MRL RADIO FLYER

FOR THE EXPERIMENTER

Modern Radio Laboratories
328 Fuller Street,
Redwood City, Calif., U. S. A.

No. 3

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

NEW

DATA SHEETS.

Here is something we are sure you will like. You know this material piles up around here so fast - and we have to do something about it. It is a shame to let it become obsolete- or throw it away as all our Fans can use it so well. When we had the RB&H we could use some of it up. We know from experience how Fans "eat it up" - so we hope we have started on a good adventure.

MRL "Data Sheets" (DS) will be sent out in 3 sections for each volume. We expect 4 DS with each issue of the Flyer, there being 2 DS on each sheet. With the 3rd section we will add a cross-index sheet that you can file in a binder for future reference. If you came in late - you can buy the other 2 sections for 10¢ for each section - and you'll be up-to-date.

Steady buyers will get all DS as issued FREE. With each issue of the Flyer we will throw out the non-buyers - but they can get future copies of the DS when they start again. We don't expect buyers to rob the bank- but a certain amount of activity is required on your part.

So - OM - look them over and tell us what you think of the idea. We'll never run out - as we must have 100 lbs. of material when we can use it. At MRL we think it is a good idea.

TESTIMONIALS - PRO and CON.

Many wonder why we only give initials on testimonials. Here are a few of the reasons:

(1) Lots of customers don't want to be deluged with mail - without their consent.

(2) The Federal Trade Commission is very definite about the use of testimonials. This is especially so if we use your name and address. Also, they must be used within a certain time.

(3) Names may be used by other firms - sometimes with ulterior motives.

By running "Penn., Phila. E. R." - we are only interested in DX reports, uses of parts and sets, experiments and suggestions from this Fan from his location. Time is no element in this case. In fact, improvements in equipment may work in the reader's favor. Some Fans may put more stock in his reports than ours. (hi) It gives you something to work for and compare. It also helps us to judge and design parts and circuits for more universal use.

So, send in your reports - let us ALL help each other. Others want to know what YOU can do. (Of course, we may now and then squeeze an order out of it. hi)

MRL CLASSIFIED ADS.

No more ads accepted. But, to fulfill our obligation to past advertisers - ads may run out.

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

WANTED - Early wireless equipment, books, magazines, catalogs. Describe and give price. V. Phillips, 1010 Monte, Santa Barbara, California. (6-47)

THE "SURPRISE Crystal" goes over with big results. Five crystals and the "know and How" all for a dollar. The Nevadium Company, Abita Springs, Louisiana (3-46)

TAPE wired "Peppy Pal" Crystal Receiver Kits. No Solder - no tricky connections. Uses Silicon Diode! Foolproof assembly diagram and directions. Excellent project for folks from 6 to 60. Delivered price $1.50; with Phone unit $2.50. Radi-Ore Labs, 38 Oneida Street, Lynn, Mass. (3-46)

USE OUR CORRECT ADDRESS.

Try to use our 328 Fuller St., Redwood City, Calif. address. We still own the Valota place but your letter may be lost in the mixup. We formerly operated in S.F., Oakland, Hayward, Reno, San Carlos. We owned property in all these places - and our biz reputation has always been OK.

Also be sure your return address is on your letter.

HB-7 and RB&H #46.

For unfilled subscription to RB&H - HB-7 is the equivalent of #46 RB&H. The law does not require completing subscriptions on any magazine that has been suspended. But MRL is different, we like to give value received.

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 and 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.

MESSAGE TO RB&H SUBSCRIBERS.

To complete your subscription to RB&H we are filling it out by sending you the latest MRL Handbook as issued. At 30¢ each you are ahead. Subscriptions cannot be renewed. If the square has a checkmark it designates the end of your subscription period.

You will also be ahead as with our new plan we can get out our Handbooks faster than RB&H.

You'll get MRL "Radio Flyer" as long as you buy a reasonable amount each year. Write for a CATalog anytime you need one.

Thanking you again for your past desire to help RB&H. May U stay with us a long time.

73 -MRL

SUBSCRIBER:
If this square is checked - this is the last MRL Handbook you have coming.

Here is a brief synopsis of MRL Handbook 7. Am sure you will find it most interesting.

EXPERIMENTS WITH MAGNETISM AND COILS.

MRL Handbook No. 7.

C O N T E N T S.

We have attempted to explain a lot of the peculiar actions of Magnetism, in relation to coils. Over 30 experiments may be conducted with very little equipment. There are also other drawings that help to make it more interesting reading.

Coils work under very definite rules. As we experiment with Radio we are apt to take a lot for granted. If we know some of the simpler rules - it is easier to go forward. This Handbook goes into these important rudiments of coils and their operation. It is a companion for #6 Handbook.

In early Radio days the writers had very divergent theories on Magnetism and Coils. We have attempted to cover some of these differences and bring the subject up-to-date.

Much data is given on magnetic materials. It explains what are best for magnets, coils, chokes, transformers, etc. Latest core data is given in a chart.

Quite a bit is given on various types of low-frequency audio and power transformers.

A lot is explained about the shielding of parts with magnetic and non-magnetic materials and which are best and why.

Details on figuring coil inductances in series and parallel are explained. You can also rig experiments so you can "see" the effect of counter emf.

Lots of material on AC resistance and what it comprises. It tells why good coils work better and what to look for in making better DX coils.

Details on making a simple galvanometer, contracting helix, repulsion coil, current-wave tester, and other gadgets.

We are sure it will be as interesting to you in reading it as it was our writing it. Add it to your MRL Handbook collection.

MRL HB-7. 2 oz. postage.....30

Here is more info. on our new **MRL Handbook #5.** Send your order in NOW - and get going!

CRYSTAL SET CONSTRUCTION.

MRL Handbook No. 5.

C O N T E N T S.

There are few Beginner books on Radio that really begin. Most of them start half way up the ladder. We have had so many inquiries about the simpler forms of Radio - that this Handbook is a necessity. Symbols accompany all drawings to learn parts.

It is sectionalized so you can easily refer to it without reading the whole book.

MRL HB-5. 2 oz. postage .30

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."

Here is more info. on our new **MRL Handbook #6.** Send your order in NOW - and get going!

HOW TO MAKE COILS.

MRL Handbook No. 6.

C O N T E N T S.

You will find lots of good information in this Handbook. It contains 46 drawings and 3 valuable charts. A lot in a small space but covering it well.

It leans toward the Novice or Experimenter and shows him how to make coils easily without a big investment in equipment.

MRL HB-6. 2¢ postage..... .30

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 then 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. Am sorry about the demise of RB&H, but believe the new Flyer will help to fill the gap. I still am dabbling in small sets." (Ed. He started with MRL in 1938.)

