collectors from all over the United States. No one gave him a lead on the DX-5.

Eventually, one of his contacts, John Caperton of Louisville, Kentucky, invited Les to view his collection of especially rare receivers, and, lo, there it sat inconspicuously on one of John's shelves. For the first time in his life, Les gazed squarely at a Norden-Hauck Super DX-5. Thereafter, whenever the two met, Les assured John that he would be a very good customer, indeed, should he ever decide to sell the DX-5. Clearly recognizing Les' strong attraction to the set, Caperton sold it to him early in 1990.

Subsequently, Les traced the DX-5's ownership from Caperton to Dr. Ralph Muchow, Elgin, Illinois, who, in turn, had obtained it from an obscure radio technician. Years earlier, the latter had worked in a laboratory where the DX-5 was undergoing tests, along with several other receivers. After the tests, he took it home, apparently because no one else wanted it.

(Continued on following page)



Figure 2. A CeCo Type P1 tube and its carton. The arrow points to a tube base connection for the "space-charge" grid.

Fortunately, his industry paid off, for eventually he obtained a Super DX-5. The significance of his find became apparent when he realized that the Super DX-5 that he had acquired might be the only one in existence!

RAYNER'S SEARCH — THE EARLY YEARS

Les Rayner's interest in the world of radio grew incrementally in the late 1920s. He began tinkering with a few wires and dry cells, which led him to the radio sections of *Popular Science*; later, an *Allied Radio Catalog* introduced him to the marvel of shortwave listening.

Before long, he convinced his mother that a boy's life without a shortwave receiver was devoid of meaning. She, in turn, agreed to advance him funds by which to purchase for \$29.50 a Pilot Super Wasp kit, including tubes and plug-in coils. Since Les' mother worried that acid from a storage battery might burn holes in her carpets, she

DX-5 CHARACTERISTICS

After searching so assiduously for so many years for the Super DX-5, and after investigating its features once he had it in his possession, Les was struck by its incredible uncommonness and rarity. The DX-5's circuit constitutes a basic regenerative design, and five of its six tubes are run-of-the-mill — a 227 detector, a 227 first-audio, two 245s push-pull audio, and a 280 rectifier. However, the sixth tube (RF stage) employs the CeCo P-1, the first pentode tube developed in the United States. A Type P-1 tube is shown in Figure 2.

Whereas the typical screen-grid tube provides a capacity shield around the plate while the inner grid impresses signal input on the plate, the P-1 provides a second inner, "space-charge" grid with a positive charge that accelerates the flow of electrons from the filament. The amplification factor of the P-1 is thus increased.

Indeed, Ernest Kauer, president of CeCo Manufacturing Co., proclaimed that the P-1 was "three times as powerful as the screen-grid tube." He neglected to mention that the "space-charge" grid also introduces enormous inter-element capacity within the P-1. Unless extensively shielded, the P-1 will couple readily into surrounding circuitry and destabilize it. As K. Henny noted in *Electronics*, 1930, the P-1 grid-plate capacity increases in the same ratio as the gain, so using it is probably not worth the effort that shielding requires.

Nevertheless, the Norden-Hauck Engineering Co. so enthusiastically endorsed the P-1 that it seemingly spared no expense to shield thoroughly the stages of the DX-5. Prospective buyers were assured in advertisements that, even at the highest frequencies, double, even triple, shielding guaranteed not only stable operation but also elimination of the effects of hand capacity on the controls.

Norden-Hauck asserted proudly that workmanship on the DX-5 was without parallel. No competitor disagreed. None attempted to match the DX-5, for none believed, apparently, that the P-1 tube was worth that much effort. According to Alan Douglas, the Super DX-5 was probably the only receiver ever designed commercially to use the P-1.

CeCo advertised the P-1 in radio magazines during the first few months of 1930. Adverse publicity followed swiftly, and the tube was pulled from production about the time it began reaching the marketplace. Meanwhile, Norden-Hauck, starting in the fall of 1930, proclaimed the virtues of the P-1 and the Super DX-5 in *Radio News*, *Short Wave Craft*, and *QST*.

Norden-Hauck advertisements never mentioned the price at which the DX-5 would be sold. Every advertisement exhorted readers to write the company for "details." Not many readers had the opportunity to correspond with Norden-Hauck, for, abruptly, it ceased advertising the Super DX-5 in December of 1930.

To this day, Les has no idea what Norden-Hauck would have expected him to pay for a Super DX-5. Even if he could have afforded one in 1930, he might never have had the opportunity to purchase it. No evidence exists to confirm that any DX-5 ever made it beyond a test laboratory to the shelf of a distributor. Norden-Hauck appears to have realized by late 1930, just as CeCo did a few months earlier, that the extravagant claims for the P-1 could not be sustained, and, as a consequence, the hyperbole promoting the DX-5 would not endure.

Although Les did not have the opportunity in 1930 to write Norden-Hauck for information about the Super DX-5, perhaps someone reading this article did write the company at that time, or is acquainted with someone who is familiar with the marketing strategy of Norden-Hauck. Perhaps, also, someone knows of the existence of another Super DX-5. Les would appreciate greatly any such news!

