

# MRL RADIO FLYER

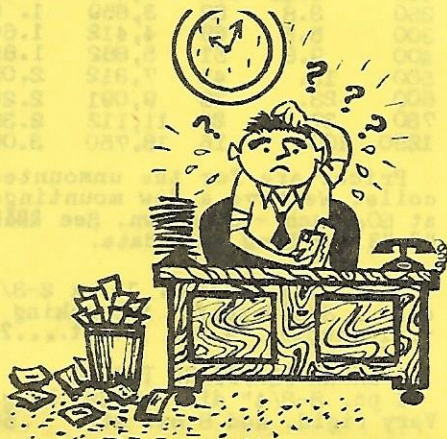
Modern Radio Laboratories  
1131 Valota Road,  
Redwood City, Calif., U.S.A.  
Emerson 6-1983

No. 6

FOR THE EXPERIMENTER

Lithographed in  
U.S.A. by M-R-L

## MRL "RADIO BUILDER & HOBBYIST" is back.



WE GIVE IN! Hardly a mail day goes by that someone doesn't ask about the RB&H. "We wish we had a mag. like the RB&H that isn't all Engineering - and written for the big advertisers that pay for those expensive ads." - And "can't you find some way to put it out?" - "We sure do miss it." Amorose says they all write him, wishing the same, and so on.

WELL - here 'tis. We are going to attempt a schedule - & hope we can make everyone happier. Let us know what you'd like to see in it. Data Sheet material will be included in the RB&H, for one thing - and you know what that is. The successful person profits from his own mistakes. RB&H didn't pay before mostly from lack of paid advertising and lack of a schedule.

**SCHEDULE.** Our plans call for 4 issues per year - spring, summer, fall, winter - just like the birds, but not "for them!" Our aim is the 21st of March, June, Sept. and Dec. when the seasons start.

**SUBSCRIPTIONS.** 12 issues \$2.50 6 for \$1.35; single or back numbers 25¢ each, plus postage. All subscriptions start with present number only - and cannot include back-numbers. Please observe. Present subscriptions may be extended at your option. Mail in your subscription NOW and help us put it over bigger.

**BACK NUMBERS.** Don't forget these - all of them are in good supply. #25-40 at 15¢ each; #41-43 at 25¢, all plus postage. See

CAT. page C-1,2 for index.

**ADS.** Ads are the mainstay of magazines, just like TV and Radio. No ads - no magazine - as subscriptions alone cannot pay the way - but they DO help a lot to keep it going.

**Display ads.** \$3 per col. inch x 2½" wide. Photo-litho'd, so U can draw your own pictures, etc. Covers \$4 per inch.

**Classified ads.** 10¢ per word; 3 times 25¢ per word, no minimum words. Some of the larger general mags. get \$1 to \$5 per word, and don't pull for our field. We know because we've tried a lot of them at different times.

**MRL Correspondence Club.** To get all kinds of letters, literature, etc. in your mail box - just run your name in this column. List your name, address and interests at classified rates. "John Doe, 114 Essex, Santa Cruz, Calif. Crystal, tube sets, swaps, magazines." 11 words \$1.10. City and zone count as 1 word. Many friendships have resulted in the past from this column.

**Closing date for all ads is 10th of Mar., June, Sept., Dec.**

Please do not send ads that conflict with our own business - thanks. Ads will start at the middle of the book - so when you open the book - there's the ad.

**CREDITS.** If you have credits with MRL - they may be applied on ads, subscriptions, etc.

**MRL "RADIO FLYER"** will come out at random - no schedule. It is free to all.

**MRL "DATA SHEETS"** will be put into the RB&H - so no longer attached to the Flyer. By putting in a little more time - we can make up a RB&H. You can still buy Vol. 1 of DS for 30¢ & post.

### MRL CLASSIFIED ADS.

**CRYSTAL Radio Experimenters.**  
Write Leslie Hulet, 305 Hope,  
Lakewood, New Jersey. (9-49)

### MRL RADIO FLYER AND CATALOG.

The MRL "Radio Flyer" will be sent now and then to steady Buyers of MRL. We cannot promise a schedule, but it will come when enough material has been assembled or a new MRL Handbook has been completed.

It will contain announcements, new CAT. sheet listings, price changes and possibly notes from Fans, etc. These CAT. listings will be run into our general

CATALOG whenever possible. So if you order a new CAT. every 6 mo. you will get the current listings. Give your CAT. away and order a new one. But, please do not waste them as they cost us "grub money." Also, if you care to send a dime, it will help out with printing and mailing costs.

The MRL CATALOG, as you have noticed, is different from those of other firms. It lists some 250 items not found elsewhere, i.e., MRL EXCLUSIVELY. Circuits and details are added to make it more useful. You won't buy our stuff if you don't know where & how to use it!

Slow Buyers will be taken off the MRL "Radio Flyer" list - so keep an order coming now and then - we love 'em.

Please include postage on all orders. Balances will be credited, or refunded at your discretion. Remit in any convenient form - we thank you.

### DUPLICATE MAGAZINES.

These are in good readable condition, and all we have at present. One fellow wanted \$1.00 each, but we'll sell them for the price given, plus postage. If you order parts with them you will save on postage. Most are not obtainable - even from the publishers. We do not buy used magazines, so don't send them.

**Radio-TV News.** Nov. 1950; May-June-July-Aug-Sept. 1951; July-Aug-Sept-Oct-Nov. 1954; Jan-Apr June-Aug-Sept-Oct-Nov. 1955  
Each.....35

**Radio Electronics.** Feb-May '50  
July-Sept-Oct-Nov-Dec. 1954; Mar  
May-June-Aug-Sept-Oct-Nov. 1955;  
June '57; July-Aug-Nov. 1958..35

**Radio Chassis.** Argentine, in Spanish. Oct-Dec., 1956; Jan. 1957. Each.....50

**Radio-TV Service Dealer.** Mar-Apr-Nov. 1955; Sept-Nov. '56..20

**POPular Science.** Dec. '53; June 1955; Sept. 1957, each.....25

**Science & Mechanics.**  
Apr. 1953; Oct-Dec. 1954; Feb-Apr-June-Aug-Dec. 1955, Each..20  
**Mechanix Illustrated.** July '54  
Sept-Oct-Nov. 1955.....20

**G.E. Transistor Manual.** 61 p. Theory, circuits, sets, etc. FB data. Good condition.....50

**Electronic Experimenter's Handbook** sold out. Send to Popular Electronics mag. for latest issue, or newsstand, at \$1. Do not send to us.



When you move, be sure to give old address, as well as new, as cards are filed by states. We cannot bring down subscriptions, credits, etc. unless we know.

