

Signal Corp RA-20 AC Power Unit

28. Rectifier RA-20 (figs. 22 and 23).—

Rectifier RA-20 is used in Receivers BC-342- (*) and BC-344- (*). Operating on an a-c input of 110-120 volts, 50-60 cycles, it supplies the necessary plate voltage for the receivers. This rectifier is secured to the underside of the chassis in the same manner as the dynamotor in battery-powered receivers. Under full load conditions, the rectifier draws approximately 0.7 ampere at 120 volts alternating current with a d-c output of approximately 95 milliamperes at 260 volts. The power transformer used in this rectifier has one primary winding and four secondary windings. The primary winding is tapped to provide for an input of 110-120 volts, 50-60 cycles. The high-voltage secondary winding delivers approximately 300 volts alternating current to each side of the center

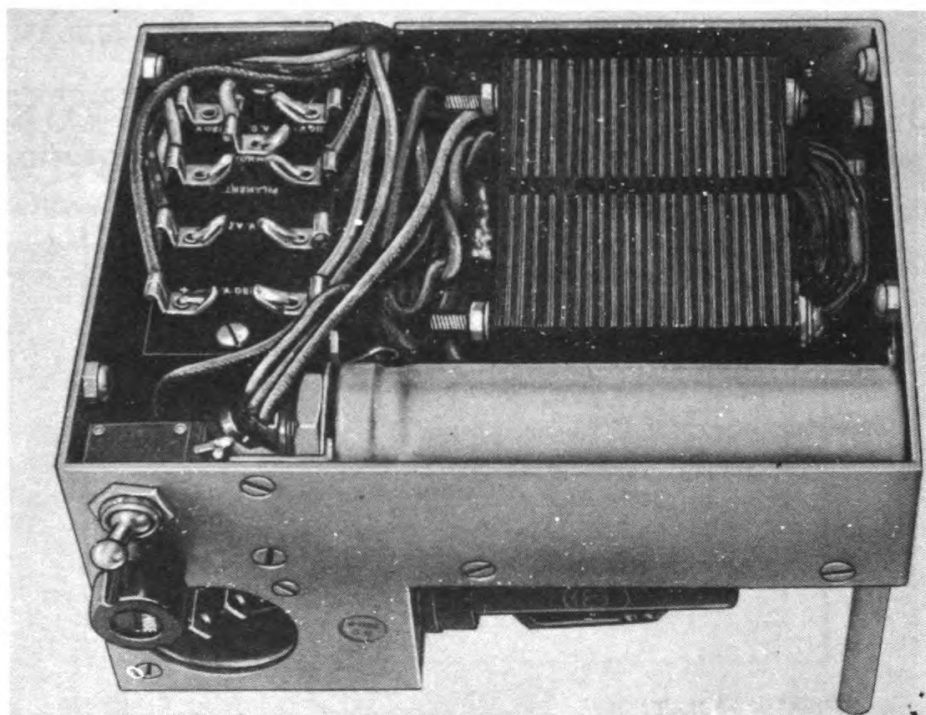
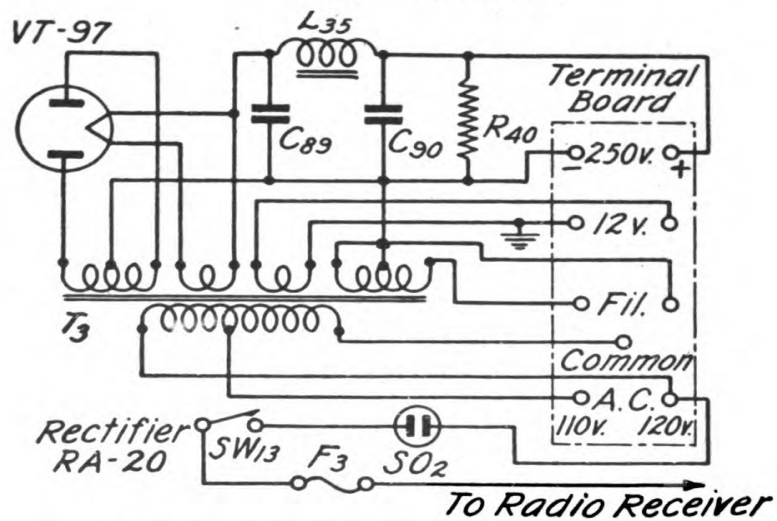


Figure 22.—Rectifier RA-20, inside view, as used in BC-342-(*) and BC-344-(*) .



- C_{89}, C_{90} — 8-microfarad Capacitor CA-329
- F_3 — 2-ampere Fuse FU-27.
- L_{35} — 14-henry choke Coil C-227.
- R_{40} — 65,000-ohm bleeder Resistor RS-220.
- SO_2 — A-c power socket.
- SW_{13} — Line Switch SW-105.
- T_3 — Power Transformer C-228.

Figure 23.—Rectifier RA-20, schematic diagram.

**RADIO RECEIVERS BC-312-(*), BC-312-(*X),
BC-342-(*), BC-314-(*), AND BC-344-(*)**

tap, under load. The rectifier filament winding delivers 2 amperes at 5 volts for Tube VT-97; the receiver tube filament winding delivers 2 amperes at 12 volts; and the auxiliary filament winding, which supplies voltage to the pilot Lamps LM-27, delivers .3 amperes at 12 volts. The rectifier Tube VT-97 is of the high-vacuum, full-wave metal type. A filter is provided in the rectifier supply which is made up of two 8-microfarad electrolytic capacitors and 14.5-henry, 85-milliampere choke coil. A bleeder resistor R_{40} is connected directly across the output of the rectifier filter to protect the filter capacitors. A 2-ampere fuse is placed in series with the primary of the transformer T_3 for overload protection.