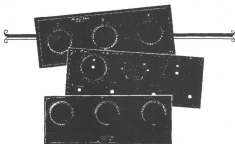


The Colorado Radio Collectors

Antique Radio Club

FLASH!

Volume 10 March ☺ April 1999 Issue 2



Complete Radio Panels in the Most Attractive Designs

THE FORMICA INSULATION COMPANY
4618 Springrove Avenue Cincinnati, O.



FORMICA

Made from Anhydrous Bakelite Resins
SHEETS TUBES RODS

In this issue...

- ♦ The CRC 1999 Show & Sale ♦ Dating Japanese Tubes ♦ Bakelite Panel History ♦
- ♦ All About Capacitors ♦ Index Of Flash Articles ♦ Edison Pans Radio ♦

ABOUT THE COVER

There was a time when building your own radio was the norm rather than the exception - that is if you wanted it to fit a hobbyist budget. So in order to make your homemade or kit radio look as professional as possible it was common to mount it to a great looking Bakelite front panel. Read Wayne's article on page 7 for more about how it was 70 or so years ago.

The Colorado Radio Collectors Antique Radio Club

Meetings: Unless otherwise noted in this journal, regular meetings are held on the second Sunday of every other month starting in January (except: 3rd Sunday of May) at 1:00PM at the VectraBank Building, Community Room, 1380 S. Federal Bl. The meeting normally includes business items, discussions, "show and tell", a raffle and a swapmeet.

Membership: All dues are \$12.00 annually. Joining dues are prorated to June 1st. Contact club for foreign rates. Send dues and membership inquiries to the CRC Treasurer, Robert Baumann, 1985 S. Cape Way, Lakewood CO 80227 (303)988-2089

Article Contributions: Submission of articles are always appreciated. This would include historical and technical items as well as stories about individual collections. Articles may be written or e-mailed, and need not be in final form. Submissions and requests for information should be directed to the CRC "Flash!" Publisher, Larry Weide, 5270 E. Nassau Cir., Englewood CO 80110 (303)758-8382 - lweide@ibm.net.

C.R.C. 1998-1999 Officers

President	Tom Kelley Boulder	(303) 444-1837
Vice Pres.	(open position)	
Treasurer	Robert Baumann Lakewood	(303) 988-2089
Publisher	Larry Weide Englewood	(303) 758-8382
Archives,	Charles Brett	
Book Sales	Colorado Spgs (719) 495-8660	

Want Ads: Submission of Sell/Want ads are always free to CRC members. Non-members may advertise in the Flash! for \$0.20 a word. Display advertising is available by contacting the CRC publisher, Larry Weide, for info and rates.

Publishing Deadlines: All submissions must be submitted by the 1st of Feb, Apr, Jun, Aug, Oct and Dec. for publishing in the following months.

Thanks to the Pressworks for printing the Flash! - (303) 934-8600

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Upcoming 1999 CRC Events
Regular Meeting - March 14th, Annual Show/Sale April 17th



Colorado Radio Collectors Antique Radio Club

Founded October 1988

Dedicated to the Preservation and Education of
Wireless, Radio, Television and Associated Equipment.

Volume 10, Issue 2

March/April 1999

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A CHAT WITH THE PRESIDENT

IT'S SHOW TIME!

by Tom Kelley, CRC President

Hello again fellow club members. Guess what? It's show time again! It's time to get out our prize radios and radio related items and show them off to the world - well, at least to the Front Range anyway.

The event will be at the Denver Collector's Fair in the Stock Show Complex on April 17th and 18th. Setup is on Friday the 16th, starting at 2:00AM. This year we have an awards dinner at Brooklyns at 6:00PM. Let's have a big turnout for this event, and enjoy some good food and radio camaraderie!

This year we are featuring Wards/Airline radios as our specialty brand. I'm sure many of you have some fine examples of this once very popular brand. We'll be looking forward to seeing them. For those of you who don't have Airline radios, don't fret. Without your radios too there won't be a show! Don't forget, there are twenty six other categories available for your show entries.

If you want to sell at this year's show, we would love to have your radios and radio related items on the sale tables. This year we're featuring a single price for a table/space which you could share with a "bud" if you don't have enough items to fill the space.

Let's have a really good turnout this year, as we have a really great variety in our collections to show off.

Tom

The Annual CRC April Antique Radio Show and Sale

Everything you need to know to get ready

Yes, it's that time of year again when we dust off, polish up and get our treasures from the past ready to put on display for fun and, who knows, maybe a little profit. Of course I'm talking about choosing those items that we would like to show in our annual contest, and perhaps other items we would like to sell as well.

As in past years, the Show Committee met in January in order to review the past shows and determine what parts of this activity needed changing to hopefully make this year's show even better. The following is the complete packet of information you will need for this year's show and sale.