**ACORN TUBE SOCKETS** in stock. Hammerlunds, and almost impossible to obtain. Isolantite, with mounting ring. \$1 list. MRL .25

**Sylvania Tube Manual.** Loose-leaf. With supplements. Best of condition. 1½" thick. New at \$3. Special price for this one at MRL - \$1.50. Add 1½ lbs. postage

| NEW TUBES. Add to CAT. page T-1. | Type                 | Uses | List MRL |
|----------------------------------|----------------------|------|----------|
| 1LE3                             | Triode, amp.....     | 4.25 | 1.00     |
| 6AG5                             | Det., Amp.....       | 2.60 | 1.00     |
| 6AK5                             | HF Det., Amp.....    | 4.65 | 1.00     |
| 6AW8                             | Triode.; Pentode..   | 3.55 | 1.00     |
| 6BA8                             | Triode.; Amp.....    | 3.70 | 1.00     |
| 6CM7                             | 2 Triodes.....       | 2.80 | 1.00     |
| 6J6                              | 2 HF Triodes.....    | 2.80 | 1.00     |
| 12AU7                            | 2 Triodes.....       | 2.45 | 1.00     |
| 12AV6                            | 2 Diodes, Trio.....  | 1.65 | 1.00     |
| 12BE6                            | Converter.....       | 2.15 | 1.00     |
| 12BF6                            | 2-Diodes, Trio.....  | 1.80 | 1.00     |
| 12SA7                            | Converter.....       | 3.25 | 1.00     |
| 12SQ7                            | 2-Diodes, Trio.....  | 2.65 | 1.00     |
| 12V6gt                           | Power amp.....       | 2.15 | 1.00     |
| 50C5                             | Power amp.....       | 2.15 | 1.00     |
| 57                               | Detector.....        | 4.35 | .75      |
| 58                               | Det., Amp.....       | 4.35 | .75      |
| 75                               | Det., Amp.....       | 5.10 | 1.00     |
| 76                               | Triode Amp.....      | 1.80 | 1.00     |
| 77                               | Det., Amp.....       | 2.40 | 1.00     |
| 954                              | Acorn Det., Amp..... | 7.50 | 1.00     |
| 957                              | " " " " " "          | 7.50 | 1.00     |
| 958                              | " " " " " "          | 7.50 | 1.00     |
| BH                               | Gas. rectifier.....  | 5.00 | 1.00     |
| Amperite 7H-4B                   | Ballast.....         | 3.00 | .50      |

#### TUBE SUBSTITUTIONS.

Checking your tube manual you can find lots of duplicates. A 104 can be put in a 1T4 socket & work about the same. A 1Q5 can go in a 1C5 socket but reverse the fil. battery for the 1Q5.

Our circuits may call for a 201-A tube - use a 30 instead, at \$1.00. Same socket and connections. Amp. factor 25% higher than 01A. 30 uses 2v. fil. so with 2 drycells in series at 3 v. it takes a 10 ohm wirewound resistor (10¢) to cut it down to a safe filament voltage.

#### Projection Lamp.

At least 150 w. for home movie machine. Bayonet. Used, but good condition. Reg. 1.24. 6 oz. .75

#### INFRA-RED HEAT LAMP.

New. 250 watt. Over workbenches, warming farm animals, crankcases, rooms, muscles. Only 1 on hand. 1 lb. post 2.50



**New Flat Bakelite Attachment plug cap.** Best made. Easy to handle. A sure fit. Spring plugs. Wires fit solidly.

11-22. 2 oz. .... .15

#### TIRE CHAINS. (1 pair)



New, in original sack. May be shortened for smaller tires. Fit snugly on tire to prevent wear. For long, hard use. M/O catalogs charge from \$2-3 more. Welded links allow them to be used for towing. Add postage 17 lbs. 5.00

#### 4-SET TV ANTENNA COUPLER.



Couples 2 to 4 TV sets to one Aerial. Excellent for apts. Slightly used but good condition. It usually sells for around \$5.30 net. Special 2.50

#### NEW COIL AND SLIDER DATA.

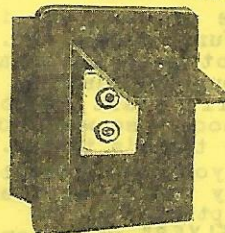
MRL 2XM Celluloid forms 2" in dia. x 4½" long are now furnished with 3/8" rings at each end to accommodate slider rods and other mounting screws. There is no additional charge. Each...30

P2XM forms 2" in dia. x 2" are still furnished with the small ring in one end. 2 for...30

Slider rods. We can drill 2 #4 holes in 4½" slider rods to fit on a 2XM form for 10¢ extra.

When ordering, we can use all the gummed US stamps you care to send for cash except Spec. Dely.

#### FLUSH FUSE BOX CABINET.



With two Fuse-stats. Can mount in shop on wall. Saves running to meter box if you blow a fuse. The front panel 7"x 8½" and 2½" deep For 2 or 3 wire lines. Reg. \$10. 3½ lbs.... 2.00

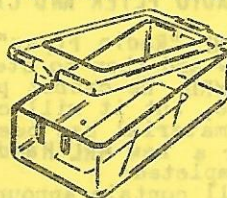
#### USED HARD RUBBER TUBING.

1pc. 3½" dia. x 3½" long. To close out. Add 8 oz. wt.....25

#15 Crystal set coil set of 3. Includes brackets, shaft, etc. New price. CAT.7-114. 2 lb. 3.50

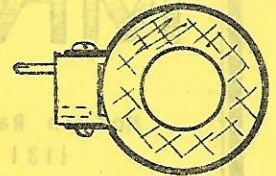
RF Chokes for #8 Xtal set. 700 or 1000 ohms DC. Hi-inductance works better. 6-11. 4 oz. .35

#### PLASTIC BOX FOR MINIATURE SETS.



Suitable for Loopstick sets. A hinged lid. Also for storing Ur parts. 1½" wide x 2½" lg. x 7/8" high. Very neat. 9-8. 4 oz. .15

#### HONEYCOMB COILS.



We acquired some good used HC coils. The readings are for a .001 mfd. or 3 .00035 in parallel. You can figure other capacities accordingly. In following sizes:

| Turns | mhy  | kc. | meters. | net  |
|-------|------|-----|---------|------|
| 100   | .62  | 200 | 1,500   | 1.25 |
| 150   | 1.46 | 132 | 2,273   | 1.40 |
| 250   | 3.8  | 82  | 3,659   | 1.0  |
| 300   | 5.5  | 68  | 4,412   | 1.60 |
| 400   | 9.8  | 51  | 5,892   | 1.85 |
| 500   | 15.  | 41  | 7,312   | 2.05 |
| 600   | 23.  | 33  | 9,091   | 2.20 |
| 750   | 37.  | 26  | 11,112  | 2.35 |
| 1250  | 100. | 16  | 18,750  | 3.00 |

Prices are for the unmounted coils. We have a few mountings at 50¢ each - as shown. See RB&H 42-43 for Long Wave data.