More Than 100,000 Experimenters Have This Popular Raytheon Transistor Book..

On CAT. page F-6, sent out with last FLYER we made a booboo on the price of this book. It's 50¢ instead of 35¢, plus 1 lb. postage. As book only weighs 10 oz. you can add 6 oz. of other mdse. at no additional postage.

9-49. Trans. Book #1. 10.oz. .50

TRANSISTOR BOOK No. 2.

Companion to #1. Entirely new book of 60 p. 8½ 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

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

Radio Handbook
New 14th 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. Amplifiers
- 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 Ampls.
- R-F Energy Generation

768 pages. For all classes of Radio Fans. The Radio Bible. We send it postpaid, so please order it from us.....7.50

"Antenna Manual" out of print. Cross it off CAT. 0-1 as it will not be reprinted as he cannot find an author to handle it.

Canadians buy for less. They tell us they buy from us, pay Customs, tax and postage and still buy cheaper than locally. Also, postage rates same from us as from Chicago, New York, etc.

MRL DETAIL PRINT FILE 1.25.

Still being made up and sold all the time. Price will go up to 15 prints for $1.00 when we get numbers 1-15 revised.

DP-file still contains the same numbers as CAT D-1,2 - 46 in all at $1.25. Be sure to add 1 lb. postage. Here again you can save on postage as the file weighs but 10 ounces.

Following at 10¢ (3/25¢) plus postage,when ordered separately. For this trip we are adding DP-12 and 22-A -description below.

#1 MRL #37 Push-button Crystal Set. Plan shows schematic; pictorial front & rear panel views; how to mount trimmers; coil data etc. We have also added a SPST switch to increase the range, as different from circuit in HB-25. Just throw a lever to a station.

#2. MRL #33 Selective Crystal Set. Shows simplest layout and all is mounted on the panel. It gives detailed drawing of all connections in pictorial. Also shows hi-gain connections. You have a variable selectivity control and other features.

#4. MRL 15 1-tube DC Circuits. A plan sold usually thru our ads that shows 15 good tested plans on a page. Also complete parts list. Shows Lo-B cir.; variable screen grid; reversed Electron-coupled; space charge with 6 v. B.; super-regenerative; reflex; long wave; etc.

#11.MRL Type D Antenna Coupler shows full-sized drawing of the unit. Also under-base view for condenser mounting; use a vertical or "L", Doublet; Zeppelin; complete mounting instructions; several formulas for building Aerials: theory. (See CAT.E-4)

#12. MRL 2-stage Transistor Amplifier. This is a well-worked out circuit using 2 Transistors as power amplifiers in a simple circuit. Signal goes into a 4" PM speaker mounted on the panel. A 6.3 v. fil. trans. and filter furnishes all power. This unit may be hooked across phone connections on a Xtal or tube set & bring out those weak ones. Phone jack cuts out the speaker.

#13. MRL All-wave Vario-coupler. Shows complete constructional layout in simple drawings of all details; use in Crystal set; in Australian regen. cir.; in BC band set; a good Shortwave circuit; theory. (See CAT. E-4).

#14. MRL Transistor Small Set Amplifier. Just made up. All details for building a slider Xtal set, with excellent selectivity. Also added is the PNP Transistor Amplifier, which works on 1½ to 6 volts of flashlight cells and operates a speaker. Volume control used. May be attached to a 1-tuber, or any Crystal set. Also see DP-12.

#22. MRL #2 Long Distance Xtal Set. After all these years - the best way to lay it out. Showing front, rear, side and wiring views of our Old Reliable DX'er. This is the one we advertise a record of 5800 miles in our ads. Up-to-date details we now use.

#22-A. MRL #2-A Long Distance Set. This is the same circuit as the #2 (DP-22) but it uses a 2-gang condenser with a different panel layout. Reports are about equal to the #2 as the condenser automatically adjusts itself. Is very easy to build and makes a remarkable set for local and DX. Same selectivity switch as #2. Over 5000 mile reports. One fellow in Canada plays Moscow every evening on this set.

#23. MRL #8 Crystal Set. One of our very selective sets. Uses a different principle than most Xtal sets. You can't go wrong on this set. Pictorial and wiring diagrams give details. Distances up to 1800 miles covered.

#28. Radio Symbols. Approximately 157 old and new ones. Big job to get it up.Hang it on your wall for quick reference. Looks much better photo'd than mimeo. Many you probably never saw b4.

#30. Proper Aerial & Ground Construction. Was very popular when mimeod before. We sold just hundreds of them.All latest data and the old ideas revised. You are sure to find a good idea.

#34. MRL #10-A All-wave Crystal Set. Has been furnished in DP-file, but listing it as it is one of our revised plans from the mimeo'd ones. (See CAT.K-2).

#41. Code Short Cuts. Entirely revised. Shows new Transistor code oscillator as well as tube and buzzer. All kinds of kinks on learning "that" code. Keying, keys, speed, "bug" keys, etc.

#43. #26 Single-Dial All-wave Crystal Set. A Crystal diode takes energy from our Celluloid plug-in coils. This feeds into a Transistor amplifier for lots of volume- even to working a speaker, if desired. Easy wiring pictorial diagram, panel and base layouts, etc. make it simple.

#47. MRL #28 All-wave Plug-in Coil Crystal Set. This is a complete revision of our mimeo'd plan of which so many have been sold. It has equaled #2 and #2-A in DX reports.Uses plug-in coils with all details for making RF. Scale drawings, etc. much improved over other plan. A new arrangement for loading coil and tuning condensers. Worth having.

DP-43. #26 DIODE TRANS. SET.

For the choke you may use the primary of an output transformer - or you may substitute with a 50M volume control, with center-tap running toward Transistor. A

.1 cond. is now placed between the choke (or VC) and Transistor -it was left out in the original - so an error. You may also use a 10 x 50 v. Electrolytic cond. instead of the .1. If BC band is broad - take off primary and put it farther from secondary. Have sold many of these kits- including a lot to schools on repeat orders.

MORE USED BOOKS.

Add postage at book rate - 8¢ for 1st lb.; 4¢ each additional.

In Brightest Africa. 267 pages Interesting. 2 lbs.....1.00
50 Roads to Town. Rest of them are Novels. 312 p. 2 lbs... 1.00
Mr. & Mrs. Cugat. 211 p.. .50
Taps for Private Tussie. 303 pages. 2 lbs.wt.....75
Lydia Bailey. 488 p. 2#.. 1.00
Earth & Hi Heaven. 288 p. .50
Gentlemen's Agreement. 275 p. 2 lbs. wt.....75
Prosecutor Trouble Shooter. 293 pages. 2 lb. wt.....1.00
Elephant and Castle. 658 pages 2 lb. weight.....1.00
The Brother. 422 p. 2#....1.00
Shriek with Pleasure. 257 p..50

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.