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- Douglas, A. "The story of CeCo and Triad tubes." *Old Timer's Bulletin*, 1980, pp. 12-13, 21.
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- Kauer, E. "What of the pentode?" *Radio*, 1930.
- "Norden-Hauck Super DX-5 Designed for Quiet AC Operation." *Citizens Radio Call Book Magazine and Technical Review*, II, September 1930, p. 52.

(Robert E. Grinder, K7AK, 7735 N. Ironwood Dr., Paradise Valley, AZ 85253)

Robert E. Grinder, a radio amateur since 1946, acquired his first vintage receiver, still in his possession, over 50 years ago. His current interests encompass compiling radio directories, writing historical articles about the radio industry, and restoring and operating early amateur equipment. His book "The Radio Collector's Directory and Price Guide," now in its second edition, has long been a valued reference for collectors.

The Highest Class Receiver in the World

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MARCONI ARCHIVE AUCTION

Marconi Archive Sale In Limbo To Sell or Not To Sell — That is the Question

CONTRIBUTED BY JONATHAN HILL

The following article by well known writer and radio historian Jonathan Hill of the U. K. gives a clear chronology of the recent "Battle of Britain" waged for the last month over the proposed sale of the Marconi archives. As it has for centuries, "The Times" of London has proved to be a vehicle for extensive, sometimes heated, exchange of views among interested citizens. As we go to press, we surmise that the battle goes on. We'll keep you posted. (Editor)

The £1 million dispersal sale of the Marconi archives, which had been due to take place in England on April 24 and 25 (as detailed in A.R.C last month, pages 3-5), is now unlikely to take place. The latest news is that the auction at Christie's in London has been "put on hold" following worldwide outrage at the plan to break up this historically priceless and totally unique collection and sell it off in lots to all-comers.

Reaction to the announcement of the sale (given in a press release from the auctioneers sent out on Wednesday, January 29th) was swift and powerful, producing a rolling campaign of protest played out in public by both eminent and lesser-known correspondents to *The Times* newspaper (established 1785), other publications, and also on the Internet — ably demonstrating the influential power of old and new media alike.

Behind-the-scenes, second thoughts by GEC-Marconi prompted a series of meetings with the Science Museum of London, an esteemed body which may yet play a vital part in hosting much of the collection. It is expected that a final decision to keep the collection intact and house it in the U. K. will be announced shortly, together with details of how the project is to be managed and funded.

Any solution, other than breaking up the collection and auctioning it off, is likely to be costly, but could involve an injection of money from the U.K.'s Heritage Lottery Fund, given the worth and importance of the archive. Until a final decision is made though, it is wise to be cautious and keep the champagne in the refrigerator until later!

The protest campaign has attracted support from a wide variety of people and organizations across the world (some unconnected with the world of wireless). Among the more prominent to voice their opinions have been Princess Elettra Marconi-Giovanelli, Marconi's daughter, Professor Asa Briggs, eminent wireless historian and writer, and Dr. Willem Hackman, Chairman of the British Vintage Wireless Society, who said at its recent AGM held at Harpenden on March 2, "Let's hope that the Marconi archive collection can find



Could Marconi be contemplating the future of his archives in this 1928 photo?

a permanent home, not just in a museum of its own, but also as the core part of a museum devoted to the *whole* history of radio." In Great Britain, at least, there has never been a greater need for that.

The unfolding sequence of events makes interesting reading and is outlined below with extracts from various letters and articles, mostly from *The Times*, unless otherwise noted. These extracts sum up points raised by both sides of the argument.

WEDNESDAY, JANUARY 29, 1997

A press release from Christie's auctioneers in London announcing, "The Marconi Archive Sale. The remarkable and little known archives of the Marconi Company, the pioneers of wireless communication are to be sold on 24 and 25 April. Offered as part of the Centenary celebrations of GEC-Marconi, this unique collection charts the history of radio from Marconi's arrival in England in 1896 through to the end of World War II."

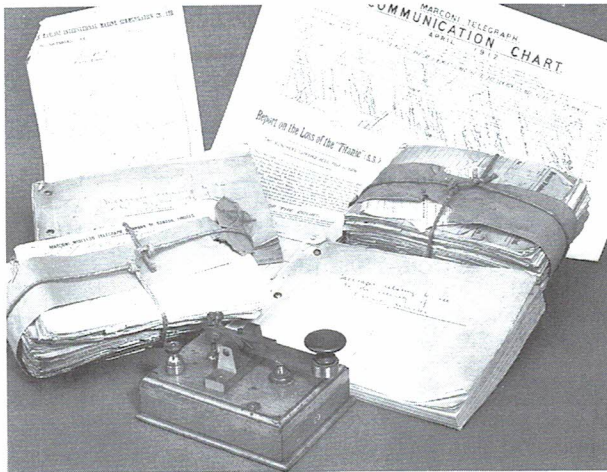
THURSDAY, JANUARY 30, 1997

A small article appeared in early editions of *The Times* newspaper giving news of the sale with a photograph of some of the items likely to be in the sale. Enrico Tedeschi of Brighton, Sussex, started a protest campaign on the Internet in the U. K. by collecting signatures for a petition and giving advice on where to direct protest letters and e-mail.