Rotor for Coupler. 1½" x 2-3/4 dia. x 3/16" shaft. For making a variocoupler. 4 oz. 1 left....25

#### LARGE CARDBOARD TUBING

1 pc. 2-3/4" dia. x 15½" long. Very rigid. Add 8 oz. wt... .50

#### TELCO TV MAST BASE.

Holds TV mast to roof. Adjustable to all angles. 1 only. 1 lb. wt.....60



Put up those Aerials this summer. It is our biz to compare competitors' prices, so we are passing it on to you!

| Aerial Wire | A-Co. | B    | C    | MRL  |
|-------------|-------|------|------|------|
| #12 Enam.   | 2.28  | 2.30 | 2.23 | 1.75 |
| #14 "       | 1.41  | 1.62 | 1.56 | 1.25 |
| 7/26 Tinned | 1.00  | 1.00 | —    | 1.00 |
| Ant. Kits   | 1.03  | —    | 1.00 | 1.00 |

Need we say More?

#### #8 SOLID ALUMINUM GROUND WIRE.

Run from lightning arrester to ground rod to carry hi-current. Excellent for other grounds and Xmtg. coils. 1-44. Ft. ½ oz. .05

#### ODD LENGTHS OF AERIAL WIRE.

End of reels may give us some odd pieces. Will clear them at 25% discount. as follows:

|                                  |                        |     |
|----------------------------------|------------------------|-----|
| #16 Solid Enam.                  | 21 ft.....             | .15 |
| #14 "                            | 40 ft.....             | .38 |
| #12 " En.                        | 84' - 1.10; 80' - 1.05 |     |
| 76' - 1.00; 33' - .45; 10' - .10 |                        |     |

Black Spaghetti. New. For #14 wire or smaller. 26-22 Ft. .05

New Hookup Wire from switch points to coil. #22 stranded and plastic covered. Easy to skin & makes a swell job. Tins easily. Try it. 26-29. 20 feet for .30

Nokorode Soldering Paste now up to 20¢ per can. Best yet.

Canadians. Full face value on paper bills. 10% disc. on silver.



Here is a brief synopsis of MRL Handbook 8. Am sure you will find it most interesting.

## RADIO KINKS and QUIPS.

MRL Handbook No. 8

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The scheme of this Handbook is different from others we have written. Pages are alphabetically arranged so you can easily find the kinks, so no need to thumb thru the whole book. 36 drawings help to explain. Parts lists are furnished when needed.

From piles of notes we have selected kinks that we feel are not common to other publications and many that have been asked. Am sure you will find many that are interesting to you.

A few of the items of interest are: figuring natural wavelength of an Aerial in a hurry - an adjustable Ant. system - 5 meter T Aerial - inside doublet for apts. - use of chokes - choke substitution - winding Crystal coils - band/spread condenser - how to get best Crystal set reception - Transistor amplifier for Xtal - HF and LF BC station tuning - 110 line hum control - best DX operation requirements - counterpoise - ground waves - substitute grounds - hum & noise control in Hi-Fi - permanent Hi-Fi needles - speakers in Hi-Fi - panel drilling hints - proper wiring - dials - shielding - care of phones - mike from phones - body capacity in phone cords - complete diagram for AC-DC set without shocks - filaments - resistor substitution box - improving regeneration - motor-boating - shop operation - drilling - universal output trans. chart - baffles - tone - fixing speakers - 2-way 110 switch - DX series-parallel switch - boosting TV stations - TV Ant. data - testing - simple signal tracer - transformer data - Transistor feedback - Transistor battery - Transistor wavemeter - variable grid leaks - many others.

MRL HB-8. 2 oz. postage.....**.50**

### SOME COMMENTS ON HB-8.

We have had lots of good reports on #8 - seems to have filled some of their wants. A few comments follow:

H.S. Sutton, Calif.: "Your HB-8 is about the best reading I've had for some time."

Harris L. Sue, Calif.: "Thank U for your interesting Handbook 8. Lots of valuable infos. in it for me."

Lewis N. Smith, N.J.: "Your new HB-8 is very good. Lots of good ideas in it that will come in handy."

G.H. Thomas, Wash.: "Ur new HB-8 received with great pleasure. Ur 'stuff' always provides a good evening's entertainment & gives the stimulus to keep busy experimenting."

### MRL Handbook 5

Yep - they sure liked HB-5 and here are just a few of the reports on file:

N.J., Lakewood, L.H.: "Contents of #5 are a gold-mine, and you have dug deep to find all these facts you clearly explain. It is worth \$1. Can appreciate the amount of research you have done. Facts have been made clear to Experimenters lucky to read one. Schools and libraries should also have copies."

Fla., Tampa, R.B.: "Have read your HB-5 from cover to cover & it has helped me a lot."

Ont., Woodslee, J.G.: "I have just read HB-5 & like it a lot."

N.Y., Tonawanda, S.S.: "I am an Electronic Engineer working with equipment much more complex than Xtal sets. Have 4 of your HB's & am ordering 2 more. Find Crystal sets very satisfying to work on. So, Ur HB's interest me."

Mo., St. Louis, E.H.: "I agree your HB's are a fine collection of info. They are the only ones that can be read by Tyros. Have HB-5 and looking forward to more of them. Sorry RB&H was QRT."

Mich., Lansing, C.M.: "Received HB-5. I wish you luck. Be sure to announce any future HB's."

OHIO, Newton Falls, S.G.: "Your HB's are worth 3 times what you ask. Ur products are OK."

Pa., New Brighton, C.L.: "Am an Electrical Engineer and really like Ur literature. It contains more good experimental info. than all the so-called Radio and TV magazines combined."

### MRL Handbook 6

What a few of our readers are saying about Handbook 6.

Ill., Chicago, R.D.M.: "The #6 Coil Winding Handbook arrived & I want to compliment you on a very fine job. You sure do a FB job on them and I always look forward to more. I don't know when you will quit making them, but eventually I will have them bound into one big volume."

Canada, Ont., Victoria Harbor, W.R.H.: "Congratulations on your HB-5 and 6. Yes, they are really swell and meet a long felt want. They are in a class by themselves - first class. I noted an error (page 22) where my slide-rule gives 127.5 for 350 and 200 mmfd. in series. Also 350 and 280 gives 156." (Ed. Actually, he is right, but most condensers are now called 350 or 365 mmfd. but are really around 400. Even so, the final capacity is less than the least - so he is right. We are aiming at 140 - so the 156 is fine - with overlap.)

Mich., Hamtramck, H.K.: "Thank you for the MRL Handbook 6. The previous one was also very good. I've always been interested in your FB data and am always ready for anything you publish." (He started with MRL in 1938.)

