

SIMPLE EXTERNAL FREQUENCY SELECTION FOR THE ICOM IC-22S

Reg Fookes VK2AKY
Courtesy "DRAGNET" St George ARC

Although the IC-22S is now "out of print" it is still a good, no-frills 2 m transceiver. Its PLL frequency synthesiser provides 144 channels between 144.4 and 147.975 MHz. By soldering diodes into an internal matrix board up to 22 of these channels can be selected by the front panel switch.

This leaves 122 channels which can only be accessed by the rather laborious procedure of changing matrix diodes. A convenient method of selecting these other channels is needed. A published method, G Percy, VK3ZQP, (now VK3PE) Amateur Radio January 1978, p 9 is electronically elegant but complex and covers only 80 channels. The technique to be described is about as simple as possible. It is probably not new and no originality is claimed.

In the IC-22S channel selection is achieved by feeding +9 V through the selected row of matrix diodes to the appropriate inputs of the programmable divider of the PLL. One channel (eg No 22) is set aside for external programming by a series of 8 miniature toggle (or slide) switches and Si diodes. These are mounted in a small metal box mounted above the IC-22S on the plain face of the mounting bracket supplied with the rig, see Fig 1. Label the switches D7 to D0 and/or 128, 64, 32 . . . 1 to correspond with the handbook. In this configuration the bracket functions as a good tilting mount for table top use. As an optional extra a standard phone jack can also be mounted in the switch panel, connected by thin co-ax to a miniature plug for the "Ext Spkr" jack.

Electrical access to the interior of the transceiver is via the 9-pin socket on the rear panel. Disconnect the tuning meter lead, by-pass capacitor and earth connection. With ribbon cable or

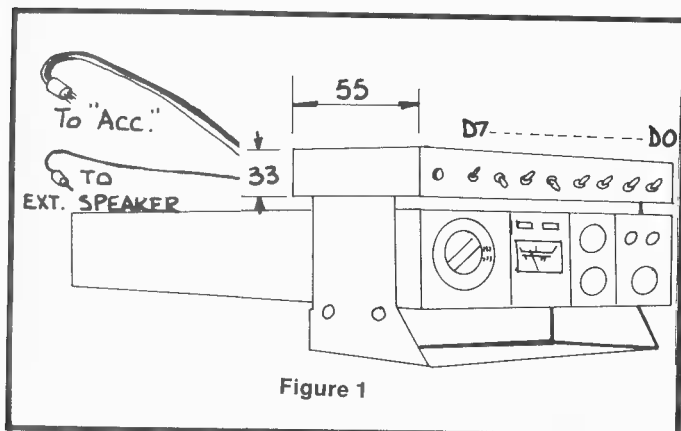
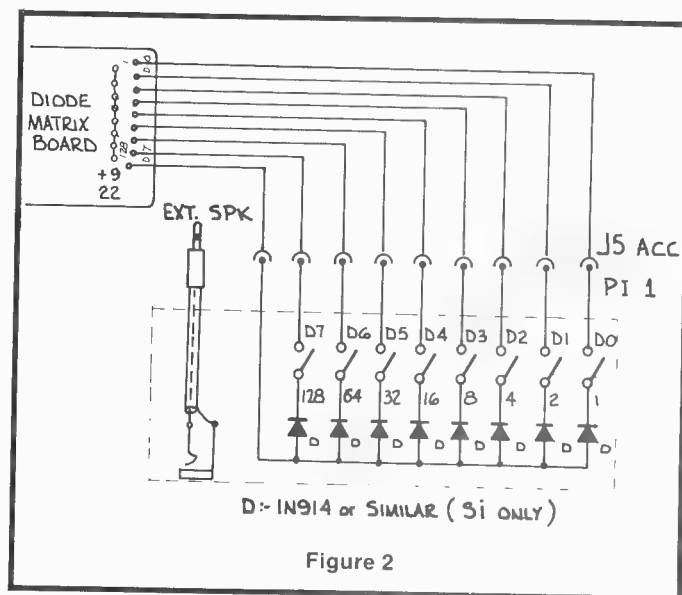


Figure 1



thin hook-up wire connect the socket to the channel No 22 row of holes in the diode matrix board, allowing sufficient length of wire to permit removal of the board for future changes in other channels. The circuit diagram is given in Fig 2. Be careful to keep track of each connection so the sequence of the switches will be covered.

To set up a channel not available with the main selector, turn the switch to Channel 22 and with the procedure given in the handbook, and with due regard for the requirements of simplex or repeater operations, set up the row of diode switches. Closing a switch is equivalent to inserting a diode in the matrix, and vice versa.

It works like a charm.

MODIFICATION OF "SIMPLE FREQUENCY SELECTION FOR THE ICOM IC22S"* to allow for LED Display of Channel Switches Operated

Keith Heitsch, VK4AHK
67 Oleander Avenue, Scarness, Qld

This LED readout is in use by the author and has proved to work very well.

The LEDs have no detrimental effect on normal of the 22S as they are in opposition to the channel diodes.

Also, as suggested in AR*, March 1983, page 15 R141, 15 ohms in the 22S be replaced with a half watt, or even a one watt type resistor if it can be fitted in the space, to give

more current reserve to carry the LED's extra load on the regulator.

The LEDs are mounted above the switches on the original panel of VK2AKY's.