WEDNESDAY, FEBRUARY 5, 1997

From John Sutherland of Cambridge: "This vitally important collection is a national, as well as a corporate, asset and should be preserved as such." He feels that the collection should be given

(Continued on following page)



A selection of "Titanic" memorabilia once slated to be sold at Christie's auction.

(Marconi Archives, continued)

to the nation, thus keeping it in one piece and making it available to the public and for research.

From Dr. Tom Going of Southend: "The Marconi archive provides an unparalleled record of the origins and development of 'wire-less' communications, worldwide, and as such would be of first importance to maritime, military and general historians. Part of the tragedy, therefore, of the Christie's auction is that the collection has been so little studied. . . In the absence of intervention, dispersal abroad is likely. The Royal Commission on Historic Manuscripts, the National Heritage Memorial Fund and the Heritage Lottery Fund should consider this case as a matter of urgency. Meanwhile, where were the national museums and professional institutions who should also have been exercising a watching brief?"

The protest campaign on the Internet in the U. K. spread to other countries, including Italy and the United States. Petition signatures were collected from Finland to Mexico.

MONDAY, FEBRUARY 10, 1997

From Mrs. Elettra Marconi-Giovanelli, daughter of Guglielmo Marconi: "These archives form the history of communication on a worldwide basis. . . Many people have contacted me to express their great disappointment that the GEC-Marconi organization is selling its history. . . At all costs these archives should remain in the U. K. and preferably in the town of Chelmsford where the work of my father began."

From Lord Asa Briggs, wireless historian and writer: "The forthcoming auction of the unique Marconi archive seems a strange way for a great company to celebrate a centenary of world importance. It is surely thoroughly irresponsible to propose that it should be dispersed in lots. The unity of the collection, including the ephemera, is its great strength. In the past, the riches of this archive were treated with proper respect within the company which was proud of them and commissioned scholarly research concerning them."

From Gavin Littaur (giving a minority view): "The exciting news of the Marconi archive sale is accompanied by predictable bleating from those of this world who always lament public dispersal. If they knew how few national museums and professional institutions properly care for, study, and display their massive holdings, such correspondents would be embarrassed by their publicized exhortation. Let the archive be dispersed with vigor on April 24 and 25."

Nigel Hawkes, Science Editor of The Times, wrote an article in which other people gave their views on the sale:

Gerry Wells (Vintage Wireless Museum, London): "GEC shouldn't be destroying its heritage and ours. Marconi had come here to show the world how to do it — we should be proud of the

role Britain played, not dispersing the collection to the far corners of the world."

Rod Burman (tube collector) thought the archive would probably fetch far more than the £1 million estimate: "I'm horrified to see it come under the hammer. . . We shall see a lot of heavyweight foreign buyers, and it will be dispersed all over the world."

John Sutherland (former manager of Marconi Radar): "I think there is an indifference to the Marconi name in the present GEC-Marconi management and a lack of feeling for the integrity of the Marconi inheritance."

WEDNESDAY, FEBRUARY 12, 1997

From Sir Geoffrey Pattie, Chairman of GEC-Marconi, seeking to defend his company's decision in the face of mounting and, by now, worldwide opposition: "Following the 5-month audit in 1995, it was seen that our greatest concern was for the ephemera. . . Ideally, such material should be kept in a perfect micro-controlled environment." [The cost of providing such an environment was estimated to be over £10 million.] — "far more than the value of the archive. . . A range of possible solutions was examined, and I am confident that we have made a proper decision [the Christie's sale]."

"A CD-ROM interactive disk is being produced which will take the Marconi story to schools, universities." A new education initiative known as Marconi Days, which would aim to train 1,000 teachers a year in the field of electronics for 11 to 14 year olds would also be established with the help of an independent trust fund administered by the Institution of Electrical Engineers. "Meanwhile, the question of keeping the archive together, one of our original considerations, has been raised publicly."

From Bernard Kaukas: ". . . living-off a collection embodying the embryos of the greatest innovation of the century merely for the sake of a little filthy lucre. . . will not do."

Local newspapers in the U. K. start to pick up on the Marconi archive story.

THURSDAY FEBRUARY 13, 1997

From Graham Searjeant: "The real reason behind the sale is to dispose of a corporate embarrassment. This asset was so obscurely hidden that few outside the industry and its academics seemed to know about it. A study in 1995 before the company's disappointingly low-key centenary found that the asset was a liability. Purpose-built facilities to preserve the deteriorating collection could cost a whopping £11 million, consultants claim." The solution was to let the archive fall into various private hands and let the new owners have the problem of looking after the various items, with the estimated £1 million proceeds of the sale linked with "the making of a CD-ROM interactive disk of the Marconi story. . . and a politically modish scheme to enthuse secondary school teachers over electronics."

FRIDAY FEBRUARY 14, 1997

From J.W. Sutherland: The possible way forward for the collection is that it could be "acquired, housed, displayed and conserved in Chelmsford, where most of Guglielmo Marconi's work was done, under the joint auspices of Chelmsford and Essex Councils. Alternatively, as Sir Geoffrey Pattie indicates, the Science Museum could retain its items on loan from the company, augmented by the items in the collection at Great Baddow. . . . The Marconi centenary initiative of setting aside £1 million for a special program, including 'Marconi Days' for teachers. . . should be applauded. It continues the policy of investment in education and training which has characterized Marconi for many decades, through Marconi College and within individual parts of the company.