Location: The Denver Stock Show Complex - North Building
Date: Contest April 18, showing and sale April 17 - 18

Contest Categories:

Accessories	Metal Case
Art Deco	Novelty - Transistor
Bakelite	Novelty - Tube
Battery - 1926-1930	Plastic - Tube
Catalin	Portable - Pre 1926
Cathedral	Portable - Post 1925
Classic Audio	Pre 1925
Communication Gear	Speakers
Console - Full Length	Specialty Brand - Wards/Airline
Console - High/Low Boy	Television
Console - High End	Tombstone
Crystal Set	Transistor
Metal Box - 1920's	Tube/Parts Display
Peoples Choice *	Wooden - Line Powered
Best Restoration **	Best of Show **

*=Popular vote by public **=Popular vote by CRC members

Judging Criteria:

- Internal Condition
- External Condition
- Rareness - Meaning relatively few are in existence
- Uniqueness - Meaning novel, and not many like it
- Presentation - Meaning how well displayed, supporting documentaton, descriptions, etc.

As in past years there will be emphasis, by virtue of the criteria weighting, on an entry's condition. The idea is to allow radios of all ages and collector value to be able to compete fairly. Thus, collectors who have given time and care to restoration and/or cleaning to *any* of their radios should not hesitate to consider entering them in the contest. The show is only successful when there is abundant participation by CRC members.

Timetable of Events:

Friday, April 16th - 2:00pm to 8:00pm - Setup

- ✓ This is the only time that you can drive into the complex to drop off equipment. Enter site at N/E corner, then around to west entry ramp.
 - ✓ You can setup Saturday, but you will have to carry equipment in.
- Saturday, April 17th - Set up, Registration, Contest and awards
- ✓ 8:00 am - Setup and Registration
 - ✓ 9:00 am - Complex opens to public, begin selling
 - ✓ 10:00 am - Registration Cutoff
 - ✓ 10:30 am - Judges Briefing
 - ✓ 11:00 am - Judging Commences
 - ✓ 1:00 pm - Awards Posted
 - ✓ 5:00 pm - Complex closes for the evening
 - ✓ 6:00 pm - CRC dinner commences

Sunday, April 18th - Display and sale continues

- ✓ 4:00 pm - Complex closes

Costs for Space and Equipment Rental:

The stock show complex charges the CRC for the spaces assigned and for each table and chair that is used. The CRC pays for the show space and tables but passes on the cost of those items that are used by the sellers. **The cost this year is \$20 for a space and table combination.** Sellers may share this cost with each other in any combination.

CRC Dinner Arrangements:

We will continue to have the annual show dinner at the end of the first day of the show. This is a time when we can get together to relax, enjoy a leisurely meal, talk about the events of the day and have the official announcement of rewards. *You need not attend this dinner to receive your award(s).*

- Reservations must be made by 12:00AM on Saturday with the dinner coordinator.
- You are invited to bring a guest. Dinner is at 6:00PM.
- Payment for dinner must accompany reservations - since we have to guarantee arrangements to the restaurant, there will be no refunds.
- Reservations, for a complete 6oz.club steak dinner, are \$12/person.

Content of Judges Briefing:

- ☒ Explanation/Review of categories and criteria
- ☒ Judging assignments based on membership attendance and judge's own entries
- ☒ Pairing of judges
- ☒ Explanation of entry reviewing and arriving at a judging consensus

Additional Items of Interest:

- Light snacks will be provided by the CRC for attending members.
- Volunteers are needed to watch over displays - Sat. & Sun.
Please consider coming and staying for at least a while even if you're not entered in the contest or selling.
- You are highly encouraged to wear your CRC membership badge.
You will need your badge for free exhibitor entry into the building. You will need your badge to receive complimentary CRC snacks.

A Timely Reminder - please read

Although there have *never* been any problems, you need to be aware that the *CRC does not assume any liability for lost, stolen or damaged articles, brought to this event by anyone, for show or for sale.* The Denver Collector's Fair does provide a show-time walking guard and off hours security.



You too could be selling your radios to one of Denver's largest collector crowds - just like these guys!

It's What's Up Front That Counts!

by
Wayne Gilbert, CRC Member

It's what's up front that counts. I'm sure most of us know the tobacco companies weren't the first to come up with that idea, but it may come as a surprise that this saying may have originally been a part of radio history.

Many of the first home radios were a product of the owner's own hands.

True, he (or she) may have found a likely schematic in a favorite wireless magazine, but it was often up to the enthusiast to assemble the parts and actually build the radio. Components mounted directly to wooden boards often represented

the novice radio enthusiast's first attempt at radio construction, and some of these sets were certainly built with great skill and care. Few radio collectors would refuse a chance to buy even a home-brew breadboard of that period.

The jump from the breadboard style of radio to a radio enclosed in a cabinet was not immediate, but it did come quickly. From a practical stand point, it was easier to assemble a radio with a front panel, and the cabinet was not only necessary to protect the set's wiring and components, it also was a convenient

way to provide stability to the front panel. Cabinets and front panels also provided a degree of isolation for the tuned circuits of the sets.