OFFERS DIRECTORY.

During a re-organization in this firm some accounts got messed up. If you didn't get your Directory write to Jay-Bee Industries, Box 86, Glenview, Ill. and give details.

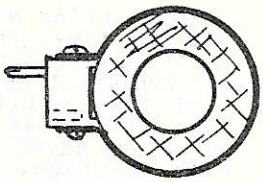
NEW COIL COLORS

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.

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. Cash paid if desired.

HONEYCOMB COILS.

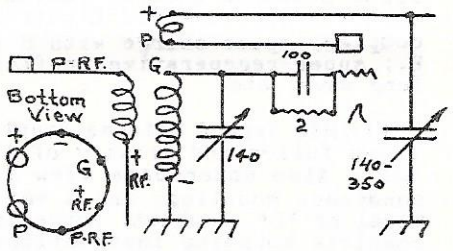


We acquired some good used HC coils. The readings are for a .001 mfd. or 3 .00035 in parallel. You can figure other capacities accordingly. In following sizes:

Turns	mhy	kc.	meters.	net
25	.04	834	360	.50
75	.325	286	1,050	1.00
100	.62	200	1,500	1.25
150	1.46	132	2,273	1.40
250	3.8	82	3,659	1.50
300	5.5	68	4,412	1.60
400	9.8	51	5,882	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.

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

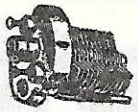
4-Prong Base Sockets back in stock again. 25-43. .30
4 used 4-prong base sockets on hand, good condition. Each .10

Used Rheostats. We have a 10 Ohm & knob on hand at ..... .25
Also an old-time 6 ohm at .15

Vernier Dial Attachments gone. Don't forget our Log Dials at $1.00, with scale. Fine for those DX stations. CAT. 10-72.....1.00

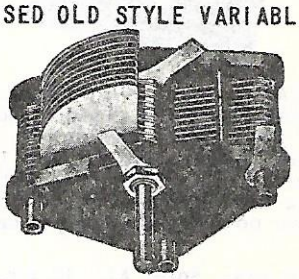
Rotors for Couplers. 1 used Bak. 2-3/4" dia. ¼" shaft. .25
(1) 1" primary coil 1-3/4" in dia. with rotor inside. 1-hole mounting. 6 oz. wt..... .50

MICRO VARIABLE CONDENSER.



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

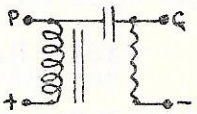
USED OLD STYLE VARIABLE COND.



Have about 7 on hand. OK for experimental use. Approx. .00025 to .0005 mfd. Work OK. Some are Bak. ends; some metal. 1# Ea..50

Magnet Wire. Up in price. C/ft
#20 Double Cotton. 7-88.. .60
#22 " " . 7-89.. .50
#24 " " . 7-90.. .35
#26 " " . 7-91.. .30

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



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. 1½ lb. 1.50
3:1 Audios. 24-18. 8 oz. 1.50
4:1 Transistor Audio Transf'r. 200 ohm step-down to 50 ohm. Use with Transistors. 24-16. ½# 1.50

CRYSTAL SET PARTS.

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 - ½" np tiny Fahnstock clips at same price. 9-29. ½"-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 6 inches is 18¢. Please observe.

House Plug Fuses. 15-20 30 A. In stock. 11-23. Each..... .06

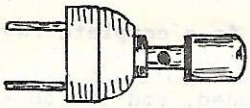
All Dial Lamps now priced .15

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.

Popular Electronics. June-Sept Oct. 1956.....30
December 1956.....35
Radio-TV News. Nov. 1950; May-June-July-Aug-Sept. 1951; July-Aug-Sept-Oct-Nov. 1954; Jan-Apr June-July-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 1957, each.....35
RE. Feb. 1957, damaged.....25
Radio-TV Service Dealer. Mar-Apr-Nov. 1955; Sept-Nov. '56..20
POPular Science. Dec.'53; June 1955; Sept. 1957, each.....25
Science & Mechanics. June 1952 Apr. 1953; Oct-Dec. 1954; Feb-Apr-June-Aug-Dec. 1955, Each..20
October 1957.....25
Mechanix Illustrated. July '54 Sept-Oct-Nov. 1955.....20

ANTENNA ELIMINATOR.



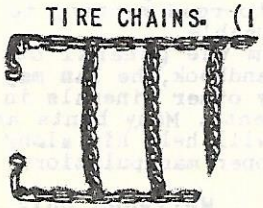
Safe to use on any 110 v. line and is plugged in whichever way it works best - to get the "hot" side for Aerial. Binding post is fitted for your Ant. set lead. A ground may be used on set but it usually works as well without. Ant. Eliminator. 1-20. 3 oz. .60

TELCO TV MAST BASE.

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

Leadin Strips up. Everything costs more! G-1 CAT. 1-12. .15

TIRE CHAINS. (1 pair)

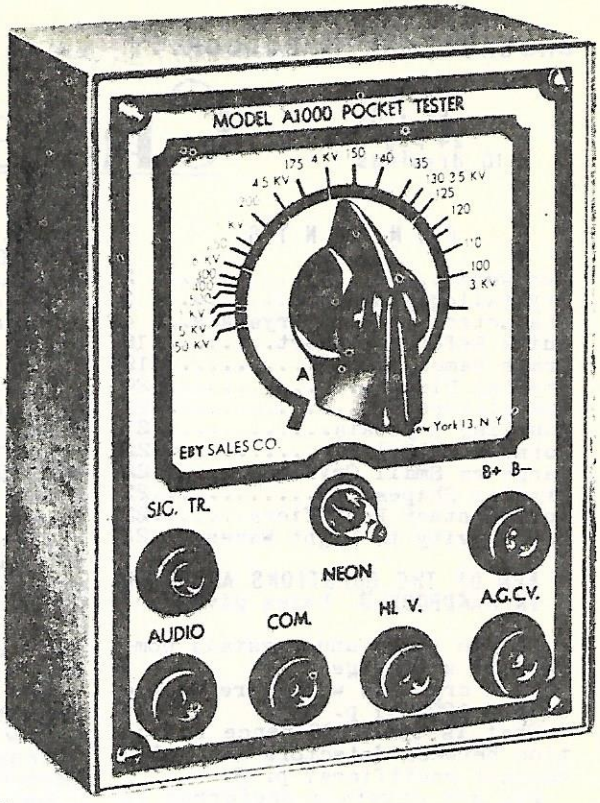


New, in original sack. May be shortened for smaller tires. Fit snugly on tire to prevent wear. For long, hard use. M/O catalogs charge from $2-3 more. Welded links allow them to be used for towing. Add postage 17 lbs. 5.95

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

RF Chokes. Air core. 700-1000 ohms. New. Each.....30

SUBMINIATURE POCKET TESTER.