"This is an important initiative, with long-term benefits for both Marconi and the industry at large, but it should be funded from normal training budgets, if necessary at a higher priority than other schemes. It cannot justify the dispersal of the unique and historic Marconi archive."

From Paul Harvey, British Records Association: "Having sought expert opinion on the archives' condition, it is a pity he [Sir Geoffrey Pattie] did not seek it also on their disposal. It would have told him unambiguously that at all costs the papers — and the objects too — should be kept together, and could have suggested various strategies for achieving this. As it is, Christie's is apparently proposing to sell them in several hundred separate lots. To split up an archive in this way is like preserving a set of table silver by selling each fork and spoon separately — its function and its historic value are all but destroyed.

From Pat Leggart, past Chair of the British Vintage Wireless Society: "Over the past ten years, the collection housed at Great Baddow near Chelmsford has been excellently arranged and tended, first by the late Betty Hance and then by Roy Rodwell, recently retired. While not open to the general public, both the equipment and the written archives have always been available by appointment for examination by genuine students of wireless history. The British Vintage Wireless Society visited Great Baddow during an international meeting in 1989. Members regarded it as the high spot of the 3-day event, affording significant kudos to the Marconi Company and indeed

to the United Kingdom."

A statement from Christie's: "Christie's South Kensington is awaiting further instructions from [GEC-Marconi] regarding the Marconi Collection and fully supports the moves being made to keep the Collection intact.

A joint statement from GEC-Marconi and the Science Museum: "We have had a very constructive discussion, as a result of which we believe that a basis exists for a satisfactory solution between several interested parties which will ensure that the Marconi Collection remains intact and in this country. Another statement will be made once further progress has been achieved, when the company would expect to be in a position to withdraw the Collection from public sale."

SATURDAY, FEBRUARY 22, 1997

Report by Nigel Hawkes, Science Editor: "Plans to auction the Marconi collection of historic documents and artifacts from the early days of radio have been shelved after protests led by Marconi's daughter, Princess Elettra Marconi-Giovanelli [who flew to England that week to continue the campaign]. GEC-Marconi has reconsidered its decision to sell the collection at Christie's next month and the auction house has suspended printing of the catalogue. An alternative dispersal involving the Science Museum and perhaps other museums is now being discussed."

Following this meeting, a statement was issued indicating that "a basis existed for a solution which will ensure that the Marconi collection remains intact and in this country. Another statement is promised once further progress has been achieved when the company expects to be in a position to withdraw the collection from public sale."

Shortly after her arrival in this country, Princess Marconi-Giovanelli met Sir Neil Cossons, director of the Science Museum, and also went to Chelmsford to meet the borough council and visit the Marconi plant. She said, "The Science Museum is being very helpful. I am hoping that everything will go well, thanks to the pressure of opinion against the sale. My father's equipment belongs to England, and that is where it should stay."

EPILOGUE

It is likely that by the time this issue of A.R.C. reaches you, the final decision about the future of the Marconi archives will have been made. For the very latest information, those with access to the Internet should check the A.R.C. website at www.antiqueradio.com, Enrico Tedeschi at www.ndirect.co.uk/~e.tedeschi or Christie's at www.christies.com/marconi. Phone Christie's at: 1-800-395-6300 or GEC-Marconi Research Relations Department at: + (0) 181 954 2311.

Jonathan Hill, writer and radio historian, is a founder member of the British Vintage Wireless Society. His highly regarded books "Audio! Audio!" and "Radiol Radiol," now in its third edition, are available from A.R.C. and others.

Photos © Christie's South Kensington

(Jonathan Hill, Spice House, 13 Belmont Rd., Exeter, Devon EX1 2HF)



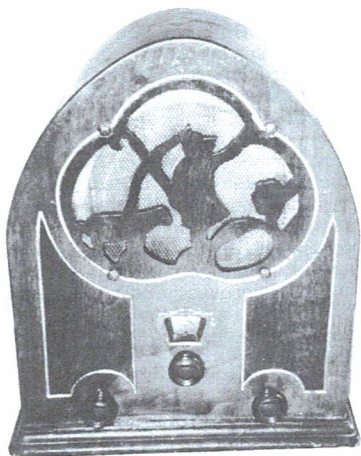
PHOTO REVIEW



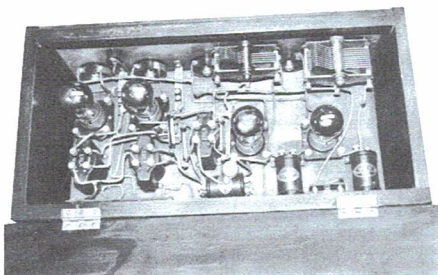
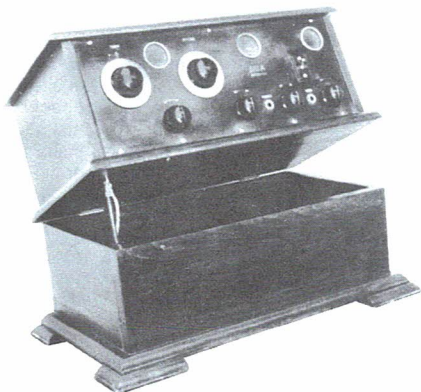
This column presents in pictorial form many of the more unusual radios, speakers, tubes, advertising, and other old radio-related items from our readers' collections. The photos are meant to help increase awareness of what's available in the radio collecting hobby. Send in any size photos from your collection. Photos must be sharp in detail, contain a single item, and preferably have a light-colored background. A short, descriptive paragraph **MUST** be included with each photo. Please note that receipt of photos is not acknowledged, publishing is not guaranteed, and photos are not returned.