Concurrent with the change to cabinet style radios

was the surge in sales of the so-called "kit Radios." Companies were springing up all over the country whose specialty was to assemble the necessary parts and sell them as a ready-to-assemble kit which was more-or-less guaranteed to work. This may not seem to be a very



Handsome Panels For These Kit Sets!

FORMICA has prepared handsomely decorated panels for the leading kits of the year, so that home builders can make sets of better appearance. Many of these panels are fully drilled and ready for assembly.

Among the panels offered are Magnafonster, front and sub; World's Record Super Ten, front and sub; Camfield Nine, front and sub; Tyrran, front and sub; Madison-Moore International One Spot for A. C. operation and many others.

Plain Formica panels of any size are also available

THE FORMICA INSULATION COMPANY
4628 Spring Grove Avenue Cincinnati, O.

Leading jobbers everywhere can provide you with Formica products.

FORMICA
Made from Acheson's Lubalite Duro
SHEETS TUBES RODS

Formica has a complete insulating service for manufacturers.

significant or remarkable development to us today, but to the many early radio enthusiasts who had had to track down all the components necessary for even the simplest set and ensure that they were all compatible, these radio kits must have been seen as heaven sent.

While some of these radio kits were to eventually become a completed radio in everything but the name, most of the earliest ones did not come with a cabinet or front panel. Cabinet makers were quick to seize their opportunity and were soon making several styles of cabinets to accommodate these kits. While many of the cabinets were skillfully made from very fine

woods, the appearance of the final product was often judged by how well the front panel fit the

cabinet in size and style. A major deterrent to this matching of panel and cabinet was that while both the radio magazines and the kit makers found it necessary to provide a layout for an attractive front panel, most specified the radio's components by their electronic value. When a specific manufacturer's components were unavailable, suitable alternatives were often substituted regardless of their physical size, and, as a result, finished panel shapes and sizes

tended to vary. (This practice of substituting 'like' components was discouraged when the kit was a house brand. Madison-Moore kits and plans always called for using Madison-Moore IF coils, even when alternatives were available and would have performed similarly.)

The average home craftsman's inability to produce a suitably attractive front panel also provided an opportunity for another cottage industry, and by 1922 there were companies who would make a panel to the kit makers specifications. New materials such as

Fibre Veneer appeared on the market and were designed for the radio builder's needs.

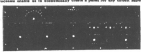
For instance,

both of these types of panels were made with a concealed shielded wire mesh, which according to the manufacturer would, when, "properly grounded, very effectively neutralizes all howl and de-tuning effects caused by body capacities."

By 1923 the home kit builder's acceptance of standardized, professionally made panels was evident in the fact that blank Celoron panels were available in eight standard sizes

Panels for ANY Circuit

A. Is the largest exclusive panel house in the world we are fully equipped to take care of your panel requirements, regardless of the type of tube you desire to use. Special wiring, machinery, engraving and drilling processes enable us to accurately cover a panel for any circuit shown in this magazine or any other special circuit.



For complete prices on panels for a few another circuits write us to receive materials follow:

	4-Tube (500/250/150/100)	5-Tube (500/250/150/100/50)	6-Tube (500/250/150/100/50/250)	8-Tube (500/250/150/100/50/250/100/50)	9-Tube (500/250/150/100/50/250/100/50/250)
Standard, 10" x 10" x 1/2" (Black Finish Panel)	\$1.25	\$1.50	\$1.75	\$2.25	\$2.50
Standard, 10" x 10" x 1/2" (Black Finish Panel)	\$1.25	\$1.50	\$1.75	\$2.25	\$2.50
Standard, 10" x 10" x 1/2" (Black Finish Panel)	\$1.25	\$1.50	\$1.75	\$2.25	\$2.50
Standard, 10" x 10" x 1/2" (Black Finish Panel)	\$1.25	\$1.50	\$1.75	\$2.25	\$2.50

Send your specifications. Write for descriptive literature.

RADIO PANEL AND PARTS CORP.
(INCORPORATED COMPANY OF AMERICA)

58 Warren Street, New York

Makers Branch:
INCORPORATED CO. OF WISCONSIN
Madison, Wis.

DON'T SAY JUST RUBBER—SAY INSULINE

and you could buy Radion hard rubber panels in 18 stock sizes. The pressure was on the kit designers and providers to utilize standard, "off the shelf" components that would consistently fit their front panel layouts.

This standardization of components used by the kit manufacturers provided the next innovation in front panels. Pre-drilling and engraving of front panels to fit the specific kits and designs became common and "standard black" was no longer the only color available. Hard rubber became known as "Insuline" and the Bakelite Corporation entered the market, claiming that their experience in the manufacture of other radio components made Bakelite the product of choice.

