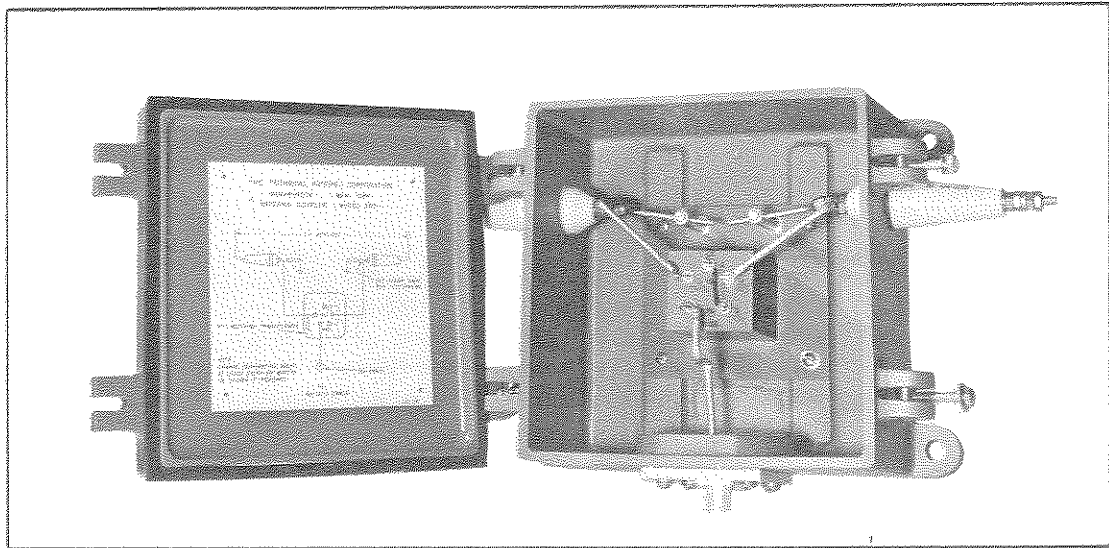
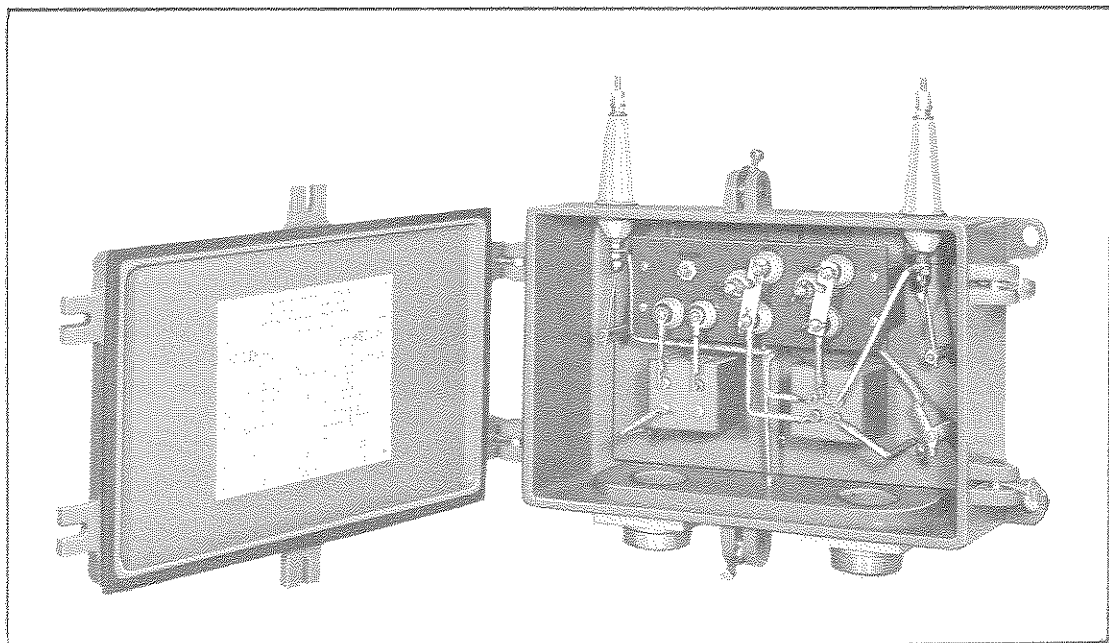


SALES SERVICE BULLETIN NUMBER 142A  
BEVERAGE WAVE ANTENNA COUPLER MODELS BAC-1, BAC-2



BEVERAGE WAVE ANTENNA COUPLER MODEL BAC-1



BEVERAGE WAVE ANTENNA COUPLER MODEL BAC-2

The Beverage Wave Antenna Couplers, Models BAC-1, and BAC-2 are designed specifically to operate with a two wire Beverage Wave Antenna.

These Couplers provide impedance termination on one end, and impedance transformation to a 75 ohm coaxial line on the receiver end.

This type of Antenna consists of a pair of horizontally mounted parallel wires, which are connected in parallel and are terminated in a resistance equal to the characteristic impedance of the antenna. When a receiver is connected to the antenna, it will be most sensitive to received signals traveling from the terminated end to the receiver.