RCA STATUE – This statue of a radio and girl figurine is painted in metallic gold. It is 7" tall and says "New Yorker" on the back. Does anyone have more information about this "radio"? (Eileen Ancmen – San Antonio, TX)

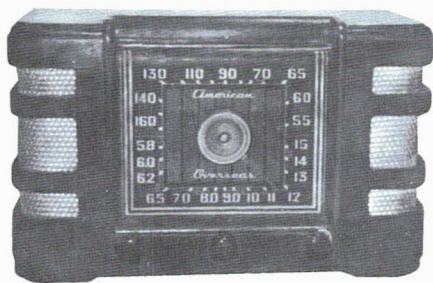


LACROSSE RADIO CORP. MODEL UNKNOWN – This 4-tube set measures 12½" x 10½" x 6¾". The tube types are (2) 24A, 47, and 80. The speaker cutout depicts animal and bird figures. (Phil Boydston – Mandeville, LA)

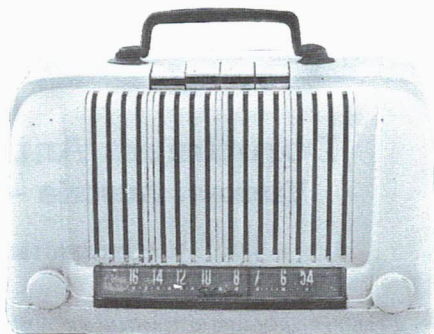


ERLA 4-TUBE "SUPERFLEX" – This 1925 reflex receiver uses a crystal detector and claims to do the job of a 7-tube set. The compartment below holds all the batteries needed — A, B, and C. (Wally Worth – Wollaston, MA)

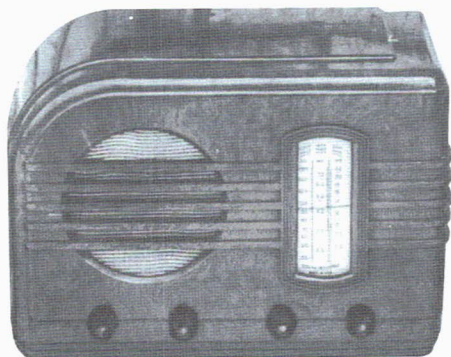
PHOTO REVIEW



CROSLY MODEL 46-FB – This striking battery-powered farm radio is similar to the 66-TC "Victory" model seen in A.R.C., February 1991, page 11. It is also similar to the 46-FA and the 66-TA plastic models (Bunis 3, pages 54 and 56). It has 4 tubes — Types 1A7, 1N5, 1H5, and 1A5. (Bob Perry – Painted Post, NY)



SILVERTONE MODEL 6012 – The back of this 1947 ivory Bakelite set has the same grillework as the front. Note the almost hidden push buttons on top. (Rod Galloway – Melbourne, FL)

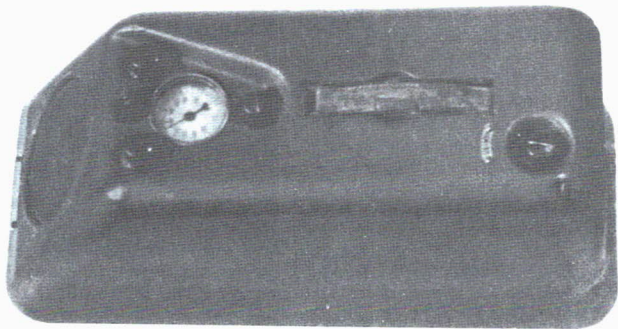


GENERAL ELECTRIC MODEL GE-54 – This interesting 3-band, 5-tube transformer set, ca. 1940, features an unusual, vertical, 3-band dial and a Bakelite rear cover. (Spencer J. Doggett – Washington, MI)



AIRLINE MODEL 62-173 – This 1935 tombstone has a 7-tube broadcast/shortwave chassis. The large airplane dial has broadcast station call letters printed on it for the eastern, western and central portions of the U.S.A. (Ed Frezon – Rensselaer, NY)

GENERAL ELECTRIC MODEL B-52 – This nifty GE car radio is just the thing for your 1930s automobile. It works on 115 VAC house current, as well as on 6 volts DC, so you can remove it from the car and bring it inside — car theft prevention in 1937! (Allan H. Weiner – Kennebunk, ME)





AUCTION REPORT

Dorotheum Antique Radio Auction Vienna, Austria — December 14, 1996

CONTRIBUTED BY ERWIN MACHO

It's always a pleasure to hear from our "Austrian connection" Erwin Macho, who sent this report, along with the beautifully illustrated auction catalog. For future reports, we hope to be able to translate more of the catalog information from the German text. Reports like this help us to serve an even wider radio-collecting community. (Editor)

The third antique radio auction, arranged by the Auktionshaus Dorotheum, was held in Vienna, Austria, on December 14, 1996. This event was a highlight of 1996, not only for Austrian collectors, but also for those who travelled from Germany or called from Italy and England. Hundreds of written bids also came in from all around the globe, especially for transistor radios and early crystal sets.