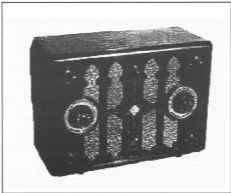
This claim was at least in part true, since Leo Baekeland had been in the business of producing Bakelite products since 1909 and Bakelite-Micarta panels since 1911.

Of course there continued to be radios with front panels not made from "plastic" or hard rubber products. Some like Sear's Silvertone Neutrodyne and Showers Brothers' Consola came with a painted or anodized aluminum front

panel, and Atwater Kent, who had a long history with other Bakelite products, continued to use a wrinkle finish metal front panel successfully. The Lignole Corporation produced a wood front panel that was very attractive and claimed to meet "all panel requirements," but both the home kit builders and the professional radio manufacturers were finding that Bakelite panels were hard to compete with for functionality and price.

Also, while the range of innovations in metal and wood panels were limited, the new plastics industry was exploding with new

products, processes, and materials that could be used for front panels. One of these, Insuline brand panels, was manufactured with Mahogany, Ebony, and Frieze finishes and Etch-O-Gravure designs.



Etch-O-Gravure designs could be quite elaborate, and colored either gold or white, and accommodating enough to allow the Insuline company to encourage kit builders to provide their personal artwork and panel designs.

Not to be outdone, the Bakelite Corporation produced panels in walnut and mahogany colors, with "grain and color so perfect that the eye cannot

distinguish them from the natural woods." However, the one thing that Bakelite seemed to lack was pizzazz, because the Bakelite Corporation soon began selling its products under a number of trade names like Formica, Dilecto, Spaulding, and Micarta. Of these, the name Formica seems to have been the most popular with the public and soon Formica panels could be purchased complete with Veri Chromed designs, a process that allowed Formica to be as elaborately decorated as any of its competitors.

By the end of the decade, even the traditional hard rubber company Radion was forced to produce a "mahoganite" colored panel, and who knows what other innovations would have been developed if the buying public hadn't been enticed away by the modern cabinet designs of the 30s. Boxlike wooden and metal cabinets would be replaced by the more stylishly designed, marbled, mottled and colorful cabinets of a more modern era, and but, to many, there would never again be a radio that could compete with the front panel of Crosley's RFL 75 or Mirago's Ultra-5 for beauty. For them, as well of many collectors today, "it's what's up front that counts," and the front panel is nearly always identified as a Bakelite panel, whether it really is or not.

Sources:

- Citizens Call Book. December 1926.
- Citizens Radio Call Book. Fall 1925. p198.
- Grinder, Robert. The Radio Collector's Directory and Price guide. Sonoran Publishing. p 61.
- Popular Radio. October 1923. p 11.
- Popular Radio. December 1924. p 153.
- Radio Broadcast. May 1922
- Radio. March 1925. p 51
- Radio. September 1925. p 47.

Interpreting Japanese Date Markings

by

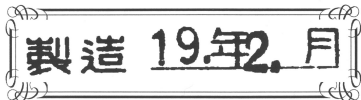
Larry Weide, CRC Member

Recently I was given a box of tubes by a native born Denverite (who went to school with the son of Doc Reynolds - but that's another story). In this box were some Japanese made tubes. They are UZ-30MC 6-pin types that look like mid 30's USA designed tubes but with a G type glass envelope.

The most interesting thing about the tubes is the date on the cartons - as show below. At first glance I

during those historic times. It also turns out that they used dynasty references to mark the beginning of date calculations.

This means that the base date reference used here is 1925 - which is the date that Emperor Hirohito ascended the throne and started a new Japanese dynasty. Therefore, in order to calculate this tube's manufacture date you add "19" to 1925 to come up with 1944. The



took the meaning of the date to be 1932, or 1942 or possibly even 1952. In any case I couldn't imagine why they would mix Japanese and Arabic characters together.

Now it happens that one of my nephews is married to a Japanese woman, so I took a digital scan of the tube carton and e-mailed it to Yukiko to interpret it for me. Sure enough, I REALLY had it all wrong.

I was surprised to find out that it was not at all uncommon for the Japanese to use Arabic numbers even

"2" in the date mark means February.

The tube itself looks to be fairly cheaply made. It has only one thin mica element support disk at the top, and the element stacks are not lined up very straight. This leads me to believe that it is not a military device, but is an old design kept in long production.

I would be interested in hearing from anyone who might have more and/or better information about Japanese tubes.



Olde Tyme Radio Humor

"WHY DO THEY CALL IT WIRELESS?"



A tip of the hat to Wayne Gilbert for submitting this comic

Capacitors and Old Radios

A Series of Articles

by

Dave Boyle in collaboration with Barney Wooters, CRC members

In this first article we thought I would briefly define what a capacitor is and discuss some of their importance electrical characteristics. In the next installment we will tell how they are typically used such as in the

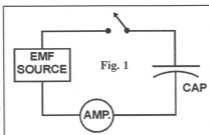
"All American Five" 5-tube AM radio. Radio repair information concerning these AA5 capacitors will also be addressed.

