

## SECTION II INSTALLATION

### 2.1. UNPACKING.

2.1.1. PROCEDURE. - Collins 51J-4 receiving equipment is packed in a number of heavy cartons. Refer to the packing slip for a list of all equipment supplied on the order. Open cartons carefully to avoid damaging the contents. Remove the packing material, and carefully lift the units out of the cartons. Search all packing material for small parcels. Extra pilot light bulbs and fuses are supplied with each equipment. Inspect each unit for loose screws and bolts. Make sure that all controls such as switches and dials work properly. All claims for damage should be filed promptly with the transportation company. If a claim is to be filed, the original packing case and material must be preserved.

### 2.2. INSTALLATION.

2.2.1. GENERAL. - The receiver should be mounted in a standard rack. Outline and mounting dimensions are given in figure 2-1. The front panel is slotted for mounting at 1-1/2, 3-3/4, 6-3/4 and 9 inches from the bottom. Panel height is 10-1/2 inches and panel width is 19 inches.

When choosing a position for the receiver, give consideration to convenience of power, antenna and ground connections, to placement of cables and to convenience in servicing the equipment. Rear panel connections are shown in figure 2-2.

2.2.2. ANTENNA CONNECTION. - Connect a cable from a high impedance whip or a single-ended antenna to antenna jack J101 on rear panel. If the receiver is to be operated near a powerful transmitter, the r-f input circuit should be protected by connecting break-in relay K101 to operate when the transmitter is radiating. Break-in relay connections are described in paragraph 2.2.5. below.

2.2.3. AUDIO OUTPUT CONNECTIONS. - Two audio output jacks are located on the front panel. One is designated PHONES and the other SPEAKER, their output impedances being 4 and 600 ohms respectively. An audio output terminal strip is provided on the rear panel. Terminal G is a ground

connection and terminals 4 and 600 are audio outputs of 4 and 600 ohms impedance respectively. Terminal 600 is connected in parallel with the PHONES jack, and terminal 4 is connected in parallel with the SPEAKER jack. Use these output jacks and terminals as required.

2.2.4. I-F OUTPUT CONNECTION. - A 100-200 millivolt, 50 ohm 500 kc i-f output is available at coaxial jack J104 on the rear panel.

2.2.5. REMOTE STANDBY CONNECTIONS. - Break-in relay connections are available at terminal strip E101 at the rear of the chassis. Terminals are marked 1, 2 and 3. Terminal 1 is connected to receiver ground. Terminals 2 and 3 are connected to the break-in relay coil, which is rated at 12 v d-c nominal and 135 ohms d-c resistance. During operation, terminals 2 and 3 are usually connected in series with a source of voltage and a set of normally open contacts on the carrier control relay of a transmitter in order to silence the receiver during transmission. When the break-in relay coil is energized, one pair of contacts shorts the antenna to ground; another pair, connected in series with a section of the OFF-STANDBY-ON switch, removes plate voltage from the three i-f amplifier stages. In STANDBY position, the OFF-STANDBY-ON switch also removes plate voltage from the i-f stages. See figure 2-3.

2.2.6. POWER CONNECTION. - Make power connection by using the rubber - covered cord that is permanently attached at the rear of the chassis. This cord is six feet long and is equipped with a standard a-c plug. The power source must supply 85 watts at 115 volts, 45/70 cps. If 230 volt operation is desired, reconnect transformer T108 by removing the jumpers between terminals 2 and 4 and between 1 and 3; then connect a jumper between terminals 2 and 3.

2.2.7. TUBES. - Before turning on the equipment for the first time inspect the tubes. Be sure that they are in their correct positions, and that they are firmly seated in their sockets.