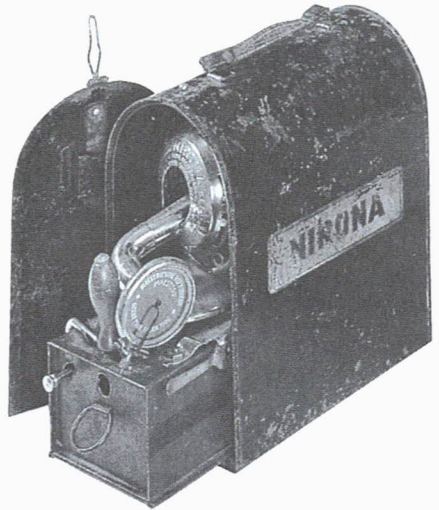
Among the outstanding sale items were an Ingelen Gigant selling at \$1,000 and a Sony TR-620 for \$200. Many cathedral sets from well known factories like Telefunken, Minerva, Kapsch, and Homophon sold in the \$120 to \$400 range. Early radio manuals from an old Vienna radio repair shop sold for from \$45 to \$140.

Additional auction highlights included novelty telephone sets, phonographs and gramophones. For example, an Ericsson "Skellett" telephone sold for \$950, an Edison Standard phonograph ("C" reproducer) for \$590, and a Nirona picnic gramophone for \$900.

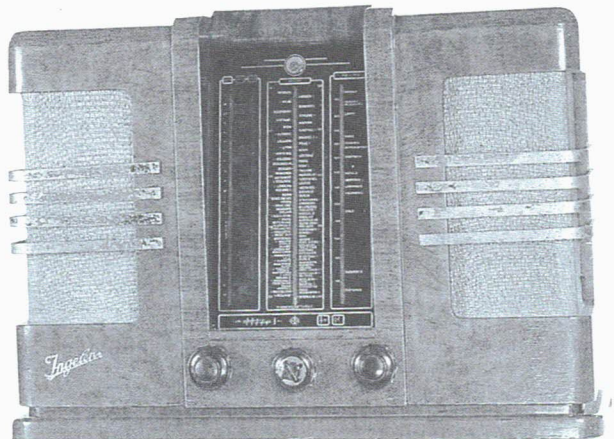
The Auktionshaus Dorotheum will hold its next radio auction on June 14, 1997. An illustrated auction catalog may be ordered from Auktionshaus Dorotheum, Subscription Dept., Dorotheergasse 17, 1010 Vienna, Austria. Tel.+431/515 60; Fax -508. Catalog shipping will begin in May, and the price is about \$10. The following credit cards will be accepted: American Express, Diners Club, Eurocard, and Visa.

You won't want to miss this next auction.

(Erwin Macho, Ambrosweg 17/A/8, A-1230 Vienna, Austria)



This Nirona picnic gramophone in its mailbox-type carrying case, brought a bid of \$900.



This Ingelen Gigant, a rather large tombstone with a wood and chrome cabinet, sold for \$1,000.

"Pricing" — describes the author's approach to establishing prices and gives the reader some helpful insights into conditions affecting price, including chassis corrosion, rodent wear, transformers, tubes, cabinet backs, knobs and dial lenses.

Chapter 3 also contains a brief definition of the most common types of plastics used in radios of the 1930s to 1950s period. The book separately addresses the valuing of plastic radios and wooden radios, depending upon specific conditions, such as chips and cracks in plastic radio cabinets, and finish and veneer in wooden cabinets.

Chapter 4 — "Resources" — provides an authoritative listing of vintage radio clubs, both domestic and foreign. Also included is a somewhat limited listing of publications, such as periodicals, reference guides, suppliers and vendors.

The overall quality of *Machine Age to Jet Age* is somewhat marred by occasional, quite obvious misspellings and typographical errors, which tend to detract from the book's contents. Nonetheless, the book serves a definite purpose for the period and has much to commend it to both radio dealers and collectors.

VOLUME II

Volume II of *Machine Age to Jet Age* (1930-1959) is a welcome supplement to Volume I in part because it has been expanded to cover the earlier years 1930-1932, allowing many more cathedral radios to be included. Another welcome feature is 16 pages of color plates showcasing 192 selected examples of table radios by classification — for example, Bakelite, painted



Bakelite, plastic, beetle plastic, Urea, Plaskon, Catalin, etc.

The radios shown in these new color plates are further described and valued in the black and white section of both volumes. However, there is no cross index to connect each color photo with its black and white counterpart.

Other additions are a 1-page listing of representative internet websites and a helpful 2-page commentary by Joe Greenbaum on wooden radio finishes.

Two minor but distracting flaws have carried over from Volume I. One is the existence of many blank spaces sometimes covering one-half to two-thirds of

a page. The other is the persistence of spelling and typographical errors, although significantly reduced from Volume I.

Since the radios pictured in the two volumes total over 4,000, for the serious collector or dealer, the purchase of both volumes is a good investment. Be alert for Volume III, which is already in the works.