**FLASH!** NEW PRICE ON MRL HANDBOOKS----**.50**  
Rising costs!!!!

## Popular Raytheon Transistor Book.

No. 2.



Companion to #1. Entirely new book of 60 p. 8 1/2 x 11. No reprints. Has sections on receivers, Xtal sets, amplifiers, regenerative sets, Ham gear, Xmtr, home broadcaster, oscillators, alarms, test equipment, theory, and lots of material not found elsewhere.

9-51. Trans. Book #2. 8 oz. **.50**

(#1 DISCONTINUED.)

I wouldn't wait too long to get this handy Transistor book. These big companies, with books as a side-line - have a habit of cutting off the supply without any notice. That is what happened to Vol. 1 after we had given it lots of advertising. **BUY NOW!**

Credits and Debits. Many don't understand their meanings. A 10¢ credit means your card has been credited with 10¢ we owe you. A debit of 10¢ means you owe us 10¢ on your card (Due MRL 10¢).

Do not add credits. Many will gather up a flock of our order blanks and add up the credits. U have only ONE credit and that is the last balance. Credits applied as orders come in. By having a balance of credits on hand we do not have to resort to sending COD for 25¢ as some firms do.

Canadians buy for less. They tell us they buy from us, pay Customs, tax and postage and still buy cheaper than locally.



# RADIO HANDBOOK

New 15th Edition



## Just look at these chapter titles!

- Introduction
- Oscilloscopes
- Power Supplies
- Test Equipment
- V.T. Principles
- Semi-Conductors
- V.T. Amplifiers
- FM Transmission
- Mobile Equipment
- D-C & A-C Circuits
- Transmitter Design
- Transmitter Keying
- Workshop Practices
- Transmitter Constr.
- R-F V.T. Amplifier
- S.S.B. Transmission
- Amplitude Modulation
- Receiving Equipment
- TV & BC Interference
- Special V.T. Circuits
- Receiver Fundamentals
- Antennas, H-F, V-H-F, U-H-F & Beams
- Speech & AM Equipment
- Radiation, Propagation & Transmission Lines
- Exciters & Low Power H-F Amps.
- R-F Energy Generation

This edition is a re-print of the 14th, plus a few more pages. Almost 800 pages in all. The Rdo man's Bible. We keep one near us all the time for reference. We have sold the Radio Handbook ever since Don Wallace started it in the 30's at \$1 a crack. We don't believe it is necessary to have new editions each year - as Radio doesn't change that much. Also we don't see how they print them at this price. If you are serious about Radio - get it! If bought thru us - it is the same price as anywhere, but it looks good on your MRL card, when it comes to receiving future literature. YEP, it's a big boy now - 6½ x 9½ x 2" thick. We ship it postage paid to you at.....7.50

OTHER BOOKS by the same company, Editors & Engineers, are as follows:

- Surplus Radio Conversion Manuals #1 or #2 for gov't surplus equipment. Each volume.... 2.50
- New Surplus Manual #3... 3.00
- Radiotelephone License Manual. New 2nd edition, larger... 5.00
- Better TV Reception.... 2.50
- World's Radio Tubes.... 5.00
- World's Equivalent Tubes - for substitution of tubes.... 5.00
- World's TV Tubes..... 5.00

All above are postpaid. See us for more details.

Service Charge. 25¢ service charge on all orders under \$1. Old Order blanks say "25¢ min." but this is being changed. The 25¢ svc. charge may be used on any future order for \$2 or more at any time. Make orders \$1.00.

NO SERVICE CHARGE ON LITERATURE.

## MOSCOW ON MRL #10 CRYSTAL SET.

We are getting some good DX reports on this set. The 10, with the selective coil that is usually furnished with the kit, isn't meant for a DX set. It is more for City reception. However - here is a real good Dx list from our good friend Clifford Brown,

Ont., Canada. He uses a Crystal Diode with the 10-A and a 100 ft. Aerial. "Clif" has been a good customer of MRL for over 2 years. Here is his list, received last winter:

| Call. | Station                                 | Miles |
|-------|---|-------|
|       | Moscow (1 hour).....                    | 7000  |
|       | BBC, London (every night for 1 hour)... | 5200  |
| WLWO, | WCKY Cincinnati.....                    | 800   |
| WWVA, | Wheeling, West Va....                   | 500   |
| WKJD, | Fort Wayne, Indiana..                   | 500   |
| WJJD, | Chicago, Ill.....                       | 600   |
| CFCO, | Windsor, Ont.....                       | 350   |
| CKLW, | Chatham.....                            | 300   |
| WQXY, | New York.....                           | 200   |
| CHOL, | Montreal.....                           | 200   |
| WSYR, | Syracuse.....                           | 200   |
| WWNY, | Watertown, N.Y.....                     | 175   |
| CBL,  | Toronto, Ont.....                       | 165   |

Also amateurs in N.Y., Ont., Que., Me., Ohio, Pa.; Ships on the Lakes; planes at Ratcliffe airport, Ottawa, and locals.

We have had some Fans, located in remote poor receiving locations, that got poor volume on some stations, while others were smaller stations that came in better. This is a characteristic of reception in remote places. If you are away from any powerful stations, you may get a #10 coil, with large primary of 160 turns, and use it in place of the regular #10-A coil. The connections are the same otherwise. It will give closer coupling and it should bring in more DX stations than the other. Or, you may rewind the present one, as per DP-34, Country Set. A new coil will cost \$1.50 from us.

As said on DP-34 - the #10 was fine around Reno, with only a few stations. Here it is a different matter, as we are close to KNBC and other hi-watters with a strong ground wave. The coil may be changed without disturbing the balance of the set. The coils and set were designed with this in mind - using the same switch points, layout, etc.

If you want closer coupling with the present #10-A coil- you may unwind the 30 turns #26 en. and scatter it over the primary. This will give your closer coupling.

If ordering the new coil - be sure to state you want the broad tuning one for the Country. 1.50

## SMART BUYERS TRADE WITH MRL.

Why pay twice as much for your parts and get kicked around to boot? Send orders by Airmail. We ship 90% of orders within 24 hours. Hundreds offset any time difference in local buying by keeping an order in the mails at all times. Eliminate traffic and price problems by mail to MRL.

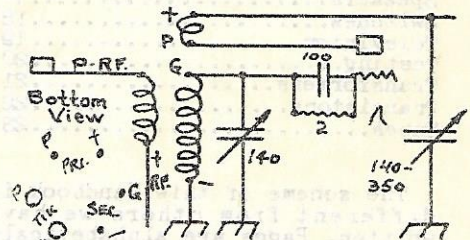
## Re-orders

## speak louder

## than words

Nothing satisfies a seller as much as having a customer come back again and again. We can look on some cards and see where they bought kit after kit from us. We don't say they buy a lot, but it is a fact they come back. Sometimes, when we think we're working for nothing - this helps to sweeten the rough spots. If we stumble onto a better idea in a plan, or method, we adopt it at once. These outfits that "hit & run" - soon run out of suckers!"

