MRL Nº 27 - VARIABLE SELECTIVITY CRYSTAL SET DP-53

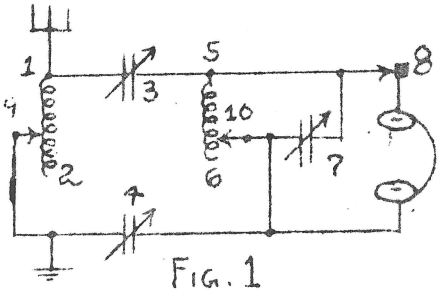

FIG. 1

PARTS LIST

1 Compo. panel 3/16" x 7" x 10" 1 Xtal stand.
1 or 2 Bar Knobs. 2 #27 Xtal set coils.
2 Switch levers. 20 Switch points & 4 stops.
1 MRL Iron Pyrites or MRL Steel Galena Crystal.
1 .0004 mfd. (or smaller) variable cond.(7).
1 2-gang .00035 var. cond. (if Fig. 2 used).
2 .0001 mfd.(max.) padding cond. (if Fig.3).
2 Phone tip jacks. 1 Cabinet to suit.

IF YOU BUILD YOUR OWN COILS:

2 MRL 2XM Celluloid coil forms & cement.
100 ft. #22 Double Cotton covered wire.

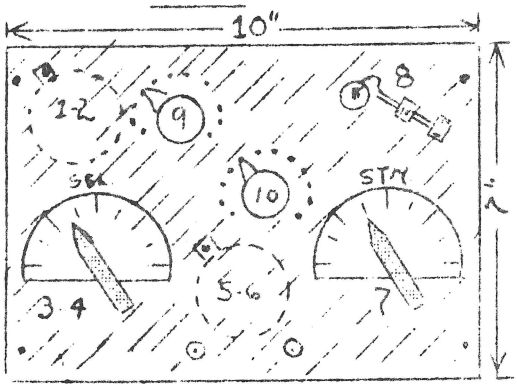

FIG 2 - WITH GANGED COND. (3-4)

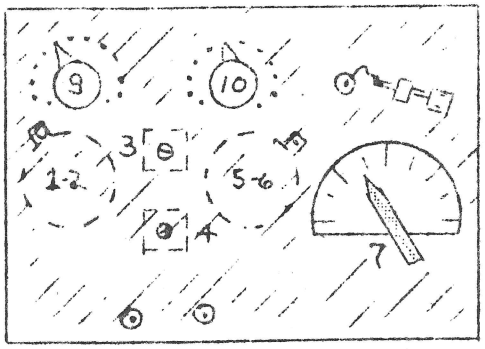

FIG 3 - WITH PADDING COND. (3-4)

Scales ¼" To 1"

We have given you several choices in the building of this novel selective circuit. This circuit is called Capacitative coupled due to feeding of RF current from aperiodic primary (1-2) to (5-6) thru cond. (3-4). By varying the latter you may obtain any degree of coupling (which controls the selectivity of the circuit). When you open up the cond.(3-4) you sharpen the stations and decrease volume, Likewise, when you close them you broaden the stations and increase the volume. You can readily see how this set is adaptable to city districts - where every location requires a different degree of station separation.

FIG.2. Use a 2-gang .00035 variable cond. instead of the separate ones shown at (3-4). You may use any arrangement you wish..

FIG.3. Instead of ganged cond. as in Fig. 2 - you obtain 2 postage stamp cond. (padders) with a maximum capacity of about .0001 mfd. Mount them so screws come thru the panel. Once adjusted for a location you don't have to adjust them very often. Likewise, you may arrange this panel as desired.

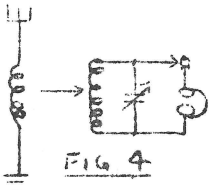
FIG 4

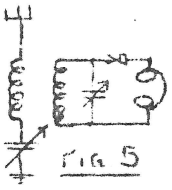
FIG 5

A third variation is plug-in coils. You may use our Type A, C or RG coils - in fact, any with a secondary. Connect from (G) to (-) on MRL coils and arrange sockets at (1-2) and (5-6) so the various coils may be used. It is very effective this way on Police and Amateur bands.

You may use 3" dials instead of bar knobs if U wish. Fahnstock clips or Binding Posts may be used instead of phone tip jacks. Mount panel upright so you will have room for coils. Keep coils apart much as possible to increase selectivity.

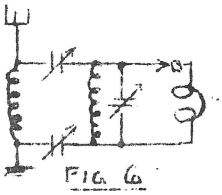
FIG 6

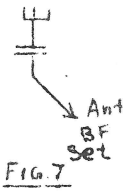

FIG 7

FIG. 4 shows method of sharpening up a set by pulling the secondary away from primary. FIG. 5 is a method used by placing a variable cond. in the ground circuit. This increases volume on many low wave stations. FIG. 6 is the principle used in the #27 set. FIG. 7 shows putting a .0001 or .00025 fixed cond. in series with the aerial circuit. If you want to get more stations - you must separate them. Also note that whenever you make a set more selective you also make it weaker in volume. This is just one of those things in Radio we can't overcome. A powerful tube set will make up for this weakness by giving it more power in the Audio (or power) end.

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