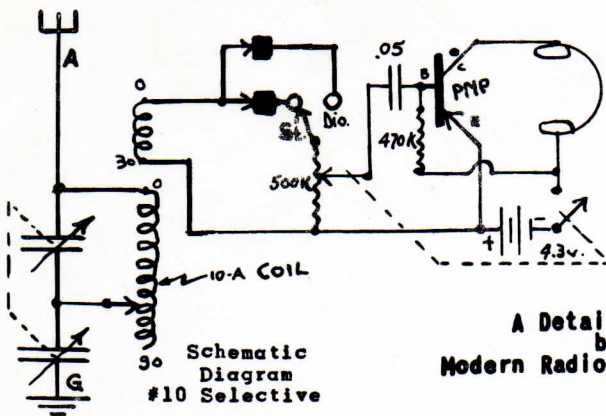
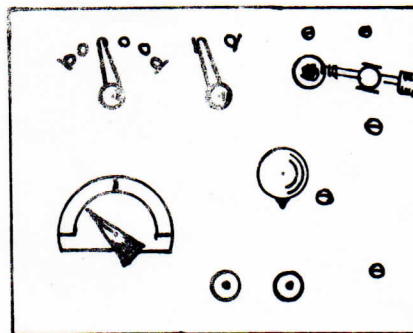


MRL No 10 - ALL WAVE CRYSTAL SET.

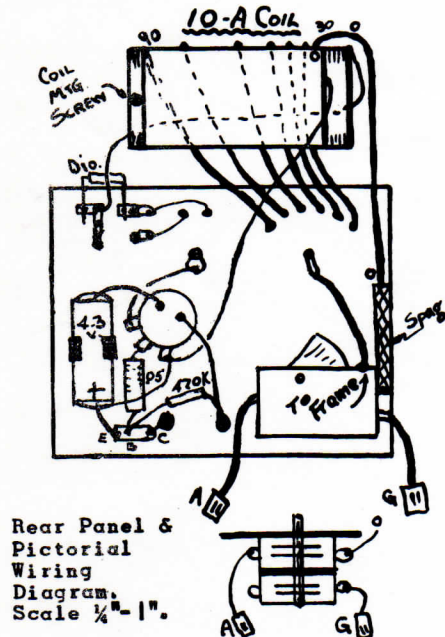


REVISED
with
TRANSISTOR
AMPLIFIER.

A Detail Print
by
Modern Radio Laboratories.



Front panel. Scale 3/8" = 1"



Rear Panel &
Pictorial
Wiring
Diagram.
Scale 1/4" = 1".

MRL No. 10. City Operation.

PARTS LIST.

- 1 Compo. panel 1/8 x 5 1/2 x 7.
 - 1 2-gang .00035 variable cond.
 - 1 1 1/2 bar knob and scale.
 - 1 Knocked/down Xtal stand.
 - 2 Switch levers.
 - 8 " points. 2 stops.
 - 2 Phone tip jacks.
 - 1 500K vol. control and switch.
 - 1 Small pointer knobs.
 - 1 Steel galena. 1 Xtal diode.
 - 1 PNP Transistor.
 - 1 Battery holder.
 - 1 4.3 v. Mercury battery.
 - 1 .05 x 600 bypass condenser.
 - 1 470K resistor.
 - 2 3/4" FahNSTOCKS. 2 3/4" FahN.
 - 1 MRL 10-A City Coil, or make:
50 ft. #22 DCC wire.
 - 20 ft. #26 enameled wire.
 - 1 MRL 2XM 2x4 1/2" Cello. form.
 - 1 6-32 x 1 1/2" BH mounting screw.
- Hardware, wire, solder, lugs.

This new 10 circuit is a great improvement over our original Lab. model. Many good DX reports have been received on this circuit in the past. But, now, with addition of the TRX amplifier - you can bring in those weak stations. The circuit is most selective around congested areas, near stations. This is due a lot

to the concentrated secondary coil at the end of primary.

When ordering a coil for this new selective circuit, be sure to use the #10-A. There is very little different between the two circuits basically, but this one will work better in a congested Radio district.

Rear view shows the coil lifted up so you can see the connections. To save time, wire up the entire set first, then the coil. Be sure to make good, solid connections.

COIL: On a 2XM celluloid form 2" in diameter x 4 1/2" long, start winding from the "hot" end with the small ring. Wind 30 turns #26 Enameled wire, winding close to the starting edge, and bring out to 8" leads. Then, next to this compact winding, wind 90 turns of #22 DCC, with 6 taps as follows: 5-10-20-40-65-90. Run a strip of light cardboard 3/4" wide under the taps. Cement ends of the coil down with Light Coil cement. When dry, sandpaper the tap wires and mount coil with the taps up, so you can solder them easily. Tin the wires a little before attempting to solder the leads to the switch points.

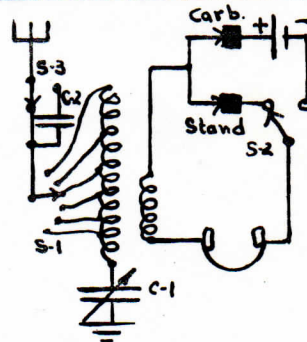
CONSTRUCTION. Panel is drawn to 3/8" scale; back is 1/4". Arrangement is very easy to follow if you scale it up. Mount volume control in position shown. Use tiny FH screws and 1/2" FahNSTOCK clips for Diode so it can be changed at will. Be sure to get transistor in correct mounting position to keep leads right. Most of all - be sure positive (plus) of battery points downward if you want to keep your transistor. The 470K resistor may be changed to other values down to 22K, depending on TRX used.

After all parts are mounted - mount the coil. Set it away from panel on the 1 1/2" screw, so it clears condenser, etc. Use minimum solder on coil leads.

The switch gives choice of a stand, with Steel galena, or the Diode. You will note the Steel galena is a lot more selective than the Diode - due to difference in Impedances. When fishing for a DX station with the Steel galena, readjust it for sensitivity once the station is hooked. Note the tone compared to a tube set. If using a Carborundum (10 Country) adjust it on weak stations for best sensitivity.

If using an NPN transistor - just reverse the battery polarities. Any battery from 1 1/2 v. up may be used - the more battery, the more volume.

A 100 ft. Aerial, high as possible, and a good ground are essential. Experiment with several lengths of wire - each hooked to a SPST knife switch, as some stations may be better on a 50-footer.



MRL #10. For Country. (HB-17).

Parts same as #10 Selective, except for C-1, use a single-gang .00035 mfd. Variable Cond. and a .0001 mica fixed condenser for C-2.

The same panel layout is used, as well as most of the wiring diagram. Only difference in the latter is the coil and condenser connections.

COIL. Be sure to use the #10 coil for this set because a 10-A Selective coil won't give correct coverage of stations. However the Selective coil may be used if you only want Short wave stations. On 2XM Celluloid form, 2" dia. x 4 1/2" long, wind a layer of 40 turns #20 DCC. Cover this with a piece of heavy wrapping paper 2" x 10" long and cement end down. Then, slit ends of the unused paper, to make a smooth winding to follow. Over this you wind 160 turns #28 DCC with taps at 5-10-20-60-100-160.

We recommend this set in locations where powerful stations do not interfere with the average set. A law of Radio is when you increase selectivity, you reduce volume. You can't have both. This #10 Country set is strong on volume, and therefore, may have greater DX properties.

As this #10 Country circuit is described fairly well in HB-17, we will omit the repetition.