Pocket size 3"x 4"x1½" 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.

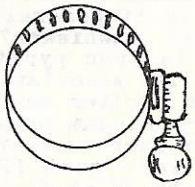
Continuity tester for various parts and circuits.

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# 5.95

CLAMPS FOR ANTENNAE MASTS.

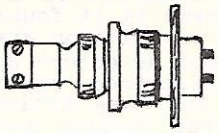


Also excellent for a ground clamp to larger pipes. All plated rustproof. Thumbscrew adjustment. Be sure to give size when ordering. 3/4" - 1¼" - 1½" - 2". Any size same price. .10

ODD LENGTHS OF AERIAL WIRE.

End of reels may give us some odd pieces. Will clear them at 25% discount, as follows:
#14 Enameled 40' 38¢; 80' 28¢.
#12 " 76' 1.00; 80' 1.05; 84' 1.10. Only 1 pc. Add postage.

AUTO RADIO ANTENNA FITTINGS.



Cowl mountings, only 1 of each left. Vertical or angle. Each. 25

New Headphone Prices. See CAT. P-1. Featherweights and Professionals 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.

2x3 PM Speaker. Only 1 left at closeout price of (1#) 1.50

7" PM Speaker with matching output trans. Good cond. Only 1 in stock. 3 lbs. wt.....2.00

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

Saddleback Staples priced in error. 15 for .05; 100 for .25.

A M A T E U R S.

EIMAC 304TL. MEDIUM-MU TR. $8.95

REG. $50.00. Used as amplifier, osc. or mod. Can be used at its maximum ratings at frequencies as high as 40 mc. Uses special 4-pin #5000B. Filament (thoriated tungsten): 5/10V. @ 25/12.5A. Max 1400 watts. Max plate V: 3000. Max plate A: 0.9. Ampl. factor: 20. Umos: 16,700. (2 lbs. wt. to ship)

Radio Amateur Call Book now at $4.50 postpaid. Getting to be a big boy. See CAT. O-1 for data.

New Insurance Rates for Parcel Post. 0 to $10 fee is 10¢; 10.01 to $50 fee is 20¢. Add to cost.

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.

COD's are now held by the P. O. for 30 days instead of 15.

another MRL Handbook... by Elmer G. Osterhoudt HB-3 30¢

5½ x 8½
24 pages
10 drawings

CRYSTAL DETECTORS

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A FEW OF THE QUESTIONS ANSWERED IN HANDBOOK 3. Pages given.

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How do some crystals react to light, and what does it do to their resistances? p. 23.

7000 miles on a Crystal set in the 20's, with poor transmitters - see page 23.

Description of HB-4. p. 24.

This is a complete revision of our original Handbook, published in 1938. Lots of material has been added, and the book brought up-to-date in many ways.

Detailed data is given on most minerals used as detectors. This includes formulae, source, description, commercial uses, best methods of operation, use of the battery, and many other items of interest to the Experimenter.

On page 19 all 31 minerals are classified for easy reference. This shows formula, active element, battery use, if any.

On the same page is a classification by trade names, so you will know what you're buying.

Crystal diodes and Transistors are well covered. As most material on them is highly technical, we have brought it down in an easy-to-read manner, to make it more usable.

From the general outline of the Handbook,the Fan may be able to try other minerals in his experiments. Many hints are given that will help him along the way to proper manipulation.

L.C., Welland, Ont. says:"I think it is great. Learned a lot about Xtals I didn't know. My best DX on HB-4 set is Melbourne Australia (10,200 miles)."

M.R.H., Victoria Harbor, Ont.: "You did a swell job there, digging up all that info. for us, and presenting it in such an interesting form. I know everyone will be as pleased as myself."

H.H.P, Los Gatos, Cal.:"New HB very interesting. Gives good ideas on Diodes and Transistors."

MRL Handbook No. 3. 2 oz. -- .30

MRL "Data Sheets" are to supplement similar types of material we used to send out in MRL "Radio Builder & Hobbyist" and, previously, MRL "Oscillator."

When RB&H was suspended we did not realize how much our Fans liked this material - so it was eliminated from our first two MRL "Radio Flyers." As we have an inexhaustible supply of info. in our Library - reports from thousands of Fans - and our own experiences since 1915 - we feel it is our duty to pass it along.

Current pages will be sent out to steady buyers FREE, along with our latest MRL "Radio Flyer." At a later date, they will be bound and indexed, and will be sold to newcomers for reference material. The "Flyer" will keep you informed.

MRL appreciates any reports U care to send in - and you can be assured the other Fans will more than "gobble them up." Let's get together and keep this interesting Hobby going at full speed. It is almost certain that if you get enjoyment from some circuit, or experiment thousands of other Fans can have the same pleasure by reading about it in MRL Data Sheets later.

Present plans call for only solid material to go into Data Sheets. These are tested plans & facts - and not material that will soon become obsolete. The "Flyer" will cover current fluctuations as they occur.

So, our Dear MRL Fans (we love you!) - time is wasting, so let us get going...

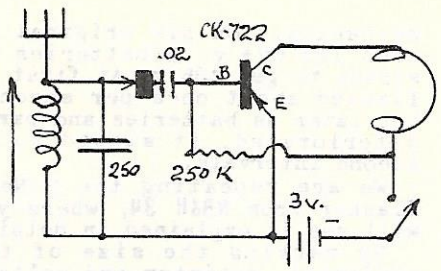
A TRANSISTOR CIRCUIT.

MRL #2 CRYSTAL SET USING AN MRL VARIOMETER.

MRL 1-TUBER TUNING CHART.

Our good friend, J.M., Chicago Ill., took time out to send us some results of his experiments. He is only 12 years old but he's "going places!" His reports have been very well written - and he "pounds a mill" with extreme accuracy (maybe MRL could take some lessons!)