## SOME NEW MRL COILS. TYPE E.



We can now build 6-prong coils to fit above diagram for same price as Types O or B (See CAT.) This is a hi-impedance primary like Type O but with secondary & tickler like Types A, 5-A and B. Secondary may be tuned with a .00014 or a .00035 and trimmer in series. A .00014 makes a good regeneration control (see DP-29) for DX. The primary isolates the secondary for quiet tuning on SW bands. Quite a few 6-prong forms on hand, but appreciate it if you would send some for credit.

|        |                     |            |
|--------|---------------------|------------|
| 7-184. | 4 E SW coils. 8 oz. | 3.50       |
|        | Single bands each   | 1.00       |
| 7-185. | E HF-BC             | 4 oz. 1.00 |
| 7-186. | E Broadcast.        | " 1.00     |
| 7-187. | E LF-BC.            | " 1.00     |
| 7-188  | E Long Wave         | 6 oz. 1.25 |

## TUBE BASES WANTED.

Many are ordering MRL plug-in coils without sending in tube bases. As stated on p. E-2 of CAT. we pay 2¢ each for 1-3/8" dia. tube bases, plus any 3rd or 4th class postage. We cannot pay 1st class. We now pay the same 4 5-prong bases - 2¢ each.

However, don't hold up a coil order from lack of bases, as we have several that send a lot. You can get them from Radio shops free. CREDIT ALLOWED on purchases only; no cash paid for bases.

Radio Parts. Most parts in the RB can be obtained from us. We don't omit a good circuit because we don't sell the parts. However, look in CAT. INDEX first before ordering elsewhere. We've been "accused" of pushing our own parts - (the very idea!).



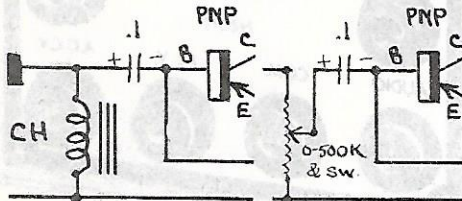
## USED ICA PLUG-INS.



Set of 4 ICA plug-in coils. In good condition. Will work in MRL Type A coil circuit. Only 2 sets on hand. Each set of 4.....2.00  
1 ribbed ICA 4-prong plug-in form, at special price of....25

## NEW COIL COLORS

We are now using the following bright colors for our plug-in coils: 20 m. lite blue; 40 meter orange; 80 lite green; 160 red; HF-BC silver; BC white; LF-BC gold; Long wave yellow. Colors quickly identify the bands. Many changes have been made since we started making them in 1932.

BIG CHANGE IN #26 CRYSTAL SET.  
DP-43

OLD

NEW

Our policy is to make changes for the good, regardless of its cost or inconvenience to us. We reasoned that the selectivity of #26 All-wave Crystal set should be improved - especially after working it on our large Aerial & ground. Volume was also too much.

The original Audio choke tended to short the tuning circuit & caused it to tune broadly. This is swell in the Country - but not so good in crowded areas. So we decided to add a lot of resistance across the circuit.

This changed the choke to an 0-500K vol. control and switch. An 0-1 meg. or 0-100K will also work good. This sharpened it up FB and also gave a control of the volume - as loud stations blasted your ears. Now you may control it at will - and bring the station down to best tone & volume to suit you.

As for the switch on V.C. you can use this for the battery sw. and eliminate the SPST toggle. It will fit the same hole OK.

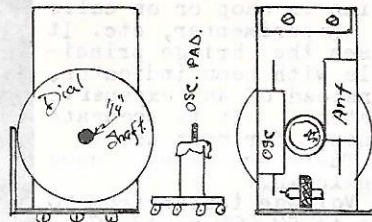
All kits coming out now have this change. Price is the same, as the parts about balance. But DP-43 will be the same as the old, but you can pencil it in as shown above. There will be a delay in making a new DP-43 - as this requires a whole new plan.

Here are a few reports:

Fred Specht, Calif.: (On #26 we wired, using new VC) "Received Ur Diode-Transistor set and thanks for nice job of wiring, etc. I have 200' of Ant. strung up a mountain 75' high and ground. I get Ft. Bragg (10) 250 watter on low volume. At night I get KEX (600); Chico (125); lots of stations not identified."

W. R. Hickmott, Canada: "Keep getting Moscow (4800); London (3400); Montreal on 25 m. (525); 100 mi. daytime every day. I also get Moscow & BBC last summer on your #2 Xtal and 1 stage audio."

## SUPER-HET. TUNER ASSEMBLY.

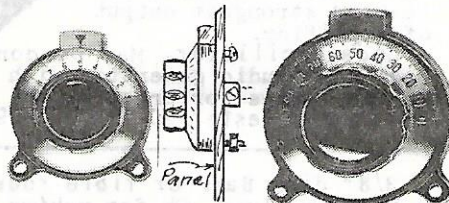


FRONT 1/4" Scale

BACK

Assembly is made up of a dial that tunes Ant. and Oscil. coils by slug-tuning. A padder coil is also furnished. 2 trimmers tune up the circuit. Schematic shows how to build a 5 or 6 tube Super het of conventional design. You furnish small parts and go on to 455 kc IFT, which we have in stock. For the higher advanced Fan who'd like to build himself a Super-het. Only 1 assembly in stock. Ship. wt. 1 lb. 2.95

## PRECISION VERNIER DIALS



Sometimes the Japanese come up with something good - and these dials really work smoothly. 8:1 ratio. Large black knob. Surface mtg. so you'll have to cut cond. shaft for them, or set it back. Very professional looking. Handy for those DX stations. 3 sizes: Dia. Scale List CAT. # MRL  
1 1/2" 0-10 1.75 10-6 1.25  
2" 0-100 2.00 10-7 1.50  
3" 0-100 2.90 10-8 2.25

## GREBE LITZ-WOUND BC COILS.

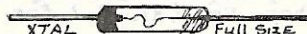
Litz is better for BC so mfrs. took advantage of this in the 20's. Coils now hard to find. OK for experimenting. Wound on Bak. tubing 1-5/8" dia. x 3" long. Green silk. 3 left. Each... .75

## TRANSISTORS - DIODES - CRYSTALS.

CK-718. PNP. Sim. to 721....1.50  
CK-721. PNP. Sensitive.....2.40  
CK-722. PNP. General amp.... .99  
CK-768. PNP. Hi-gain.....1.50  
Texas PNP. General amp.....1.50  
" NPN. " .....1.50

