

SECTION II

ANTENNA PANEL

CRV-23276

DESCRIPTION

The antenna transmission-line distribution panel is a terminal plug board expressly designed for use with diversity receiving equipment. One of these panels is employed with each receiver of the diversity system; thus, three are required for a single-group installation, six for a dual-group layout, etc. Each panel is mounted on top of one of the cabinet racks, all flush with each other and about one inch back from the front of the equipment. A blank panel is ordinarily mounted atop the power-supply bay to complete the unit layout. Extra panels may be added in tier for-

mation, one row above another, as dictated by the needs of the system.

In the first or lowest row, each active panel contains seven two-pin receptacles, three of which are used merely as dummy positions for the three respective input connector plugs. Only four receptacles are provided in the second and succeeding higher-tier panels. A cardholder is located above each active position for ready identifications of the various antennas available for selection.

OPERATION

Three of the four antenna transmission line terminals, located at the top of each antenna panel, are generally used for connecting antennas of different characteristics to the equipment. For example, three antenna transmission lines having frequency characteristics of 3-6 mc, 6-12 mc, and 12-24 mc may be connected to the terminals which are located from left to right respectively on a given panel. The fourth transmission line terminal may be connected to an antenna which is used for some special service. Other legs of the same antenna system should be connected to corresponding transmission line terminals on the other antenna panels of the equipment.

For best results, the directional antennas employed in any diversity array should be located about 1,000 feet apart. The horizontal rhombic or diamond antenna is the type most commonly used and is probably the best form yet devised for

the average installation. In cases where performance rather than economy is paramount in importance, the RCAC "fishbone" antenna is recommended. Supplementing the main antenna system, sharply tuned antennas, usually of the doublet type, are often installed to insure optimum results on a particular frequency or over a narrow band of frequencies.

Operation of the panel is extremely simple, it being necessary only to shift one of the input plugs to a desired position. Because of the height at which the panels are located, a handle and a step are provided between each adjoining pair of receiver racks to facilitate this process. In stations where two or more diversity groups are operated from a single antenna system, care should be taken to remove the input plugs from lines not actually in use to avoid loading the system unnecessarily.

SERVICE

Little or no trouble is to be expected from the antenna panel during its service life. The prongs of the input plugs and the receptacle contacts

should be inspected occasionally and cleaned should they become tarnished. Tightening of the contacts may be required after long periods of use.

