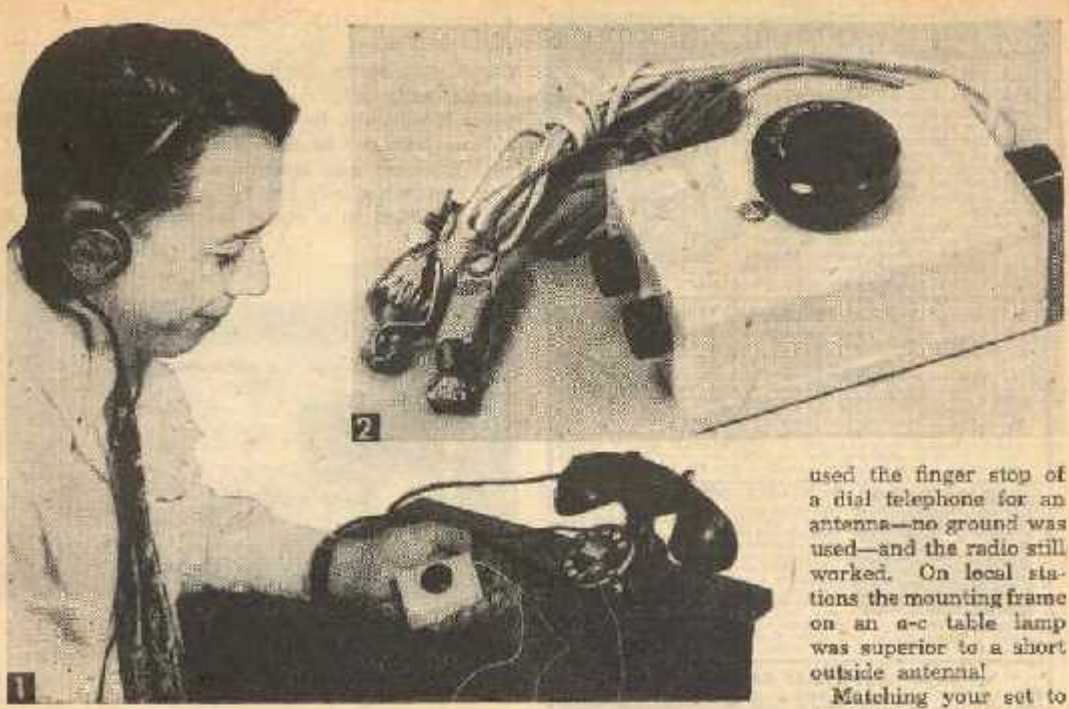


Super-Sensitive

Vestpocket Crystal Radio

A "high-Q" antenna coil makes this set a real performer

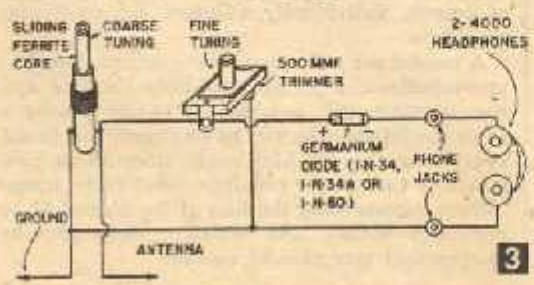
By T. A. BLANCHARD
Radio Editor

FAR from being a throw-back to the days when radio coils were wound on oatmeal boxes with doorbell wire, this tiny crystal set separates stations without batteries or a complex circuit.

Aside from selectivity good crystal set results depend upon antenna and ground. For long-distance reception, use as long and high an antenna as possible. Where space is at a premium, the antenna may be installed in X fashion (Fig. 4). Use a cold-water pipe as ground, or in rural areas, a well pump pipe. However, we used the finger stop of a dial telephone for an antenna—no ground was used—and the radio still worked. On local stations the mounting frame on an a-c table lamp was superior to a short outside antenna!

Matching your set to the particular broadcast frequency heightens crystal reception. Don't hesitate to try all kinds of objects for picking up a signal. One good antenna was a bed spring with the metal frame of a bed lamp as ground. Another good match were two grounds at different potentials—one a water pipe, the other, a copper line to a propane tank.