## FAMOUS N-99 GERMANIUM DIODE.

This is Germanium instead of Iron pyrites, as previously reported. See DS Vol. 1, p. 10, for report on DX reception from all over the World. We bought all the

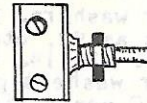


Mfr. had so you'll have to get them from us. CAT. 9-52..... .45

IN60 Germanium Diode. A very sensitive Diode at a good price. Try it in your rig. 9-41... .40

## USED BRADLEYOHMS FOR TRANSISTORS

Mr. Heintze has figured that the best control of a Transistor for DX - is to use one of these



between base and B supply. This gives a sensitive control. These are all used - but test OK. Run from 0-1 meg. or higher. We got a lot of them. Also good for controlling B supplies. 19-6. .15  
Dome knob to fit. 10-11. .10

Tiny Transistor output trans. 500 ohms CT to 3.2 VC. Helps to match speakers. 24-17. 1.50  
50 ohm sec. outputs. 1.00

New Miniature Transistor cond. 1 mfd. x 25 v. 8-127. Each .20  
New MRL Nickel-Silver catwhisker wire. Fine. Very good. Sold by the foot. CAT. 9-9. Foot.....05

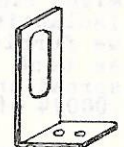
Philmore Supertone Xtal Sets closed out. We still sell the Little Wonder Sets. Same circuit and construction. 14-4. 1/2# 1.15

Enclosed stands now up to us. CAT. page F-1. No. 9-18.....50

Fahnstock clips. 3/4" and 1" now 15¢ per dozen. Double clips out of stock. Use 2 singles with common screw to make doubles. NEW - 1/2" np tiny Fahnstock clips at same price. 9-29. 1/2"-doz. .15  
8-32 Knurled BP Nuts. Nice new shiny ones. 4-6. Dozen.....15  
3/16" square Slider Rods. Now 3¢ lineal inch. 9-26. Per in..03

## NEW BASE-MOUNTING BRACKET.

This will fit the standard 1-hole mtg. for cond. & V.C. Its 5/8" wide x 1" at base x 1 1/2" high. Upright has slot 3/8" x 3/4" long for adjustment. 13-9. .15



## NEW RESISTOR SIZES.

New engineering techniques are requiring additional sizes. Add following to your MRL CAT. p. R.  
1/4 watt. 22 - 68 - 82 - 220 - 270 - 300 - 330 - 1200 - 3300 - 3900 - 5600 - 6800 - 18K - 56K - 68K - 82K - 120K - 180K - 330K.  
1/2 watt. 390 - 470 - 1800 - 4700 - 22K - 47K - 220K - 270K - 470K - 1 1/2 meg. - 1.8 meg. - 2.2 meg. Same price as Catalog.

Burgess Flashlite cells. Best you can use. CAT. 3-1. Each .20  
65 ma. Selenium rectifiers for small rigs. 3-20. 2 oz..... .90  
TV Cheater Cords. Fit into TV set and into 110 wall. Each .50  
Small Red Pointer Knobs. Few in stock. Specify red..... .12

100 Watt Soldering Irons gone. A few 55, 75 & 85 watters left. See Cat. for prices.

DPST Toggle Switches back. See CAT. E-4. CAT. 23-5. Each.....40  
SPDT Toggle Switches back. Up. Fine stock. 23-1. Each.....35




SUBMINIATURE POCKET  
TESTER.

3-48 x  $\frac{1}{4}$ " FH Machine screws. R  
ideal for APC Micro condensers.  
13-186. 3-48 x  $\frac{1}{4}$ " FH. Dozen .09  
2 x 3/4" FH Wood screws. Hard  
to get. 13-81. Dozen.....10

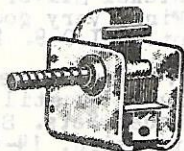
Metal Spacers. #8 hole x  $\frac{1}{4}$ "  
wide x  $3/8$ " hi. 13-153. doz. .15

#10 x 1" SCREW & WINGED NUT.



Neat screw with ornamental head. Tinned winged nut to fit. For fastening chassis to your panel or cabinet.

13-90. Screw & Nut. 2 for .05



(D) .00014 mfd. Variable condenser. Same as .00035 but with less plates. Works OK on 1-tube without trimmer cond. Base mtg. with screws. 8-4. 6 oz.....1.25

Screwdriver adjustment but you might rig up a shaft for it. Has Isolantite base; plated plates. We furnish screws. May be used as tank condenser and a band-spread around it for S.W. New.  
 .00014 mfd. Micro. 8-94. 1.00

Our .00035 Var. cond. (8-7) R really 15-409 mmfd. (.000409) & even better than .00035 as you have a wider tuning range.

Used Variables all gone.

|                                |    |
|--------------------------------|----|
| Mica or ceramic fixed cond. as |    |
| .00001 mfd. CAT.8-126.....     | 15 |
| .00042 ".....                  | 15 |
| 30 mfd. x 450 v. Can.....      | 50 |
| 50 mfd. x 25 v. 8-39. back ..  | 40 |

Bar Knobs. Red 1 1/2" 11  
CAT. 10-24 11

Arrow & push-on knobs GONE.  
MRL Log Dials. Excellent for  
permanent logging of DX stations -  
\$1.00 each. Replaceable scales  
at 10¢ each.

Dial Lamps all types now 15¢.

2 watt Neon lamps CAT. 20-9 have gone sky high. Present ones contain Argon gas, which is blue but work the same. Present stock at \$1.00 each, then they'll go to \$2. Order yours now.

Junior Microphones are now up to \$1.50 Each.

Pocket size 3"x 4"x1 1/2" deep. Neat metal construction. Ideal for TV, Radio or sound Technician in shop or on calls - Experimenter, etc. It uses the bridge principle with Neon indicator, instead of an expensive meter. It is accurate enough for most uses.

There are many uses including:

Voltage tester from 70 up to 50,000 v. AC-DC.

Audio Signal Generator  
approx. 1000 cycle note,  
that may be varied.

Signal Tracer for all stages of TV or Radio.

TV Automatic Gain control voltage substitution tester to control picture quality.

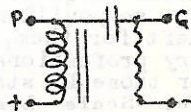
Leakage & Short tester  
for condensers.

Continuity tester for various parts and circuits.

Visual Output Indicator. Connect plate of the last tube to chassis for testing strongest output of amplifier.