ORDERING INFORMATION

Machine Age to Jet Age, Volumes I and II, by Mark V. Stein are available in 8½" x 11" paperback format from your local specialty bookseller or directly from the publisher. Send a money order or check for Volume I at \$24.95, Volume II at \$28.95, or both volumes at \$49.95 to: Radiomania, Department 2, 2109 Carterdale Rd., Baltimore, MD 21209. U.S. shipping is free; Canada is \$2; all other countries are \$3.

(Dick Desjarlais, *Dick's Radio Days*, Box 629, Littleton, MA 01460)

More on *Machine Age to Jet Age*, Vols. I and II by Alan Voorhees

These two books are the most valuable collecting resources I have found. Included with each radio pictured is an estimated market value. Of course, there is no question that there is always skepticism regarding the values that guide books give, and one often wonders what makes the person doing the valuing an authority. However, in this case, Stein is a major radio dealer and has personally sold many of the sets pictured in the books. This gives him an insight into the prices that these radios may actually sell for.

Obviously, the main advantage of these volumes is that you can see a photo of each set. This helps to identify a radio you might have whose model number has long been missing. It also lets you see what sets you might wish to have to fill out your own collection. In my case, I finally got to see photos of two sets I wanted for my own collection. It is easier to seek them out now that I know what they look like.

(Alan Voorhees, 10809 McIntyre St., Oakland, CA 94605)



Machine Age to Jet Age, Vols. I and II

By Mark V. Stein

REVIEWED BY DICK DESJARLAIS

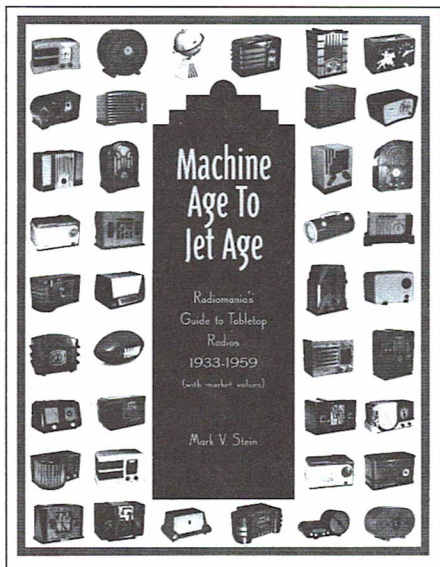
Shortly before this review of *Machine Age to Jet Age, Volume I* was ready for publication, *Volume II* appeared on A.R.C.'s reference shelf. Although similar in format and content to *Volume I*, *Volume II* contains all new listings and added features, which are addressed at the end of this review. (Editor)

If all you knew about this book was its main title — *Machine Age to Jet Age*, you might think that it is about the development of the engine from steam to jet. And when you see the cover with its 41 color photos of very collectible radios, you might assume that more color photos are inside. Wrong on both counts! As its subtitle states, this book is "Radiomania's Guide to Tabletop Radios, Volume I, 1933-1959 (with market values)," and furthermore, all the photos inside are black and white.

Despite these initial mixed signals, this reference book is a worthy supplement to the collector's library. Over 1,300 good quality, black and white photos of representative radios of this high-

STEIN OFFERS THIS ADVICE:

"A word about dealers and dealer prices: expect to pay a premium when purchasing from a dealer. The dealer offers one the luxury of eliminating the time consuming hunt through yard and estate sales, flea markets, antique shows and the like. It is he who goes through the trouble of rooting out those hard to find items — ones which you might not happen upon except after years of hunting yourself. Dealers inventories represent long hours and related expenses, and so their prices must reflect those additional costs."



style era fill 230 of the book's 255 pages. The fact that the book covers a relatively short period of radio history — just 26 years — might be limiting to some collectors, since no battery sets or consoles are included. However, those who are "into" the Art Deco era of the 1930s-1950s will find excellent examples of wooden mantel sets, tombstones, cathedrals, novelty sets, metal sets, Catalins, Bakelites, plastics, Plaskons, and beetles.

PHOTO FORMAT

The book has six chapters, the most important being Chapter 5 where the major manufacturers are featured

alphabetically. The sets of unknown or lesser known manufacturers are presented in Chapter 6 — a 30-page "Miscellaneous" section. One minor distraction in both chapters is the interruption in continuity created by blank spaces at the end of certain manufacturers' listings. The author might have chosen just to continue with the next manufacturer's products.

A brief, basic description appears with each radio, giving the make, model number, materials used in the cabinet construction, year of manufacturer, coloration, and market value. The pricing information makes the book a relatively dependable guide, as price guides go, even though it has a 1994 copyright. A spot-check comparison with *Evolution of the Radio, Volume 2*, and the new 4th edition of Bunis' *The Collector's Guide to Antique Radios* showed that prices in all three references are usually consistent within a reasonable range.

TABLE OF CONTENTS

Although the major focus of this book is on radio photos, there are other briefly treated but helpful topics of interest to the collector. Chapter 3 —

CLASSIFIED ADVERTISING POLICY

ONE FREE 20-WORD AD for subscribers in each issue; additional words are 27¢ each. See details below. Classified ads sent by mail, fax or by any other method must be received (not just postmarked!) by **Noon Eastern Time** on the classified ad deadline date to guarantee inclusion in the current issue. Late ads are held for the following issue. Please enclose correct payment with all ads. Stamps or cash are OK for small amounts. (Canadian and other foreign advertisers, please see "Payment" on page 2 for methods.) "Free words" cannot be accumulated from month to month; free words must be requested when ad is submitted.

