

Twoer Modifications

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Photo credit: Elliot Eckhaus, K2GUL.

THE Heath transceiver units, commonly known as the Tener, Sixer & Twoer are excellent units in regard to operation, size, and cost. This article is based on the Twoer, but will hold the same for the others.

The Twoer was used in the home QTH for a while, and I became interested in using the rig mobile. As some of us might know, setting up a mobile rig takes time and most of all, patience.

In the Twoer, described here, I did away with all of the hard work, such as running cables, mounting power supplies, etc. The unit now will operate either 110 vac or 12 vdc at the flip of a switch.

If ever it came to mind to use a VFO, you would probably not be too successful, because with the original oscillator circuit a VFO could not work. I made some minor oscillator changes that helped to stabilize the unit when

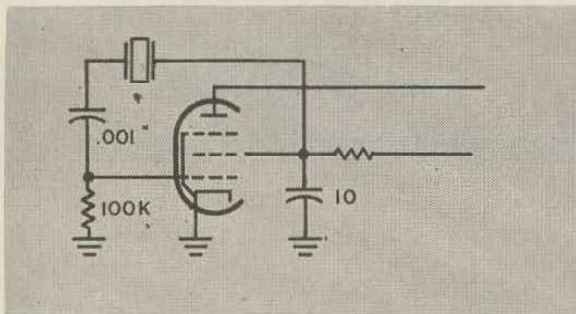
a crystal was used, and now I can use a VFO.

Construction Details

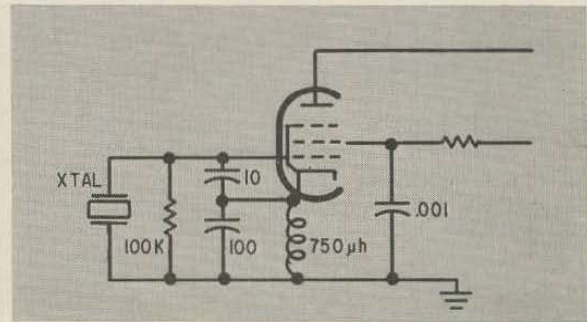
The fuse holder in the rear of the unit was removed and mounted in the space that had originally been used for the eight pin power plug. The hole that was used for the fuse is now the mounting hole for the new switch.

Part of the power supply is built on a sub-chassis which is mounted on the speaker baffle plate. This sub-chassis, measuring 3½ in. L. by 2¼ in. W., is made of a piece of ¼ in. steel. A ½ in. lip is bent and used for mounting.

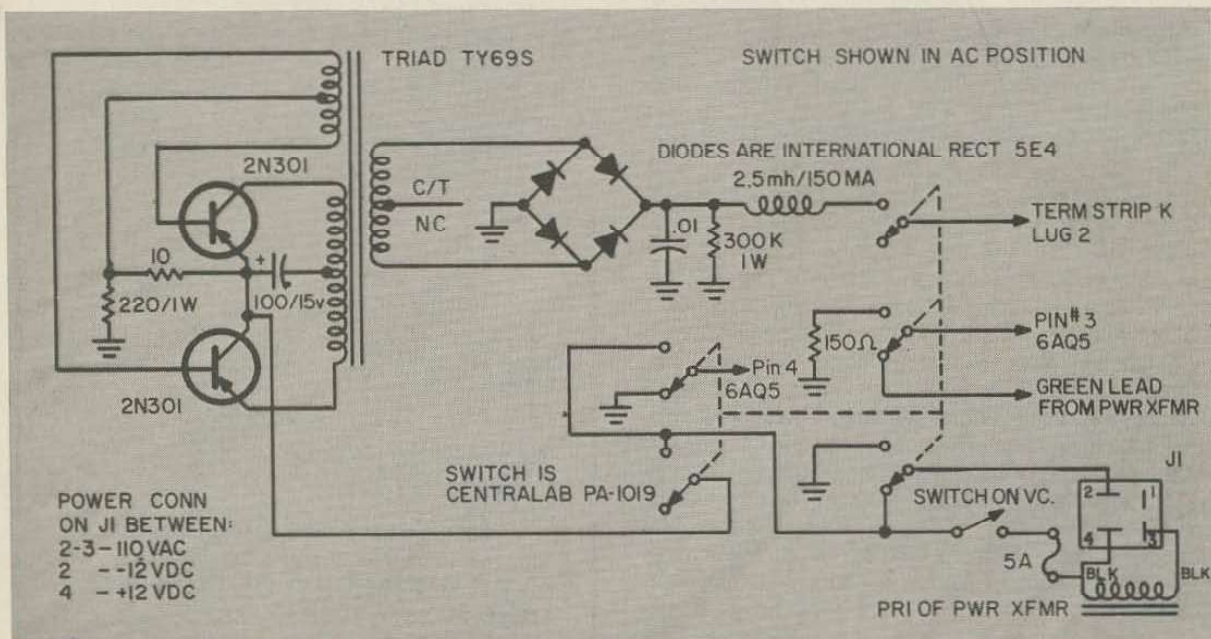
The silicon diodes and the rest of the power supply components are wired on a terminal strip, which is then mounted on the screw that holds the power transformer. The four prong power plug is mounted on brackets, and is positioned near the output transformer. It will be found that in order to have access to the