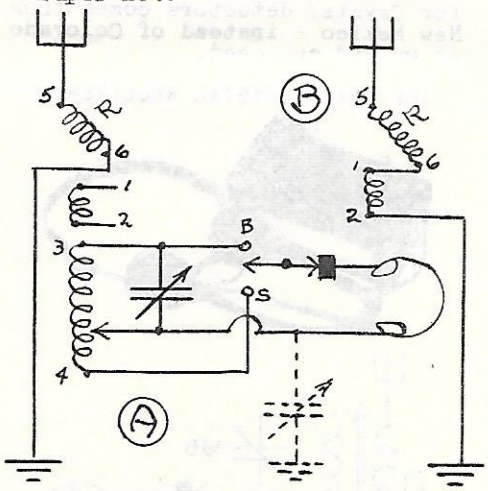
"The best Transistor circuit I have found is a Loopstick Xtal set with 1-Transistor amplifier. I built it in a small plastic case and for an Antenna I use an AC Line Aerial Eliminator, window screen or a telephone base.



1. Simple Transistor Set.

PARTS LIST.
1 Loopstick.
1 .00025 mica condenser.
1 .02 x 600 bypass condenser.
1 CK-722 PNP Transistor.
1 1N64 or 1N34 Diode.
1 250,000 Resistor.
1 SPST Toggle switch.
2 Drycells.
2 Fahnstock clips.

It overloads on my 40 ft. outdoor Antenna, altho it is still selective. I use a 3000 ohm hearing-aid type Earphone (standard is OK). The frequency range is 630-2850 kc. The MRL 1-tuber may be used as a signal generator by tuning set to a station and then bringing 1-tuber to oscillation on the same spot. Also by picking up the 1-tuber on a calibrated super-het."



2. MRL #2 with MRL Vario-coupler.

He uses an MRL Vario-coupler in place of the regular #2 coil, in a #2 Crystal circuit (DP-22 or HB-2). The rotor goes to the Aerial and ground for variable coupling. This gives added selectivity when the rotor is set at right angles to the field of the coil. He did not say if he still used the ground condenser, but we are showing it in dotted lines, in case you wish to try it. As a suggestion, try running rotor and primary (1-2) in series, as at (B), for more pickup and a variation in tuning. You will find further details on the #2 set in DP-22 and HB-2.

His best DX on #2 is CHU, Canada (640) with a 1-transistor amplifier, and the SEL-BRD sw. on the SELective side. Crystal is a GE 1N64, a TV Diode, altho any other can be used. The set selects about 12 local stations.

You will see his tuning chart used on MRL 1-tuber (HB-4). In addition he heard 47 Hams from W-1,2,3,4,7,8,9,Ø and VE3. Australia comes in often. Antenna is 40 ft. long and 10 ft. high, pointing East and West. No ground is used. B-battery is 22½ v. The tube is 1C5gt.

We might add an important note about the 1-tuber. If you use a 1Q5gt tube instead of a 1C5gt, pull the A battery wires out and reverse them. For some reason the connections seem reversed in a 1Q5gt, and it works much better when fil. is reversed.

WHEN TO TUNE THE LATINS

George Anglado, Biloxi, Miss., our old DX Hound, slips us the following notes on S.W. stations that may interest you. Time given is GMT (Greenwich Mean Time, as London). You'll have to subtract 5 hrs. for N.Y.; 6 hrs. for Chicago; 7 hrs. for Denver and 8 for S.F. When Wireless operating in the 1920's, we used local time. Now, because Radio Xmtrs are Worldwide, they use GMT almost altogether, so you should get used to it.

The best conditions for the nearer South and Central American Countries coincide with Sun spot maxima, generally speaking, while the periods of Sunspot minima are better for the real DX stations as Chile.

Autumn. Reception from South and Central America is generally best this time of the year.

Winter. Chile will come in strong in the 49 m. band while reception from other Countries lags behind. In this season good results are obtained in the 60 and 80 m. bands. One can hear Brazil in these bands above all else before 2300 GMT. Later Venezuela and Colombia start coming thru and overlapping. Rare stations in Chile and Paraguay can be heard as early as 2200 GMT in the 25 m. band. In the 19 m. band Brazilian reception is possible in the winter as early as 1800.

Spring. Good Mexican reception predominates

Call	Country	Coil	Dial	Band	Miles	Notes
VLC-11	Australia	40 m.	95	25 m.	9852	To N. America
Moscow	USSR	"	94	"	4800	"
	Cologne, Germany	"	93	"	4200	"
BBC	Great Britain	"	94	"	3800	Overseas
HCJB	Quito, Ecuador	"	93	"	2900	
KCBR	Delano, Calif.	"	95	"	1800	Voice of America
CHOL	Sackville, Canada	"	93	"	1040	Can. B.C.
WRUL	Boston, Mass.	20 M	68	19 m.	730	
"	" "	"	82	16 m.	"	Worldwide B.C.
CHU	Ottawa, Canada	40 m.	60	40 m.	640	Time sigs. 1 kw.
WDSI	New York City	20 m.	82	16 m.	600	Voice of America
WWV	Washington, D.C.	40 m.	88	30 m.	550	Time signals.
WLWO	Cincinnati, Ohio	"	93	25 m.	250	Voice of America

3. A Tuning Chart for MRL 1-Tuber.

with the best time to search around 0400 GMT.

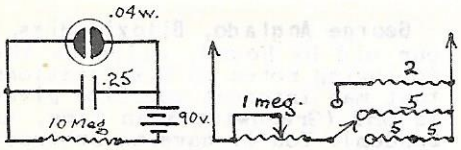
Summer. Reception from the Is. in the Caribbean Sea, Guatemala and Nicaragua come in best.

In autumn, winter and spring good reception in the longer wave bands from Peru and Bolivia occur after 0300 GMT. Colombia, Ecuador, Cuba and El Salvador are, in general, at their best around 0400 GMT.

Aurora borealis. Long wave reception may be bettered by Sun spot activity (see HB-7). On the morning of Sept. 12, 1957, between 1 and 3 a.m., an unusual display of Aurora borealis occurred over California and half way to Hawaii. Los Angeles reported to deep maroon color. S.F. had a cloud bank. In the Santa Cruz mts. they thought it was a forest fire. Contra Costa county reported red with white streaks. Many hues from Redwood City, altho MRL was "in the sack." Airlines reported pink and blue variations.

MORE ON NEON FLASHERS.

Our old booster, Bob Mickelson of Chicago, has done a lot of experimenting with 1/25th watt Neon lamps. You can see results of some of his experiments in RB&H 33, 34, 35 and 38. Other of our Neon notes are included.

