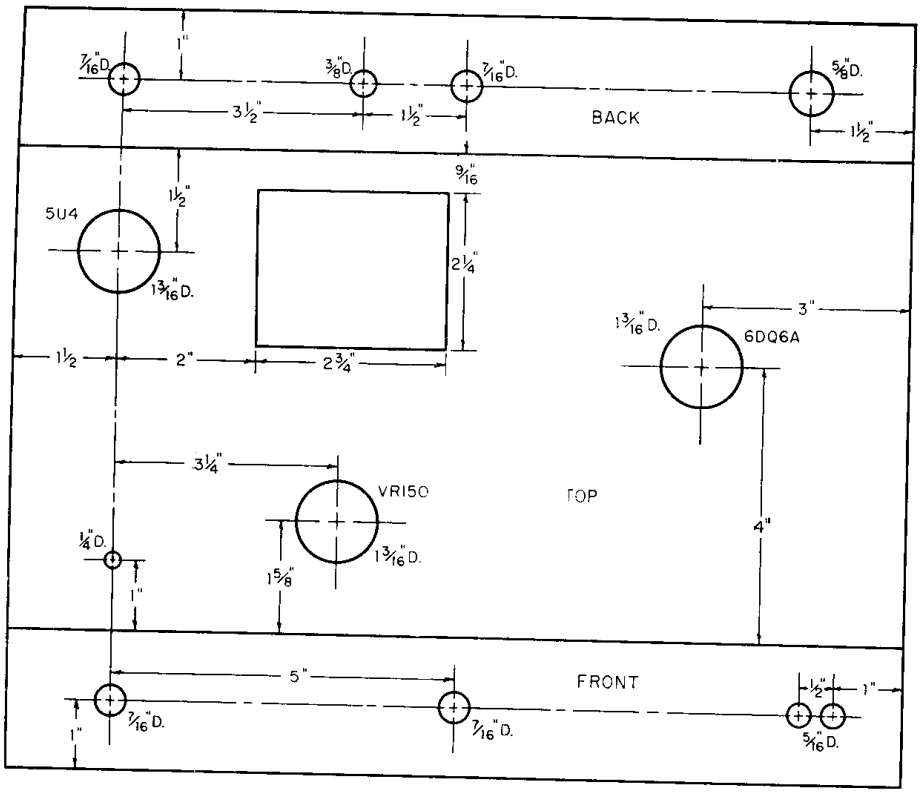



Fig. 2—This drawing gives the important dimensions for the holes on the top, front, and back of the 2 × 7 × 13-inch aluminum chassis

jack, $J_1$. When the key is open, the audio oscillator is silent, but when the key is closed an audio note is heard in the headphones. The headphones are plugged into $J_2$ which is a jack that is mounted on the back of the transmitter chassis. Another jack, $J_3$, is used as a connection terminal for one end of the lead that goes to the headphone jack on the receiver.

### Power Supply

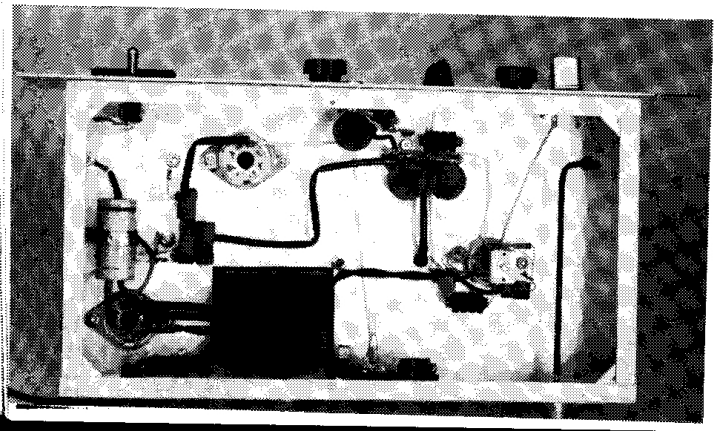
The power supply uses a 5U4G in a full-wave rectifier circuit. A capacitor-input filter is used and the output voltage is approximately 370 volts d.c. with a transmitter cathode current of 90 milliamperes. A 0–150 milliammeter reads cathode current. The screen and grid currents are approximately 4 ma. when the oscillator is loaded. This figure should be deducted from the total current reading to determine the amount of plate current.

### Construction

Before drilling any holes in the chassis, spend a little time studying the photographs, circuit diagram, and the dimension drawing, Fig. 2. Once you have familiarized yourself with the component layout you are ready to drill and punch out the necessary holes in the chassis.

If this is your first construction job you may not know how to make the rectangular hole for mounting the power transformer. There are two methods of doing the job with ordinary tools. The first consists of drilling a row of small holes along the inside dimensions of the hole and then knocking out the center piece with a cold chisel. A flat file can be used to clean up the edges. Another method consists of drilling ½-inch holes at diagonally opposite corners of the rectangle and then cutting out the piece with a hack-saw blade.

When the chassis holes are drilled, you are then ready to make up the front and back panels of the box. The box has a ½-inch lip around both openings, so the chassis must be mounted high enough on the panel to clear the lip. Lay the front panel on a flat surface and place the chassis front on the panel. The bottom edge of the chassis should be placed one inch from the bottom of the panel. The sides of the chassis are also one inch from the sides of the panel. Take a pencil or scribe and mark off the locations of the holes for $S_2$, $Y_1$, and $J_1$, using the holes in the chassis front for a guide. There is nothing critical about the placement of the meter or the shafts for $C_6$, $C_8$ and $S_1$. The arrangement shown in the front-view photograph can be followed to



All of the power-supply components are mounted at the left-hand side of the chassis and the oscillator section is at the right-hand side. Mounted on the back wall of the chassis is the keying monitor. Although not visible in this view, the monitor components are mounted on a four-terminal tie point.