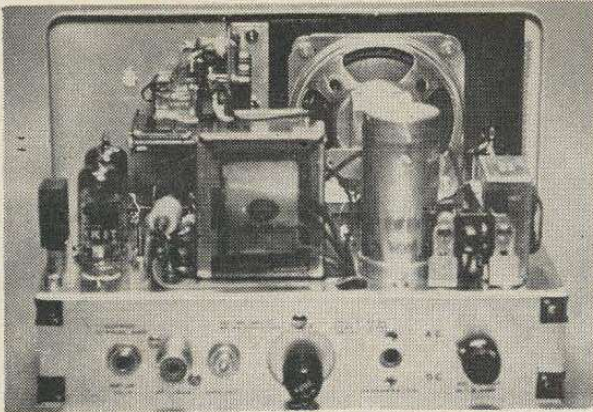


Before



After





This picture shows the new location of the fuse, switch, and four prong plug. It also shows how power supply is mounted on the speaker baffle plate.

power plug when the cabinet is installed, you will have to cut a hole in the rear.

Operation

The new selector switch is used to select either ac or dc operation. For operating on 110 v, connect pins 2 and 3 to the power source. One 12 v., where the power can be taken from the car's cigarette lighter, connect pin 2 to -12 v and +12 v to pin 4 of J 1.

We found that when operating mobile, lowering the broadcast antenna to approximately 19 in. worked fairly well. . . . **K2ORY**

8 mc Xtal Multiplications

6M (x2 x3) (x6)	(2M) (x2 x3 x3) (x18)
50 mc = 8333.333	144.0 mc = 8000.000
50.1 8350.000	145 8055.555
51 8500.000	146 8111.111
52 8666.666	147 8166.666
53 8833.333	147.9 8216.666
54 9000.000	148 8222.222
1 1/4 M (x3 x3 x3) (x27)	3/4 M (x2 x3 x3 x3) (x54)
220 mc = 8148.148	420 mc = 7777.777
221 8185.185	425 7870.370
222 8222.222	430 7962.962
223 8259.259	432 8000.000
224 8296.296	435 8055.555
225 8333.333	440 8148.148
	445 8240.740
	450 8333.333

. . . **W4OAB**

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Pi-Net Output to match 50-100 ohm Antenna Load

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Power Supply Requirements; (Heathkit HP-20 or similar)

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300 V. DC-60 Ma. (Osc.-Mixer)

600 V. DC-120 Ma. (Amplifier)

-130 V. DC-(Amp. Bias)

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WRITE FOR COMPLETE INFORMATION

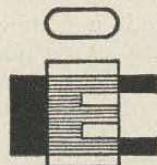
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