

Fig. 1 — Locating holes for components with a center punch.

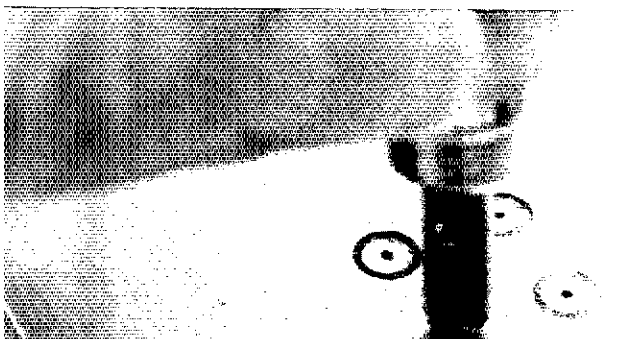


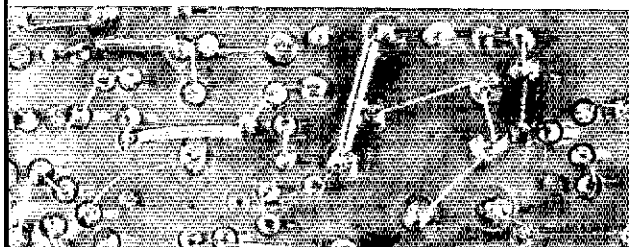
Fig. 2 — The isolated pads and the component holes can be made in one operation.

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A PROBLEM often encountered by the amateur is how to lay out a single circuit board without an inordinate expenditure of labor and time. The isolated-pad method of circuit-board construction is well suited to instances where only a few boards are desired. Another advantage of the isolated-pad technique lies in the ease and simplicity of transferring artwork to the board surface. Fig. 1 shows an electrostatic copy of the artwork taped to a board and the hole centers being directly transferred to the copper by a center punch. Once this is done each of the holes is drilled and an isolated pad formed around the hole (Fig. 2). The components are then inserted, soldered, and excess leads trimmed. Normally, the molten solder will not bridge the gap of the isolated pad because of surface tension. The components are

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Fig. 3 — Bottom view of pc board (copper-clad side) showing method of wiring components.



Gimmicks and Gadgets

Isolated-Pad Circuit-Board Construction

then electrically joined by using tinned wire soldered to the projecting wire stubs. The resulting isolated-pad circuit-board is shown in Fig. 3.

Use of the isolated-pad technique allows the builder to duplicate circuit templates with identical parts location and wiring layout. The component mounting is just as rugged as with etched pc-board construction.

An article by Ted Swift,¹ W6CMQ, suggested the basis for the construction technique described here. An improved version of the tool used in the Swift article was designed by the author. Improvements included a No. 60 drill as a center drill and adapting the shank to fit a Stanley Tools Co. Yankee screwdriver. Now the hole for the component wire and the isolated pad can be made simultaneously. The improved tool is shown in Fig. 4. These isolated-pad drills can be obtained from the author's son and a similar product is offered by Vector Electronics Co., parts No. P116 or P138.

¹Swift, "Low-Cost Instant Printed-Circuit Boards," *Ham Radio*, August, 1971, p. 44.

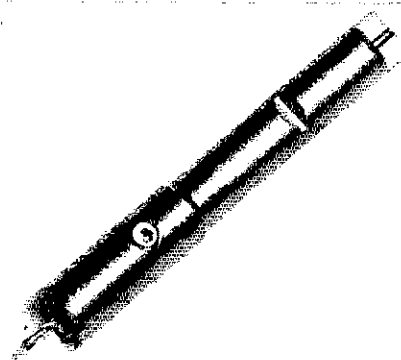


Fig. 4 — Tool used in isolated-pad construction. Set screw allows removal of the No. 60 center drill. The shank will fit either an ordinary hand drill or certain push-type screwdrivers.