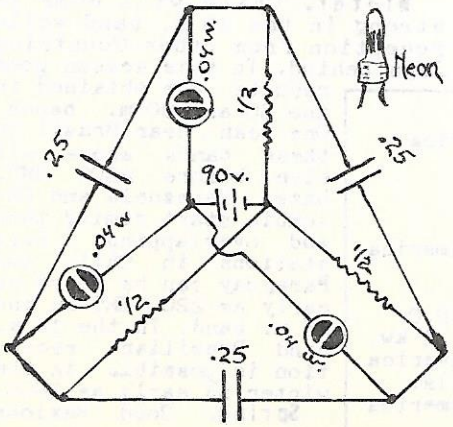


4. Single Neon Flasher.

PARTS LIST.

1 1/25th watt Neon lamp.
1 .25 x 600 v. Bypass condenser.
1 10 meg. resistor (or 2-5 meg.) or substitute resistors as shown.

Fig. 4 shows his latest diagram of a 1-Neon flasher. It uses a 1/25th watt Neon hooked across a .25 mfd. Bypass condenser and a 10 meg. resistor. It is similar to the War surplus units or the warning flashers of "road mechanics." On his original he used (2) 67½ v. B-batteries in series to get 135 v. At first it flashed about once per second, but later as batteries and parts deteriorated, it slowed to 25 second intervals.



5. 3-Neon Flasher.

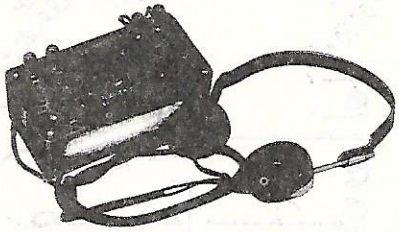
We are repeating the 3-Neon flasher from RB&H 34, where you will see it explained in detail.

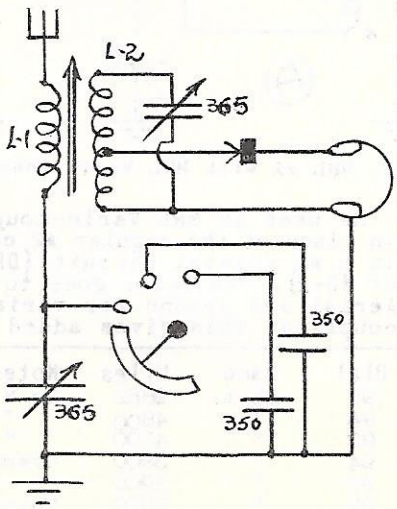
By varying the size of the condenser, resistor and voltage of the batteries, a difference in pulse-time may be had. In Fig. 4 we have shown how a resistor network may be added to give you different flashes at will. This "pulse" is a build-up of current on the condenser plates and the Neon lamp electrodes. When it reaches a certain peak the condenser discharges and flashes the Neon. This is the principle used in most pulse timers, etc. of many uses now-a-days.

It is interesting to note the long shelf-life of batteries - & the small amount of current that is drawn by a Neon. In case you would like a handy nite light, get one of the Neon base receptacle plug-ins at a dime store. It will give a subdued lite near the floor at night - and won't draw any juice.

Bob is a Rock Hound - and he believes the best Iron pyrites for Crystal detectors comes from New Mexico - instead of Colorado as we had supposed.

THE HEATH CRYSTAL RECEIVER.





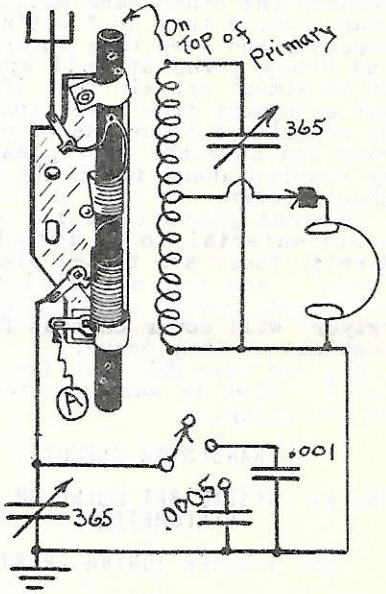
6. Heath Crystal Set Kit.

Our Friend, R.Y., Sacramento, Calif., has built and used one of the Heathkit Xtal sets, and he sends us the diagram.

Above is shown the circuit as many have asked for it. L-1 and L-2 are wound with Litz wire on a powdered Iron core about ½" in dia. x 3 to 4" long. The secondary tap is not adjustable. It controls selectivity ratio, and is found in many MRL circuits. The closer the tap is to ground the more selective it tunes. It has probably been fixed at the factory for a very good degree of selectivity. The powdered Iron core increases inductance as you can read in HB-7.

The shorting switch allows use of the .000365 tuning condenser, or you can add one or 2 .00035 fixed mica condensers to increase the condenser range.

Only tuning is with the 2 variable condensers. The one in series tunes the Aerial-ground circuit, which really pops them in. Many of our circuits use the same idea. The secondary condenser is self-explanatory. He separates stations very well.



7. Heath a la MRL.

We have shown a couple of variations whereby you can make one similar to this. Take a large Loopstick, that tunes to the BC band. Wind a secondary of fine wire over it - number of turns to be found by experiment. You can then tap the secondary where selectivity is best for your location and conditions.

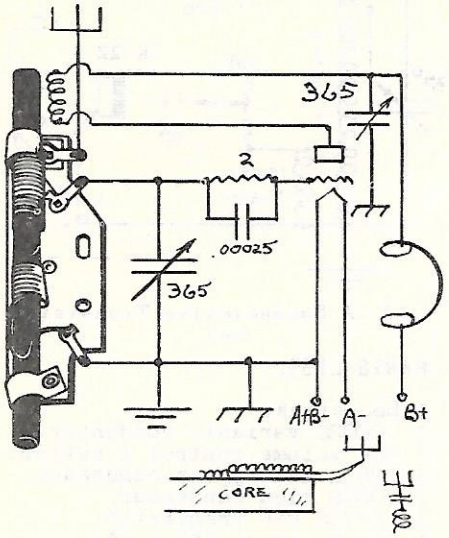
The shorting switch may be replaced with a switch lever and 3 switch points - as shown. On the first tap you get a minimum capacity of about 15 mmfd. up to 365 or 400, depending on size of your condenser. On the 2nd tap you get min. to 865 mmfd. On the 3rd tap you get min. to 1365 mmfd. These should give you a lot of condenser range. If not, you can change the micas. When U use large capacities the tuning condenser may be operated at a minimum and help selectivity.

Bob rigged up a similar circuit using an I.F. transformer from an old Super-het. for the pri. and sec. windings. He reports fair results. He gets more selectivity if he adds another

Loopstick in series with Aerial-ground, but he thinks it makes too many controls.

The set uses a Diode but a Steel galena crystal will give much better selectivity.

TUBE LOOPSTICK CONNECTIONS.