Code Oscillator. May be connected as Audio generator with a key in series for practice.  
Eby Pocket Tester. 20-22. 1/2 5.95

3/8" dia. Bak. or fibre rods.  
4 to 5 in. long. Ok for making a  
neutralizing screwdriver or oth-  
er uses in shop. Per rod.....10



Rauland Lyric Audio Impedance units. Few left. Pri. has hi-impedance choke, and into coupling cond. and resistor input to power tube. Once sold for \$6. Excellent tone. 24-25. 1 1/2 lb. 1.50  
3:1 Audios. 24-18. 8 oz. 1.50  
4:1 Transistor Audio Transfr. 200 ohm step-down to 50 ohm. Use with Transistors. 24-16. 1/2 lb. 1.50

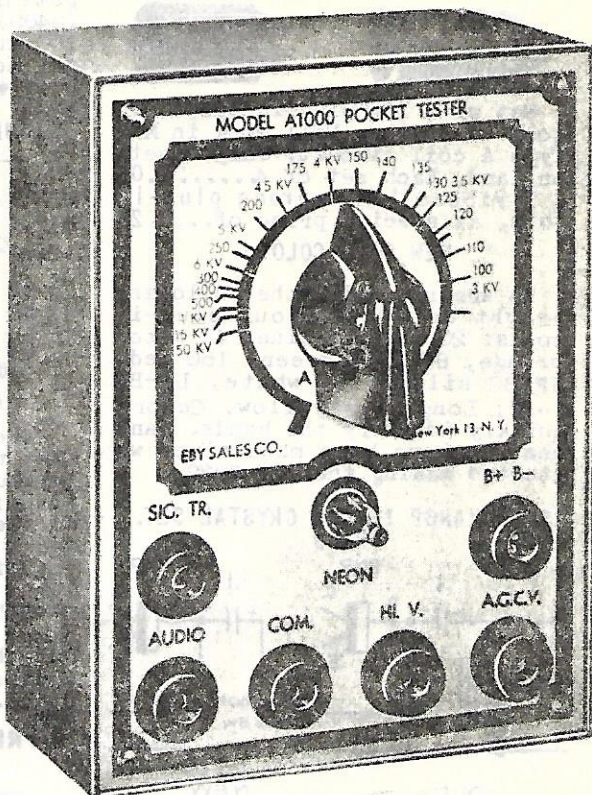
Black Empire Cloth. Eureka! We found it. 4 square inches 1¢.

**EDITORS & ENGINEERS PUBLICATIONS**  
Radio Handbook, 15th Ed.....7.50  
World's TV Tubes. CR, Special  
purpose, etc. Postpaid.....5.00  
All others as listed in CAT.

WANTED. "Antenna Manual" by Ed. & Engr. now out of print. Advise best price delivered to us. Get OK from us b4 shipping.

"Radio Amateur Call Book" now \$5.00 postpaid. Getting to be a big boy. See CAT. 0-1 for data.

Aluminum Panels for 1-tuber up to 30¢. Size 4½ x 6 - no other sizes at present.



RIDER'S MANUALS. See CAT. O-1.

We still have these 3 manuals, in good condition. Any Radio man will tell you circuits have made very few changes since then. If you want to experiment, they are a mine of info. on circuits. May average more than 2000 circuits per book - and we'd charge you \$2500 for circuits at \$1.25 each - that you get for \$7.50 each.

New Headphone Prices. See CAT.  
P-1. Featherweights and Profes-  
sionals same price.

|              |            |      |
|--------------|------------|------|
| Acme 4M dbl. | 17-52..... | 2.56 |
| " 2M "       | 17-9.....  | 2.11 |
| " 1M sgl.    | 17-10..... | 1.27 |

**Double Phone Cords now 60¢.**

Please change your sheet P-1.

7" PM Speaker with matching  
output trans. Good cond. Only 1  
in stock. 3 lbs. wt.....2.00  
2x3 PM Speaker. Only 1 left at  
closeout price of (#) .50

NEW VOLUME CONTROLS.

|                              |      |
|------------------------------|------|
| 250K with 500K & switch..... | 1.00 |
| 5K or 10 meg. & switch. Each | .75  |
| 250K with no switch.....     | .50  |

NEW RESISTORS IN STOCK.  $\frac{1}{2}$  watt.  
220K-470K-1.8 meg.-2.2 meg. .05  
We now use 2.2 meg. as it is  
better for grid leaks for 1-tub-  
er than 2 meg. for most tubes.

Measured resistors. Add 5¢ to resistors for closer values.

Chap. 12, 13, 14, 15



another MRL Handbook...

by Elmer G. Osterhoudt.

MRL

HB-4

30¢



Uses  
1C5gt or  
1Q5gt Tube  
1 Flashlight Cell  
1 22½ v. B-Batt.

5½ x 8½

24 pages

18 full size drawings

# 1-TUBE D.C. ALL-WAVE RECEIVER

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## SOME OF THE QUESTIONS ANSWERED IN HANDBOOK 4. Pages given.

What is the logical method for learning Radio? Ans. on page 3.  
How is this set good for the learning of code? p. 3.  
How does the small set field work into a large Hobby? p. 3.  
Why is this set called the single circuit tuner? p. 3.  
What are the advantages? p. 3.  
How do we substitute a standard variable for .00014? p. 4.  
How does this combination select the range of coils? p. 4.  
Why is the Antenna condenser the most important part? p. 9.  
What is the purpose of the insulated extender to panel? p. 9.  
How does distance between the plates of the Antenna condenser affect the set? p. 10.  
Why is heavy wire used for RF circuits in this set? p. 10.  
On what bands is it most important to be careful? p. 10.  
What is our new method of systematic wiring? p. 12.  
What special care should be used around sockets? p. 12.  
Why do we make the grid leads short as possible? p. 12.

What does size of regeneration condenser tell you? p. 13.

Why are celluloid coils preferred? p. 13.

What are two methods of finding range of condensers? p. 15.

Why is tickler of 20 m. coil interwound with secondary? p. 15.

What band works best? p. 15.

Why does it take 2 coils to cover the broadcast band? p. 15.

How does splitting the BC help the Hi-Frequency end? p. 15.

What lengths of Aerial are to be used in City? Country? p. 15.

What is life of batteries? p. 16.

What effect does reversing the A polarity have on SW? p. 16.

How far should one get on this set? 7½ pages of reports.

This is one of our best MRL Handbooks. It was issued to replace our original **Big Plan (BP) 2**, of the same name. Much care has been given to its preparation, and every effort made to give all necessary details.

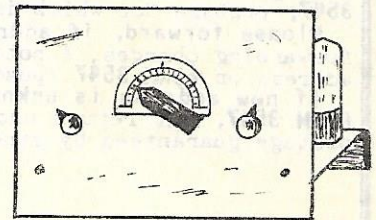
The Handbook is our standard size 5½" x 8½" - or pocket size. It is printed in easy-to-read type, in an easy-to-read manner.

The One-tube set, it describes weighs but 12 ounces. Literally hundreds of them have been sold to satisfied customers, so the rig is not an experiment on the market.

The circuit is simple, and is easy to assemble and wire. The DX ability is due to the layout of the proper parts, Antenna condenser, and little kinks we have learned during its sale the last 13 years.