The final requisite for good reception is a pair of sensitive headphones. These should be magnetic headphones of 2000 or 4000 ohms resistance. Do not go on labels alone. Unscrew the caps from any headphones you plan



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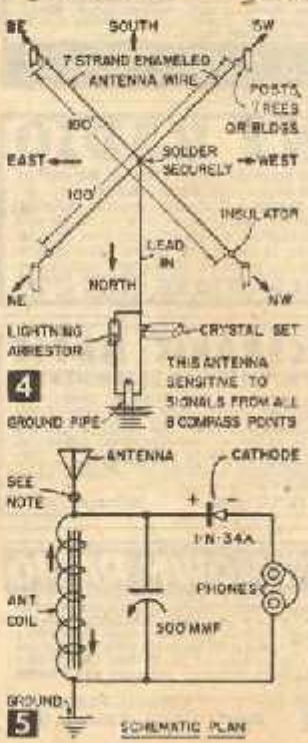

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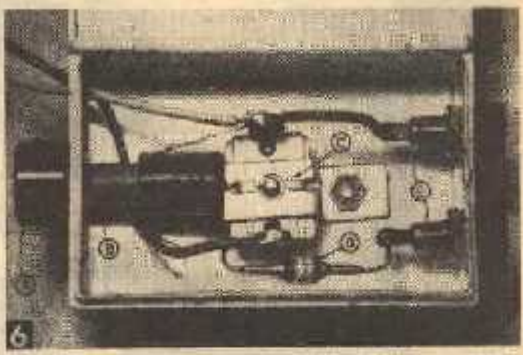
5 SCHEMATIC PLAN

NOTE: Insert 100 to 500 mmf. mica condenser to tune in 1800 to 1000kc. stations when long outdoor antenna is used.

to purchase. If the metal diaphragms drop off, don't buy them. In good headphones the metal diaphragm sticks to the magnets. Any headphone with only a single coil inside the ear piece should also be passed up as unsatisfactory.

Now let's get to building the pocket crystal set. This set was assembled in a small plastic box measuring only 3 x 1⅞ x 1⅛ in. but it may be assembled in a metal or wood container of



Arrangement of components inside plastic or metal case. (A) coarse tuning knob, (B) ferrite core antenna coil, (C) fine tuning trimmer capacitor, (D) germanium diode and (E) phone jacks.

any convenient size. Fig. 6 shows the actual assembly and if you follow connections, the case size is not important.

A ferrite slug-tuned type antenna coil is the reason this set is so highly selective. Sliding the ferrite core in and out of the coil accomplishes the same result as complicated wave-traps. Fine tuning is accomplished with the trimmer capacitor. Stations near the top of the dial (550 kc.) are tuned-in with the coil slug pushed in. Sta-

MATERIALS LIST—VESTPOCKET RADIO

1—Small plastic box (Safety razor case, cigaret box, etc.)
1—Progressive wound antenna coil with adjustable ferrite core (Miller, Stanwyck)
1—Mica trimmer condenser (500mmf or 600mmf max. capacity)
1—Germanium crystal diode (1N34, 1N34A or 1N60)
2—Earphone tip jacks (Insulated or non-insulated type)
2—PacWire spring clips
2—3-ft. lengths plastic hook-up wire (stranded)
1—Pair sensitive magnetic headphones (2000 to 4000 ohm res.)

Kits including all necessary parts for building this vestpocket crystal radio may be obtained for $2.98 (postpaid) from ElectroMite, P. O. Box 636, Springdale, Conn.

tions near the bottom of the dial (1600 kc.) are tuned-in with slug pulled out. Both controls are, of course, individually adjusted for maximum reception.

A crystal set with these two great modern improvements—the germanium diode detector and the ferrite-tuned antenna coil—can fascinate even the fellow who thinks he's seen and heard everything. Our big kick comes from seeing how much we can get *for free* from two nearby transmitters representing the hub of the biggest U. S. networks—WCBS and WNBC. Both provide loudspeaker reception at no cost!