INTRODUCTION

The Amateur Communications Receiver is a precision-engineered instrument designed to meet the high standards of Amateur performance. It offers widely adjustable selectivity and exceptionally high sensitivity to bring in solid QSO's. The frequency range covers standard, medium, and short-wave broadcasts, including all Amateur bands from 80 through 10 meters. By using multi-purpose tubes, the 7-tube superheterodyne circuit provides performance equal to an 11-tube receiver.

To simplify the tuning of the crowded shortwave stations, the receiver uses a separate bandspread tuning capacitor. It is calibrated for the five Amateur bands (80-10 meters), and is also helpful for bandspread tuning any part of the frequency spectrum. The main tuning dial covers 540 kc to 31 mc in 4 ranges. The civil defense frequencies are clearly marked, and each Amateur band is indexed. Both main and bandspread dials have vernier mechanisms for smooth, easy tuning.

Other features are a highly effective noise limiter and a built-in Q-Multiplier to peak desired signals or to null undesired signals and interference. A constant-running high-frequency oscillator with voltage-regulated B+ supply, and extra-heavy chassis design contribute to the rock-like stability of this fine receiver. Frequency stability is maintained over a wide temperature range.

Two printed circuit boards assure wiring accuracy and uniformly high performance of every receiver kit. All critical wiring is already done—there is no problem of lead dress. Assembly has been further simplified by use of a unique printed-circuit bandswitch.

CHECKING YOUR KIT

Before starting to build your receiver, check each part against the parts list on pages 41, 42 and 43. This will help you become acquainted with each part. If you are unable to identify some parts by sight, locate their pictures on the wiring diagrams.

Symbols are used to describe parts. The Greek letter "μ" means micro, "Ω" means ohm, "K" means one thousand, "m" means milli (or one-thousandth), "M" means meg (one million), and "h" means henry.

The resistors are marked with four color bands. The first three bands designate the value of the resistor in ohms, and the fourth color band specifies the tolerance of the resistor. As an example, a 150Ω resistor would be marked brown, green, brown, silver. There is one resistor in which the third color band is gold—this resistor is a 3.3Ω resistor.

CONSTRUCTION AND WIRING HINTS

The only tools necessary for building your receiver are: A pair of long-nose pliers, diagonal cutting pliers, a screwdriver and a soldering iron.

Study the pictorial diagrams and note how the parts are mounted. These pictorial diagrams show the actual location of all parts and wires. The schematic diagram shows how the parts are connected electrically and is helpful in understanding how the receiver works.

Be sure to follow the step-by-step instructions exactly. DO NOT wire this kit from the pictorials or schematic alone as it must be assembled and wired in a definite sequence. Occasionally, several parts are mounted with the same hardware, so be sure that you read each step all the way through before you do it.

Space is provided, for your convenience, to check off each step after you have completed it.

When connecting wires to a terminal (holes are used on the printed circuit board), bend the end of the wire around the terminal and clamp it tightly with long-nose pliers. This assures a good mechanical connection. Solder must not be used to supply mechanical strength—its only purpose is to assure a good electrical connection between two conductors.

To connect a component to a terminal strip, pull the end lead of the part being mounted through the holes in the mounting terminals so that the part is tightly mounted. After the part is mounted, bend its leads around the mounting terminals and cut off the excess wire. Leads on the chokes, output transformer, resistors and capacitors, are usually longer than needed. These leads should be cut to the proper length when the parts are wired in place. Remove whatever type of insulation has been used. If enamel-coated, scrape the enamel off. Coat the newly exposed wire with a thin coat of solder, and then connect it to the specified terminal.

There are three kinds of insulated wire supplied with this kit: Shielded stranded wire; ordinary stranded wire; and solid wire. The solid wire has already been cut to length and the ends stripped to save you time. Each solid wire of a different color has a definite length. When a solid wire is to be used, only the color is specified. This automatically assures the correct length. The only exception, an 8" red, stranded wire, will be specified.

A piece of bare wire is included. Whenever it is necessary to use some of the bare wire, the exact length to be used is specified.