Complete parts lists are given in detail. While we prefer certain parts, the whole list may be purchased at any good Radio Parts store.

On its 24 pages we have attempted to show all drawings in full size, so measurements may be made directly. It is easy to lay out the panel, base, etc. by just removing the staple from the Handbook, and placing sheet directly on the flat surface. A



center punch is then used to mark the hole centers, for easy layout.

Our new system of systematic wiring, showing starting points, etc. will help the novice. One may use the schematic or pictorial diagrams as he wishes. Details are given, as we progress, why certain methods are used.

Complete data for winding all the coils from 20 meters up thru the Long Wave band of 830 meters are shown.

While the majority of the 1-tube kits have been sold to Experimenters, many have been sold to Engineers, and other professional men, as a diversion from TV sets. This Handbook should also be in the hands of every School instructor, when he reaches the part of his course devoted to the study of Radio.

Small set building is again becoming a big Hobby, as attested to by thousands on our mailing list. For over 20 years, several of us have stayed with this field and kept it going, so now the interest is increasing.

7½ pages of "Performance Reports" are given. These show, in condensed form, and alphabetically by Countries, States and Cities, some of the best results we have heard about. Besides the station call letters, we have figured the approximate airline miles, which run up to 12,000. Now and then a Fan reports some special kink, or change he has made and found useful.



MRL "RADIO BUILDER & HOBBYIST" 12 issues \$2.50; 6 for \$1.35; sample 25¢. Issued several times per year. For Experimenters of all ages. Lots of constructional articles. Radio men need it!

BACK-NUMBERS MRL "Radio Builder & Hobbyist." 19 back issues from #25-43. A year's work in constructional articles alone. All 19 sent for \$3.15 & 1½ lb. post.

MRL "DATA SHEETS" Vol. 1. 12 p. nothing but data of all kinds. No advertisements. 30¢ & postage.

MRL POPULAR HANDBOOKS 50¢ & post  
1. Headphones; Operation, Repair  
2. MRL #2 DX Crystal Set.  
3. Crystal Detectors.  
4. MRL 1-tube DX DC Receiver.  
5. Crystal Set Construction.  
6. How to Make Coils.  
7. Experiments with Magnetism.  
8. Radio Kinks & Quips.  
17. 20 Crystal Set Circuits.  
25. 18 " " "

More in preparation.  
MRL Handbooks are known around the World. Written so you can understand them. Each with 24 p. of good condensed material.

MRL DETAIL PRINT FILE #1. Has 15 detailed plans needed by all Rdo Experimenters & Dealers. All are photo-lithographed. Easy to read and understand. #1. 2 lb. 1.00

MRL "RADIO FLYER." An occasional publication for our buyers and subscribers. It's free.

MRL RADIO CATALOG. Many parts made only by us. Prices beat most "wholesale" houses. Send 10¢ to cover mailing cost. Uses explained for all parts with all kinds of diagrams, etc.

From

Modern Radio Labs.,  
1131 Valota Road,  
Redwood City, Calif., U.S.A.

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Please forward, if addressee guarantees forwarding charges, & notify sender of new address on FORM 3547 (postage guaranteed). If new address is unknown, do not send FORM 3547, but return undeliverable mail, postage guaranteed by sender.

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Calif.

Rec. 3/12/59

To..... Frank E. Bryner  
Rt. 1  
Worthington, West Va.

#### WHAT SOME CUSTOMERS SAY:

Argentina, Buenos Aires, A.L.M.: "RB is fantastic and best Radio mag. we have seen."

AUSTRALIA, Sydney, J.S.T.: "You might think it queer - everytime I get lonely I dig into RB."

CALIF., Claremont, D.F.: "RB is answer to a Radio Fan's prayer. You'll get more orders from me."

CALIF., Hawthorne, J.R.: "My friend started dealing with you, and he got me started."

CALIF., Hayward, H.H.: "Enjoyed reading RB. Brings back the past and foresees the future, in a way that's enlightening."

CALIF., Inglewood, G.A.: "Your DP file is great, and worth many times the price asked."

CALIF., Los Angeles, J.G.S.: "Your prices fully 60% below Los Angeles' prices."

CALIF., Oakland, O.M.: "Am well pleased with your circuits. Never expected so much of a Xtal set."

CALIF., St. Helena, S.S.: "Your RB's unprecedented for the money and your service is great for Radio Experimenters - in a class by itself."

CALIF., San Leandro, M.F.: "RB tells much more than a 50¢ mag."

CALIF., Weaverville, C.E.V.: "I have read the Catalog and RB's

so much, I almost know them by heart."

CANADA, Man., Duck River, M.J.: "Have appreciated dealing with U as you are the only one offering help to beginners."

CANADA, Ont., London, C.S.: "I like way you write explanations. Very easy to understand."

CANADA, N.S., Halifax, F.W.: "I have built 6 of your sets and found them all good."

CANADA, Ont., Toronto, B.S.: "I think it is a great hobby, and I can see your prices are very fair from your Catalog."

CONN., Waterbury, N.P.: "There is hardly a store in Waterbury that has parts listed in your Catalog, at such prices."

FLA., Tampa, B.B.M.: "Keep me on your mailing list. I read everything you print cover to cover."

GA., Milner, K.J.: "Think RB is better for money than big mech. mags. Of all the places to trade I like yours the best."

ILL., Chicago, R.D.M.: "RB is the only real mag. for serious Xtal and 1-tube Experimenters. Keep up the good information."

Iowa, Limesprings, L.S.: "I give up! Can't stand it any longer. Have to keep RB coming. I've never found relaxation in any other mag. like the RB. There's

so much in it to learn; to try."

KANSAS, Almena, S- Radio Svc.: "RB is swell mag. for Experimenter, beginner and all Radio Fans, keep RB for all us guys."

MD., Baltimore, M.M.S.: "Many thanks for helpful info. and the prompt service you have given."

MASS. Clinton, R.L.B.: "I received my parts. Can really say I have received catalogs all over the US, but none like yours. So plain, and easy to order."

MASS., Lawrence, H.P.L.: "Have been making Xtal sets for 4 yrs. but your plans take the cake. I find that they are so simple to build, and if one follows the instructions, they always work."

MASS., Wellesley, G.E.H.: "I am head of Radio Club, and believe I struck a Gold Mine in your literature."

MICH., Detroit, V.H.: "I have enjoyed many hours reading your RB and Handbooks."

MICH., Detroit, G.R.: "Gotten a lot of kick out of your literature. Altho I got a Scott and 2 portables in the house, I still like to play with little sets."

MICH., Highland Park, J.A.B.: "Sets built from your plans work fine. In days of multi-tube sets we still like small ones."

Hundreds more on file....