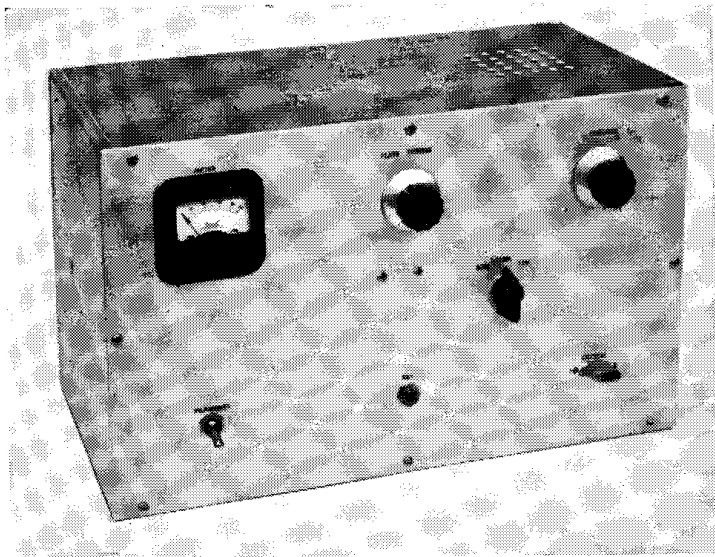


30 Watts Input on 80, 40, and 15 meters



This 30-watt three-band Novice transmitter is enclosed in a $7 \times 9 \times 15$ -inch aluminum box (Premier AC-1597) which furnishes adequate TVI shielding. A group of $\frac{1}{4}$ -inch-diameter holes should be drilled in the top of the box over the oscillator and also in the back panel to provide ventilation.

A Three-Band One-Tube Novice Transmitter

BY LEWIS G. McCOY,* WHICP

*An inexpensive transmitter
covering the three lowest-frequency
Novice bands.
Power supply and a
keying monitor are included.*

THE NOVICE TRANSMITTER described in this article has many features that make it especially appealing to the newcomer. First, and most important to the beginner, it is very easy to build and get working. The transmitter is a crystal-controlled, one-tube oscillator capable of running at 30 watts input on the 3.5-, 7, and 21 Mc. Novice bands.

All of the components for the rig, including the power supply, are mounted on a $2 \times 7 \times 13$ -inch aluminum chassis that is enclosed in a $7 \times 9 \times 15$ -inch aluminum box. Enclosing the rig in a metal case practically eliminates the problem of TVI harmonic radiation. In addition, the tank circuit is a pi network designed to work into 50- or 75-ohm loads so it is a simple matter to install a low-pass filter if one is needed.

Another feature of the transmitter is a built-in keying monitor. The keying monitor permits the operator to listen to his own sending regardless of where his receiver is tuned. Special considerations were made in the design to insure the best keying characteristics. One of these is the use of regulated voltage on the screen of the oscillator. By doing this there is no supply voltage change between key-up and key-down conditions. Regulating the screen voltage minimizes frequency shift of the oscillator which is the cause of chirp. A look at Fig. 1 shows how the screen is regulated. In addition, a small amount of cathode bias is used on the oscillator (R_4). It has been found by experiment that using cathode bias tends to improve the keying characteristics in a cathode-keyed simple oscillator transmitter.

Circuit Details

The oscillator circuit used is the grid-plate type, and the tube is a 6DQ6A pentode. In a grid-plate oscillator where a screen-grid tube is used, the screen of the tube becomes the oscillator

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