One of the most commonly used parts in radio is the capacitor (from now on called a "cap"). Caps were called condensers in older radio literature. A cap has the ability to hold an electrical charge. The number of electrons it can store under a given voltage is its **capacitance**. Capacitance is expressed in **Farad** units. A farad is an extremely large figure. Commonly, we are dealing with capacitance is **Micromicrofarads** (.000001 Farad. i.e. 1 UFd). Some variable caps, such as those used as tuning condensers (there's that old word again) are

designed down to the micro-micro farad. A typical value is around 365 UFd (.000365 Micro farad).

No actual electron flow occurs across the plates of a capacitor. The charge will build up to the voltage of the source.

This charge becomes an electrostatic charge difference between the plates of the cap. This action effectively blocks the flow of electrons in the circuit (Fig. 1). This characteristic is in direct current (DC) circuits only. Caps used in alternating current circuits (AC), or AC circuits with a DC component behave differently. Briefly stated, in an AC circuit, the plates alternately charge and discharge as the polarity reverses. This effectively produces a current flow in the connected series or parallel circuit. Another important characteristic is that a cap in series with a circuit having a varying DC source produces a current that is alternating. The capacitor is said to block the DC, but pass the AC component. This is an important

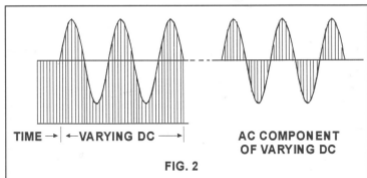


DC flowing in them. When a load is *coupled* to the circuit by a cap only the variation, the AC component, is transferred to the load. Alternating current flows in the load, not varying DC (see Fig. 2).

Factors determining capacitance are the area of the plates (or foil, as in paper caps) exposed to each other, the spacing between the plates and the composition of the non-conducting material between the

the plates of the cap. The higher the leakage current the less capacitance the cap exhibits in an active circuit. What is even worse, and is of concern with old radios, is that old "leaking" caps act more like a resistor and introduce incorrect circuit parameters and operation.

Another rating of a capacitor that we need to pay attention to is the *working voltage*. This is defined as the maximum voltage that the cap



plates. This material is called the *dielectric*. Various dielectric materials, such as air in the tuning condenser, wax paper, Mica, ceramic, glass, water, etc. all have different *dielectric constants*. The dielectric constant will decrease as a function of the frequency of the applied AC, but this is getting into more advanced subject matter.

What is important to the radio repair hobby is known as *leakage current*. Leakage current is

will operate without leaking excessively or shorting out. Sufficient leakage through the dielectric over a period of time (try 30 to 70 years!) can produce a carbonized path across the dielectric, and the cap will start acting as a conductor. In such a case it is said to be burned out or shorted (see Fig. 3). A burned out cap should not be confused with an open one. An open cap has lost its storage ability, either because of the breaking off of an

an *electrolytic* cap, because the electrolyte has dried out.

The working voltage rating of a cap is voltage that the *dielectric* material will withstand per .001 inch of dielectric thickness. This, as with dielectric constant, varies greatly between materials. As an example, air has a dielectric strength of 80, Bakelite is 500, glass is 250, Mica about 2000 and wax paper about 1500. Of course, if moisture gets

above their *rated voltage* increases the leakage current and produces increased internal heat, tending to dry them or destroy the dielectric film. They can even explode - this could ruin your meek disposition. They are *polarized* and must be connected correctly in a circuit.

Caps are often tested to find their power factor. With little or zero leakage loss a cap has a low power factor. Or, in other words, zero



Fig. 3 - An example of the results of leakage and overheating of a cap

into the dielectric these values go to h--l in a hurry! And, in part, that is why I'm writing this article.

Back in the late 1920's a chemical type of cap was developed that has the advantage of small physical size with relatively large capacitance. It is called an electrolytic cap. Although physically small and relatively inexpensive, older electrolytic caps have some disadvantages. They dry out over a period of time and lose their capacitance value. They have an inherent small leakage current when in operation. When in operation that tends to raise the *power factor* of the

leakage equals zero power factor. As leakage develops through the cap the power factor increases and is expressed as a percentage rating of the losses in a cap. A power factor of 1 means all leakage and no effective capacitance. Some cap testers will test for power factor.

In the next issue of the Flash we will be addressing failure modes of caps, and relate those failures to a typical "AA5" Am radio circuit. In addition, we will list some handy cap test hints and actual experiences.

Announcing....
Tube Collectors Association

PO Box 1181
Medford, OR 97501
(707) 464-7470

A group of collectors and historians has recently formed the TCA. This in response to the need for a focused group dedicated to the growing activity of collecting radio and wireless tubes and to sharing historical insight about them

A copy of our first bulletin has been sent to your publisher [*That's the "Flash" folks - ed.*] for you to peruse. Also, your publisher has a copy of our membership application form, and we are naturally inviting you to join.

