

MRL N° 24 - DX REGENERATIVE CRYSTAL SET DP-55

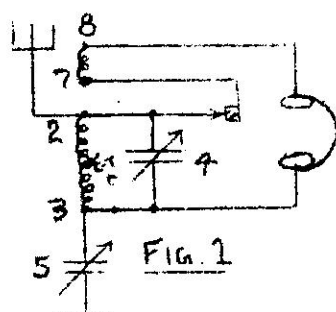


FIG. 1

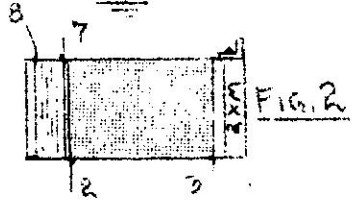


FIG. 2

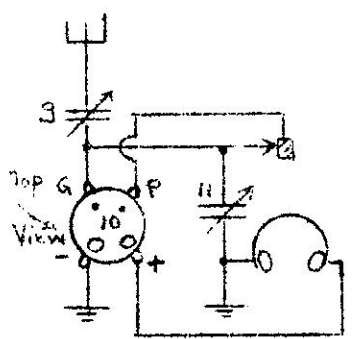


FIG. 3 - TYPE "A" COILS

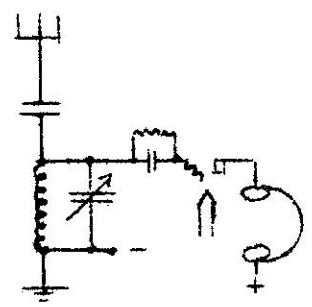


FIG. 4 - UNSTABLE

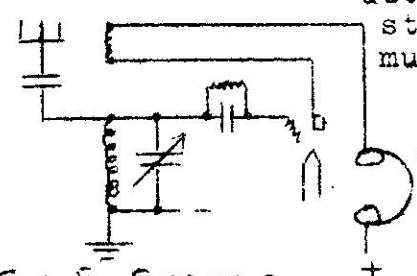


FIG. 5 - STABLE

FIG. 1 - PARTS LIST

- 1 MRL #24 Coil, wound, with bracket (1) (2-3-7-8) (If you build it-- 1 2X4 form; 50' #22 DCC wire).
- 2 .0004 mfd. cond. (or .00035) (4) & (5). Phones
- 1 Compo. panel 1/8" x 7" x 8". 1 Cabinet
- 1 MRL Steel Galena Xtal. 2 Phone tip jacks. 2 BP.

Regeneration in this set should really be called stabilization. Volume is not increased but the circuit tends to stabilize itself by the tickler coil. The original choke was left out as it tended to decrease the volume. We did not draw panel arrangement on this set as it is conventional with #2, less the switch points & switch.

Wind the coil as shown in Fig. 2 - of 75 Ts. #22 DCC wire for the secondary (2-3) and next to this wind (7-8) of about 20 Ts of same wire. Secure edges with MRL Coil cement as this holds coil securely.

This is a very simple set to build, and will be found to be very selective and bring stations in Ok. Fig. 1 just covers BC band, but will go to Police & amateurs by tapping (2-3) in the center and bringing lead at (3) up to the tap.

FIG. 3 PARTS LIST

- 1 set MRL Type A SW coils 1 Type A BC coil (10)
- 2 .00014 mfd. midget conds. (9) & (11) 1 stand
- 1 MRL Steel Galena or Iron Pyrites Xtal.
- 1 UX (4 prong) tube socket (10) Panel - same as above, or place set in a box like a portable.

Instead of the fixed coil this uses plug-in coils as our Type A with tickler. It may be built in a box with coil socket on top for easy plugging in of the coils. It is best to use 2 midget cond. (9) & (11) when using SW coils for compactness and efficiency. Iron Pyrites may be a little better for SW than a Steel Galena. Be sure to wire socket right as diagram shows top view. It may be a good idea to mount cond. (9) back from panel with a wooden shaft so the body capacity won't interfere with DX reception. We would like reports on this set with plug-in coils.

STABILITY and REGENERATION.

Apparently a circuit with tubes using a straight detector, less regeneration as in Fig. 4 is very unstable - that is, stations mix up and do not have much volume. You will always find stations mixing up in the background. When regeneration is added as in Fig. 5 - it greatly improves stability and makes for sharper tuning. This same principle applies in the crystal circuit of #24 set. Of course, we don't find squeals and oscillations in the crystal like a tube set, but the stabilizing effect is there, with no decrease in volume.

CRYSTAL DOES NOT PICK UP C.W.

You may notice when tuning CW stations with a crystal detector you do not find code or squeals (dot-dash system) down there. If you are near an Amateur station you may hear "key-clicks" or "thumps" when the circuit is broken with the key, but otherwise, the code is not to be heard. On shipboard you have a different proposition. There most ships use I.C.W (interrupted C.W.) which can be heard by crystals. Crystals are used as auxiliary receivers on ships now, in case the power and batts. go "dead." Usually placed across 1st RF circuit. M--R--L