8. Large Loopstick Connections.

Many have asked "what is that extra lead on your large Loopstick?" Well, it is the top one on the diagram - and it goes to the Aerial. It is just a piece of insulated hookup wire placed under a number of turns, as you will see at the lower right of diagram. It is a quick way of obtaining capacity-inductance coupling to the secondary. On most sets, however, it is better to use a midget variable condenser to the Aerial, so the capacity may be varied. The greater the number of turns over the wire the greater the coupling.

In case you'd like to add a tickler winding it may be wound around the core - about 5 to 10 turns will do it. If it doesn't oscillate - reverse the leads. You can balance up regeneration by taking off turns so the regeneration condenser is clear in on the 550 kc. side of the dial.

SEE OUR CATALOG FOR PARTS.

Most parts shown on these Data Sheets can be found in our **CATALOG.** In fact, we implore you to order from us, if possible, and your business is always appreciated. However, no circuit will be deleted because we do not stock a certain part. But, most can be had easily from us.

We purposely spent a lot of time making up our cross-index on the front of **CAT.** so you can easily find the parts there. If you haven't a **CAT.** - send for another (10¢ mailing if OK).

CAT. numbers and prices have been eliminated as they are always changing. As most parts are not critical - there is no need to specify **CAT.** numbers.

DON'T SMELL THOSE SOLVENTS.

Every year many die from the effects of solvent poisoning. This may be a good place to warn you of the consequences. Most of us have an allergy toward one or more of them so are protected. If we note any slight feeling of nausea, dizziness, etc., when working around them - be sure to get into the fresh air at once. Most all of them have a drying effect on the skin - so should cleanse our hands thoroughly with soap after using.

Carbon tet. The Radio dept. of the armed forces use it by the barrel when reclaiming sets. It is one of the best grease solvents - and found in many cleaning fluids. My boss' hands were scarred by its use. I know of many other cases of poisoning. I never liked it- but used Lacquer thinner. Others were allergic to the latter so used Carbon tet. It attacks the liver and kidneys and other parts. It dissolves all rubber cements.

Carbon disulfide smells like rotten eggs. Used sometimes.

Acetone and Lacquer thinner are more toxic than Carbon disulfide.

Benzene and gasoline affect the blood and blood-forming organs and other parts.

Wood alcohol attacks the eyes and the nervous system.

Turpentine affects the liver & kidneys.

Vapors of all solvents are heavier than air so concentrate near the floor. In case one loses consciousness they fall into the worst of it. They have a rapid narcotic effect. I heard of two fellows cleaning a car in a pit with Carbon tet. The fumes concentrated in the hole and killed them both.

Finally, they are very explosive when evaporating and mixing with Oxygen. Fumes, dropping to the floor, may be ignited by a heater pilot light. So, be very careful when working with them - preferably where there is lots of good ventilation.

1-TUBE PHONE TRANSMITTER.

MRL #28 S.W. CRYSTAL SET.

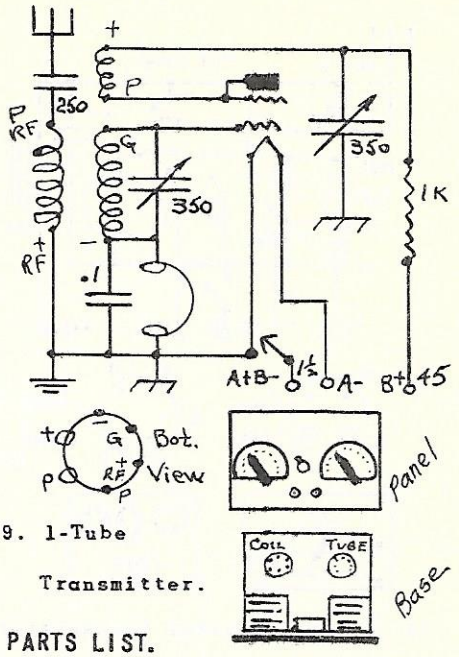
LOOPSTICK-TRANSISTOR REGENERATOR

Our good friend, J.S., Arco, Idaho, has sent us several good circuits we'd like to pass on to you fellows.

Fig. 9. He used a headphone as a microphone and has talked 1/4 mile with it, using but 5 ft. of Aerial and no ground. Of course, with a larger Ant. and a ground the distance can be improved.

The drawing shows approximate position of the parts, but the layout is not critical. You may try a variety of tubes as most any of them will work.

Our Type E coils are 6 prong RF type. Altho they have a hi-impedance primary they may be used in this circuit. The .00025 mica condenser tends to sharpen up the primary.



9. 1-Tube Transmitter.

PARTS LIST.

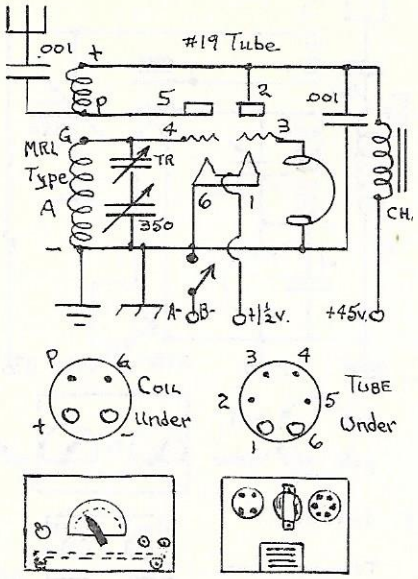
2 .00035 single var. condensers.
1 MRL E coil for band desired.
1 6 pr. wafer socket.
1 Wafer tube socket.
1 .00025 mica condenser.
1 .1 x 600 v. Bypass condenser.
1 1000 ohm x ½ w Res.
1 SPST toggle switch.
2 Phone tip jacks.
2 1½" Bar knobs and scales.
1 Compo. panel 4x6.
1 " base 4x5.
2 ½" brackets.
1 Headphone or Microphone.
1 1T4, 3S4, 3Q4 or other tube.

To test it out you'll have to hook up a receiver to see if you can "get on the air." Bring the regeneration condenser up to good modulation on test set.

Novice phone bands are as follows: 80 m. 3.8 - 4 kc.; 40 m. 7.2 - 7.3 kc.; 20 m. 14.2 - 14.3 kc. We all know a license is required if you want to transmit. However, one must balance good sense with compliance. If you R out "in the sticks" away from government and airport stations, you may carry on a few limited experiments, as these rigs will only carry a few miles. It is a good idea to get a Novice license as it is not hard to pass, and you'll want it later. Almost always they warn you before putting you in jail! hi.