Although we have the services of an Advisory Board of major collector- historians, we still solicit any further suggestions you may have.

If you have questions on this matter, we'll be happy to answer them:

Al Jones	(707)464-6470
Ludwell Sibley	(541)855-5207

PAST FLASH ARTICLES

By Dave Boyle, CRC member

I've researched 95% of the past Flash publications and I've gleaned out most of the technical and special interest articles. I thought that these articles may be of future interest to my fellow CRC members. The individual articles, sans any photographs, are available from our Flash publisher Larry Weide for \$.50. Our historian, Charles Brett, has back copies of many of the Flash issues available for \$.150.

For brevity the journals are referenced by volume and issue, starting with volume 2 in 1989. As always, the issues are printed every other month starting with #1 each January.

The article titles have been adjusted/alterd by this writer to, hopefully, better define the subject and content (er... I believe this is known as literary license.)

Category	Article	Volume	Issue
History	Boulder radio company	4	2
	Boulder radio company	7	4
	Buckwalter radio company	9	4
	Colorado radio broadcasting	9	2
	Colorado/Nebraska radio history	7	1
	DeForest in Colorado	2	3
	KPOF radio station	9	5
	Madison Moore radio company	9	6
	Martian radio company crystal sets	9	1
	Midget radios	4	3
	Reynolds radio company	7	5
	Victoreen radio company	3	6
	Western Manufacturing company	8	5
Literature	Books - Building an old radio library	8	1
	Books - Radio Boys classic series	8	4
	Horn speakers - Earphone & horn info	5	5
	Patents - Numbers as a source of info	9	5
	Riders - Cross ref. to special repair data	5	1
	Riders - Cross reference data, more	8	1

Category	Article	Volume	Issue
Repair & Restoration	AGC - Problems & Solutions	9	1
	Alignment - AM radios	6	2
	Alignment - AM radios	6	5
	Ballast - Tube substitution	9	2
	Bias - Understanding these circuits	8	4
	Cabinets - Coloring metal parts	5	3
	Cabinets - Finishing dyes and pigments	6	3
	Cabinets - Refinishing	7	4
	Caps & resistors - Philco block info	9	5
	Coils - Magnet wire	9	6
	Decals - Making your own	7	5
	Dials - Making plastic dial covers	7	1
	Hum - Problems & solutions	8	2
	Knobs - Making reproductions	7	4
	Line cords - Resistance	10	1
	Line cords - Resistance, cap replace	8	2
	Line cords - Resistance, repairs	4	3
	Parts & supplies - Listing of services	7	3
	Power - Old battery sets	6	2
	Powerup - Powering up old radios	6	3
	Powerup - Powering up old radios	9	1
	Repair - Shortcuts for AC radios	4	2
	Restoration - 3 part AK82 series	5	1, 2,
	Restoration - Scott Radio	9	3
	Speakers - Designing you own cones	6	1
	Speakers - Electrodynamic vs PM	7	2
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	Tube - Rejuvenation & Repair	8	6
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Special Interest	Phono oscillator - Construction	5	2
	RF generator - Modify for AM transmiss.	8	5

“Radio is a Dismal Failure”

By Thomas A. Edison, Inventor extraordinaire

In the December 1926 issue of Radio News, Hugo Gernsback, the Editor and Publisher of this magazine, ran an article quoting comments by Edison concerning Edison's opinions about radio. This in part is what Edison said;

“The radio is a commercial failure, and its popularity with the public is waning. Radio is impractical commercially and esthetically distorted, and is losing its grip rapidly in the market and in the home. There is not ten percent of the interest in radio that there was last year. Radio is a highly complicated machine in the hands of people who know nothing about it. No dealers have made any money out of it. It is not a commercial machine because it is too complicated. Reports from 4,000 Edison dealers who have handled radio sets show that they are rapidly abandoning it, and as for its music - it is awful. I don't see how they can listen to it.”

Gernsback notes, in his rebuttal to these and other continuing remarks by Edison, the following observation;

“Incidentally, this outburst from the dean of modern electricity was in connection with the announcement of Mr. Edison's latest invention, his 40-minute phonograph record - a great achievement, and one that without doubt will be of much benefit to the phonograph industry.”

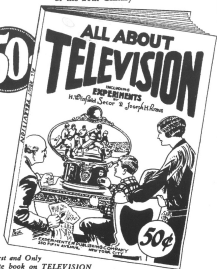
Hmm, I guess the battle between invention and commercialism goes back, ... way back!

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Heard on the Net



CD-ROM Antique Radio Documentation on the Web

At the Jan/99 CRC meeting a number of people expressed interest in the availability of various kinds of radio information, concerning antique radio, that is obtainable on CD-ROM. Of course you need a computer to use this kind of material, but on a cost per page, completeness and availability basis you will find that there's some real bargains out there. It doesn't take much of a search to discover that there's a few one-stop shopping sites, and that the cost from seller to seller doesn't vary that much.