Faxed & e-mailed ads: Please see additional information on the inside front cover.

When including ads with other A.R.C. correspondence, write the ads on a separate piece of paper. Include SUB# with ad. Ads may be sent in advance; but, write each ad on a separate piece of paper and indicate the month (or successive two months) you want the ad to run.

To minimize our typing errors: Please write legibly. Use both capital and small letters. Do not use a dash between words. Carefully write the following numbers and letters (especially in model numbers) since some can look alike; for example 1, l and I (the number one, the capital i and the small L.) Also: 0, O, o, Q and D; r and n; 6, b and G; V, U, u, v and Y; A and R; 5, S and s; 2, Z and z. We try to correct spelling errors, so when using an uncommon word or manufacturer which we might mistake as a more common word or manufacturer, note it so that we do not "correct" it. Editor's annotations are in [brackets].

Advertising is accepted only for early items related to radio, communication, etc. All items must be described fairly; reproductions, reprints and not-original items must be so identified. Advertisers must agree to respond promptly to inquiries and orders, to resolve problems promptly if the buyer is not satisfied, and to comply with a buyer's refund request on unaltered returned items.

The publisher reserves the right to edit ads without notification to the advertiser and to reject ads for any reason. Names other than the advertiser will be edited out of ads. Ads with non-radio-related items will be returned or edited unless the non-radio-related items are for trade of radio-related items, or they are incidental to and appear at the end of an otherwise acceptable ad. The publisher is not responsible for errors due to illegibly written ads or for any other reason.

Clubs: Since club activities receive free coverage on the *Coming Radio Events* pages, the free 20 words may not be used for club activity ads. See inside front cover for additional information.

CLASSIFIED AD DETAILS

Deadline: NOON ET—10th of the month!

Classified ads must have a standard heading such as **WANTED, FOR SALE, FOR TRADE, FOR SALE/TRADE, SERVICES, MESSAGE, HELP, AUCTION, MEET**, etc. This heading is the only bold or all-capitalized words allowed in the ad. Capitalize only manufacturer names, model names, etc. This standard ad format makes scanning the ads easier.

Before writing your ad, please look over the ads in a recent issue of A.R.C., and try to write your ad in the same style. Full name (or company name) and address is required in all classified ads; we will add it if you forget.

To encourage varied content of the ads, the same classified ad may be run only once per issue and for only two consecutive months. (To run an ad longer, use a boxed classified or display ad.)

Classified Ad Rates per Month

Subscribers:

- First 20 words: **FREE***
- 27¢ per word for extra words over 20 **plus**
- 10¢ per word for a shaded ad (count all words including free words).

* Subscribers may take 20 free words on only **one** ad each month.

Non-Subscribers:

- 45¢ per word **plus**
- 10¢ per word for shaded ad.

Please do not forget to send in the extra 27¢ per word when your classified ad runs over the free 20 words; your payment will be appreciated, and it will help to keep A.R.C. healthy.

BOXED CLASSIFIED AD DETAILS

Deadline: 1st of the month!

Boxed classified ads can run unchanged for three months or more. No words are free. Ads may be shaded and may include bold and all-capitalized words freely. The ad need not begin with "For Sale," etc. Minimum run is 3 months, prepaid. Discount: 10% for 6 months; 20% for 12 months.

Boxed Classified Ad Rates per Month

Nonshaded ads:

- 38¢ per word for all words,* none free, **plus**
- 10¢ per word for each bold word **plus**
- 10¢ per word for each all-caps word.

Shaded Ads (All words are bold at no charge):

- 48¢ per word for all words* **plus**
- 10¢ per word for each all-caps word.

Non-Subscribers:

- Add 20¢ per word to above costs.

*Three words can be bold-all-caps at no extra charge.

PHOTO & DRAWING DETAILS

Deadline: 1st of the month

for all ads with drawings or photos!

Drawings and photos are encouraged as the response to your ad is much larger and the reader knows better what you want or are selling. Send in your drawing or photograph, and A.R.C. will reduce it or enlarge it as needed.

Photo and Drawing Rates per Month

\$22.00 per month for each photo or drawing (If ad is canceled, this amount cannot always be refunded.)

CHANGES & CANCELLATIONS

Please check your ads carefully before sending them in. Once ads are received, it is not always possible to refund the amount sent, pull the ad or make changes.

IMPORTANT — COUNTING WORDS — IMPORTANT

The **standard headings:** WANTED, FOR SALE, etc., count as **one word** each time used in an ad. **Name, address** and (one) **telephone number**, count as **6 words**, regardless of length. Ham call letters and business name can be included in the 6 words and do not count extra. Full name (or company name) and address is required in all classified ads. Each additional word, abbreviation, model number or number group, extra telephone numbers, fax, e-mail, etc. count as one word each. Hyphenated words count as two words.



PERIODICALS

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RETURN POSTAGE GUARANTEED

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Noon Eastern Time**