Fig. 10 shows a more powerful rig - and a slightly different circuit. You'll notice in **Fig. 9** that the radiation goes back thru the primary by induction. But in **Fig. 10** it feeds directly from the plate coil to the Ant.

You will also notice that the first half of the #19 tube (2-3) is used as the modulator section from the phone or microphone. (4-5) is the oscillator section that furnishes the carrier wave. If you use a regular microphone,



10. A more Powerful Transmitter.

PARTS LIST.

1 .00035 variable condenser.
1 25-280, or other trimmer.
1 Audio choke.
1 MRL Type A for band desired.
2 .001 mica condensers.
1 #19 Tube.
1 6 prong wafer socket.
1 4 " " "
1 SPST toggle switch.
2 Phone tip jacks.
1 Compo. panel 4 x 6.
1 " base 4 x 5.
2 ½" angle brackets.
1 1¼" Bar knob and scale.
1 Headphone or Microphone.

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it is a good idea to balance the impedance with a microphone transformer - the secondary running in where you see the phones hooked up now.

A different type of coil is used - our Type A. You can advise which band you want- or the full set may be handy to have in the shop.

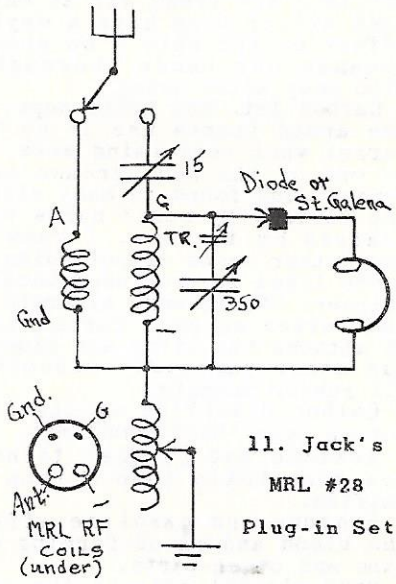
Tuning is brought to a .00014 mfd. var. condenser range by inserting a small trimmer in series with the .00035. The 20-40-80 160 m. Ham bands tune about the middle of the dial.

The .001, from plate to ground gives plenty of regeneration, while the other .001 gives lots of coupling to the Aerial.

Any small Audio choke is OK - or even the primary of an Audio transformer will work - it is just necessary to get some inductance and impedance in use.

Layout is not critical. In our parts list we will delete hardware, hookup wire, solder, etc. as they are necessary in all our projects. As the bases are raised about ½" up by the brackets, just put a strip of plywood under the back to level it up. It raises the base for underneath wiring and parts.

These rigs are good for talking next door, or across the ranch with an Auto Aerial. But, is a good idea to observe license requirements when using an outside Aerial. A good place to tune is where no BC station is operating - on BC band. A lot of fun can be had at a party - by tuning in a station on your set and "paging" someone from the next room. They are usually surprised to hear their name coming over a station.



11. Jack's MRL #28 Plug-in Set.

PARTS LIST.

1 MRL Type RF Coil or set.
1 .00035 Variable condenser.
1 15 mmfd. Trimmer with shaft, & insulated shaft thru panel.
1 MRL #28 Loading coil.
1 25-280, or other trimmer cond.
2 Switch levers.
1 4 prong Base socket.
Rest of parts, see DP-47.

MRL #28 SW Crystal Set, DP-47. Jack is away from strong BC stations so he connects his Aerial direct to secondary thru the 15 mmfd. trimmer condenser. He evidently uses the loading coil so we put it in. He uses a Diode or Steel galena, the latter is much more selective.

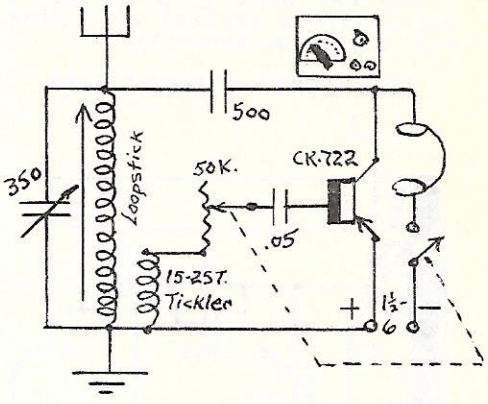
His first night reports were KNBC (650) which he plays until morning. He also got KOA (500). This was on a 50 ft. Aerial 15' high.

On his friend's Aerial, which is an 80 m. half/wave Marconi, he got Dallas (1200); Tulsa (1100); Omaha (900) for 45 min. each, all with good volume. He thinks all MRL literature is FB.

We have added the primary coil with a SPDT switch in the form of a switch lever - to separate the points better. Circuit uses MRL Type RF coils as they give closer coupling than Type A, altho the latter may be used.

DP-47 gives a lot more info. on the circuit than can be shown in this small space. He didn't report any Short waves - but for other Fans - it really gets out.

The Loading coil is 90 turns #26 DCC wound on a 1" Bakelite form, and tapped every 10. The smaller wire doesn't hurt too much in the Antenna circuit.



12 A Regenerative Transistor Set.

PARTS LIST.

1 Loopstick.
1 .00035 variable condenser.
1 50K volume control & switch.
1 .05 x 600 bypass condenser.
1 .0005 mica condenser.
1 CK-722 PNP Transistor.
1 Compo. panel 2½" x 3½".
2 Phone tip jacks.
1 1¼" Bar knobs & scale.
1 Small pointer knob.

Here is a simple Transistor set that goes out after them. Jack plays BC stations as XEL0 (950); KFI (750); KNBC (650); KSL (250); Canada and a lot of others any night.

You will have to balance up the tickler winding to make it work just right. If no oscillation, you should reverse the direction of the winding. Wind on 25 turns over the ground end of the Loopstick, and remove a turn at a time until control is just right. The volume control calls for 5 to 50K - but believe the latter is OK. The .0005 mica was shown as a .00035 - but it is a hard number to get but the 500 will work. Adjust Loopstick so condenser covers the whole band.

He also has a Super-het. and puts a 10-turn coil 1" in dia. across the oscillator condenser and brings in Short waves. This shorts the regular oscillator coil. With this rig he gets Australia with a 5 ft. Aerial, as well as Police, Hams, Teletypes.

POLICE BROADCASTS.

It has often been a question if one can listen to Police BC from an Auto. Because so many run them down - Police can't get near the scene. As Old Timers know, they used to give the location and crime - but now the latter is in code. Steady listening will soon break the code.

The Los Angeles council passed an ordinance to forbid listening to the Police BC.

A case finally came up and the Judge ruled "they can't tell you what to listen to," and dismissed the case. So - help yourself!