For Example:

Company	Available Items	Web Address
ARRL	QST Magazine 1915 - 1994	www.arrl.org
REA	RCA Radiotron Manual V4 Riders Vol 1 - 23 Sams Dial Cord Stringing Guide QST Magazine 1915 - 1994 <u>Many</u> Collection Sets of Various Repair Manuals, tube subs, etc. Collins R390A/URR Mil. Recvr	www.electrosys.com/cds.htm

Enjoy!

Collector Books for Sale

CRC Members get specially reduced prices on popular collector books. Place and receive your order at club meetings. If ordered for mail shipment add \$1.50 postage for each book ordered. For information and ordering: Charles Brett, (719) 495-8660, brett3279@aol.com. This listing has item and price updates - void all other listings.

	<u>Retail</u>	<u>Club</u>
RADIOS, (GENUINE PLASTIC) OF THE MID CENTURY Jupp & Pina, hard bound, 219 pgs, 1998 PG, 450+ color pics	\$39.95	\$26.00
ANTIQUE RADIOS, COLLECTOR'S GUIDE - 4th EDITION Bunis, 1997 values, revised & updated, new photos, 248 pgs	\$18.95	\$14.00
GUIDE TO OLD RADIOS, POINTERS... - 2nd EDITION Johnson, 277 pgs, 1995-96 prices	\$19.95	\$14.00
ANTIQUE RADIO RESTORATION GUIDE - 2nd EDITION Johnson, 144 pgs, repairing, refinishing, cleaning	\$14.95	\$11.00
BAKELITE RADIOS Hawes, hard bound, 128 pgs, history, color pics, descr.	\$12.95	\$11.00
RADIO, EVOLUTION OF THE - VOLUME ONE 227 pgs, 118 in color, More than 800 radios pictured and priced for 1992, picture from the collections of CRC members Jim Berg and Johnny Johnson	\$22.95	\$16.00
RADIO, EVOLUTION OF THE - VOLUME TWO All different from Volume One, 226 pgs, Color, Radios of the 1920s to 1960s, with 93-94 values, pix from CRC member Jim Berg	\$24.95	\$17.00
TRANSISTOR RADIOS, COLLECTOR'S GUIDE VOL II Bunis, 1996 prices, Full Color	\$16.95	\$12.00
ZENITH TRANSISTOR RADIOS, 1995-1965 Smith, 1998 PG, 160 pgs, 226 color pics, info, descr.	\$19.95	\$14.00
THE ZENITH TRANS-OCEANIC (THE ROYALTY OF RADIOS) Bryant and Cones, 160 gps, 1995	\$29.95	\$20.00
ZENITH RADIOS THE EARLY YEARS 1919-1936, Cones 1997-98 Price Guide, 223 pgs, 100's Photos, Desc., Hist.	\$29.95	\$20.00
RADIOS BY HALLICRAFTERS Dachis, 1996 values, 220 pgs, 1000+ pics, id's, history	\$29.95	\$20.00
CLASSIC TV'S, PRE-WAR THRU 1950'S 86 pgs, color & b/w pics, descriptions, etc.	\$18.95	\$14.00
Machine Age to Jet Age, Radiomania's Table Radio Guide I, '33-'59 Stein, 255 pgs, 100's photos	\$24.95	\$17.00

Machine Age to Jet Age, Radiomania's Table Radio Guide 'II, 30-'59 Stein, 358 pgs, 100's photos	\$28.95	\$20.00
TRANSISTOR RADIOS, 1954 TO 1969 Norman Smith, with prices, 160 pgs, 1000 photos, 1998	\$29.95	\$20.00
PHILCO RADIO: 1928 - 1942 Ramires & Prosis, 160 pgs, 828 pics & drawings, 1993	\$29.95	\$20.00
RADIO AND TV PREMIUMS Jim Harmon, 256 pgs, 200+ photos, 1997	\$24.95	\$17.00



"The Open Trunk" Classified Advertisements

◆ See IFC for ad details ◆

WANTED: Radione German radios Model R-2 1939 portable, Model R-3 1942 Mil. portable. • Zenith Royal 500 hand wired, & 500E models. • Sub-min tube shirt pocket radios, especially Hoffman "Nugget" **John A. Miner** (303) 831-5252 days
hohum@uswest.net

FOR SALE: Reproduction Philco Cathedral cabinet parts. Front panels, rear arches, bottom moldings. Grandfather clock finials, colonial clock top trim and finials. Reproduction 90, 70 and 20(std) cabinets. Other needs such as other style moldings from you sample. Inquire. **Dick Oliver**, Antique Radio Svc., 28604 Schwalm Dr., Elkhart IN 46517. (219)522-4516

WANTED: • The female power (battery) plug for a Kemper portable K-52. Similar to octal except has 7 pins and two round locating pins (edge and center). • Knobs for a Crosley 601 bandbox. **Mark McKeown**, (303) 278-3908 mmckeown@tde.com

FOR SALE: • Crosley "Bullseye" with fins. **Bill Hinkely** (303)730-8539

WANTED: • Stewart-Warner model R-123 chassis, used in receiver models 1231 to 1239 (see Riders volume 6 page

6-2 for picture of chassis). • Chassis for AK 217, and Majestic 371.

Jerry Tynan, (303)642-0553
jtynan@worldnet.att.net

FOR SALE: • Copper Rod, save \$\$\$\$\$\$, several diameters available to make your own soldering iron tips (or I can for you). • Radio repair and restoration service. **David Boyle**, 1058 Colt Cir., Castle Rock, CO 80104
(303)681-3258

WANTED: Any GE or Motorola clock radios you don't want. **Tom Kelley**, 971-1/2 Pleasant St., Boulder, CO 80302 (303)444-1837

WANTED: • Chassis for Sparton Model 931. • Cathedral cabinets for Philco mod 50 & AK 627 • Chassis for RCA 120/124 & Steinite mod 22
• Information about any radios manufactured in Colorado; A&M, Madison/Moore, Buckwalter, etc.
Wayne Gilbert (303)465-0883

WANTED: • Dial drive assembly for a Philco 42-327, or a junker with dial plate, support, dial pointer and sheaves intact. • Case and knobs for a Zenith 6D311 Bakelite set. • Articulated detector arm for a Flivver crystal set. • Westinghouse Little Jewel (Refrigerator); H-124 dark green, H-127

burgundy. • Palomar base/amplifier.

Fred Sodamann

2603 N. Greenwood, Pueblo 81003
(719)543-6654, fritz@market1.com

FOR SALE: • Victor console, 1927. •
GE Tombstone Model A63, 1935. •
Majestic Tombstone, 1935.

• Zenith 5G01, 1950. • Emerson Model
529, portable record recorder, 1950 Two
tone arms and mike - NITB.

• Precision Tube Tester Model 10-54. •
2 spools of jumper leads, 2 spools of
40's hookup wire. **Clyde Benge,**

10057 S. Falcon Creek Dr., Littleton
CO 80126, (303)683-0624

FOR SALE: *Juke Boxes!*

• Rockola 441 "Deluxe" \$300.

• Wurlitzer "Cabaret" \$300.

Dave Wanner, 3230 W. Grand Ave.,
Englewood, CO 80110 (303)797-7563

FOR SALE: • Plug-in peak noise
limiter for National TC5 Revr \$15 •
Zenith rotor wave magnet 9x4x16 \$25 •
Original factory ship. carton for Philco
F743 S7 • Philco "G" elec/dny speaker
\$10 • Crosley Prestotune 12, model
1227 chassis w/tubes \$30 • Sears model
1324 chassis w/tubes \$20 • RCA R-32
chassis (3 pc's) wo/tubes \$25 • Sparton
966 chassis wo/tubes • More stuff,
books/mags, vibrators **Bill Busetti** 902
Bellview #6, La Junta CO 81050
(303)384-2365 week days

WANTED: Working, complete, covers
• Mountain Dew BB92 • Napoleon
Cognac BB93 • Peachtree Cream

BB97 • Scotch Seven BB100 • Mr & Mrs

"T" BB106 • Camel Cigarettes

BB156 • Salem Cigarettes

BB161 • Viceroy Cigarettes

BB162 • 7UP Vending BB239 • Dr.

Pepper Vending BB239 • Batman (black
vest) BB353 • Pick Panther

BB390 • Battlestar Galactica

BB447 • Stariod IM4U

BB486 • Fleischmanns Gin B329 • Ice

Cream Bar B381 • Ice Cream Cone

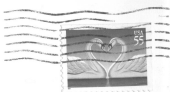
B382 • **Ron Smith**, 145 Carr St.,

Lakewood CO 80226, (303)274-7522

WANTED: • Old Radio magazines for
my research library in Antique Radio.
Need copies of pubs like Radio Design,
Radio Age, and Radio Craft -1920's thru
1940's. Will provide good home, or
purchase singles or full sets at a fair
price. Also interested in publications
from various companies; Aerovox,
RCA, Sylvania, Bell Labs, etc.
Likewise, need old test equipment
literature and manuals. **Charles Brett**
5980 Old Ranch Rd., Colorado Springs
CO 80908 (303)495-8660

WANTED: • Zenith H511/50L6 chassis
or part # 22-1804 & diag/schematic •
Crosley 56TN-L restorable cabinet.
Fred White, Day 303-966-5386, Eves
303-828-3250

Colorado Radio Collectors
Antique Radio Club
5270 E. Nassau Cir.
Englewood CO 80110



FIRST CLASS

**The January meeting is Sunday the 10th at 1:00 PM
in the VectraBank Building at Federal and Arkansas**