The BAC-1 and 2 combination provides a special arrangement which makes it possible to terminate the antenna at either end by simply setting two switches. Both switches are contained in the BAC-2 case, (see Figures 1 & 2) which is located at the end of the antenna nearest the receiving location. Proper manipulation of these switches, (see Figures 1 & 2) will permit optimum reception of signals in either direction along the antenna wires or the simultaneous reception of two signals arriving from opposite directions.

The BAC-1 Coupler is a single transformer, which is mounted on the top of the pole supporting the far end of the antenna and is grounded to earth through the center conductor of an RG-12/U coaxial cable. A proper fitting is mounted on the case to accommodate the RG-12/U cable fitting. The details of the coupler are shown schematically in Figures 1 & 2.

The BAC-2 Coupler is similar to the BAC-1, but contains two transformers and terminating resistors. The Coupler mounts on the top of the post supporting the near end of the antenna. The transformers are grounded through the center conductor of an RG-12/U coaxial cable. Three fittings are provided on the BAC-2 case, two fittings to accommodate a standard RG-85/U and seal and one fitting to accommodate the RG-12/U cable fitting. The details of the coupler are shown schematically in Figures 1 & 2.

Proper coupler connections necessary to receive signals from either the far end or the near end, or both directions simultaneously, are shown in Figures 1 & 2, and the frequency response curves of the transformers are shown in Figures 3

Each transformer used in the BAC-1 and BAC-2 Coupler is flat within 3 db for a frequency range of 100 to 1600 kilocycles. The termination ratios are accurate within 10% for each transformer.

The transformers used in the BAC-1 and 2 are broadbanded devices, using core materials employing a recent technique, which accomplish the transformations with minimum insertion losses. The Couplers use no tubes and require no current supply, and are therefore linear for all types of signals and are particularly resistant to cross-modulation and other disturbing effects. A built-in lightning arrester prevents the building up of static charges which might injure associated equipment.

## TECHNICAL SPECIFICATIONS

Each Coupler is housed in a JAN alloy, cast aluminum case with heavy mounting flanges for easy installation. Ceramic insulators, properly spaced accommodate the antenna terminals. The couplers are designed to operate in any temperature ambient from minus 30 to plus 160 degrees F. with any relative humidity.

|            |                                     |
|------------|-------------------------------------|
| CASE SIZE: | BAC-1 9" wide x 9" high x 5" deep.  |
|            | BAC-2 14" wide x 9" high x 5" deep. |
| WEIGHT:    | BAC-1 approximately 13 1/3 lbs.     |
|            | BAC-2 approximately 17 1/2 lbs.     |

NOTE: We have supplied the BAC series for many specialized Beverage requirements for both single and two wire antennas and can accommodate many specific frequency ranges and impedance combinations. Your inquiries and special requirements will be given immediate attention.

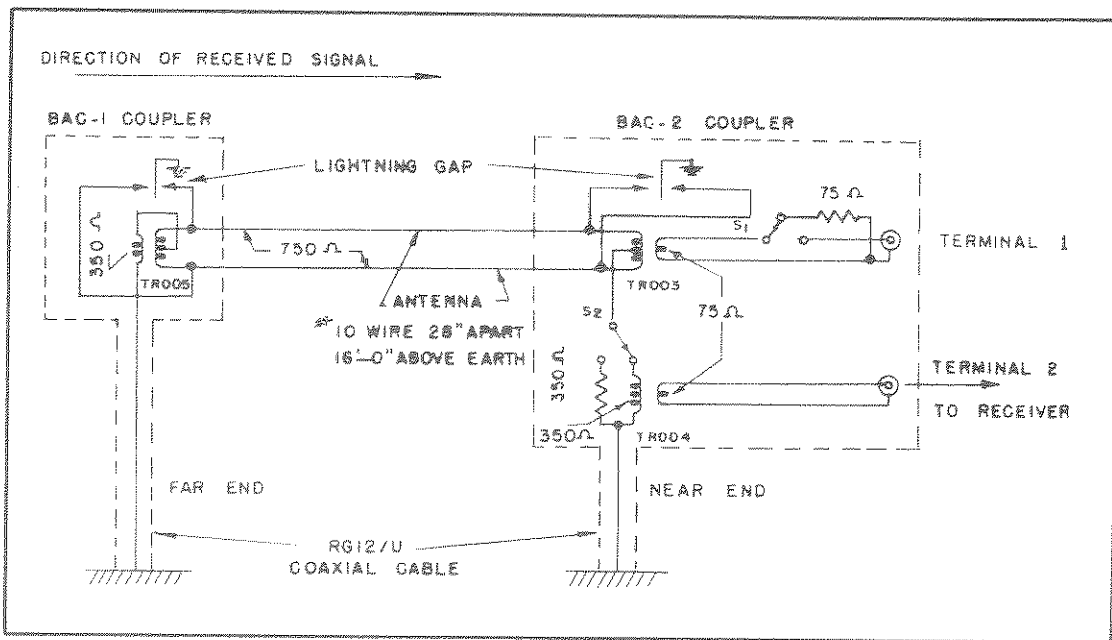


Figure 1. Direction of Received Signal From Far End

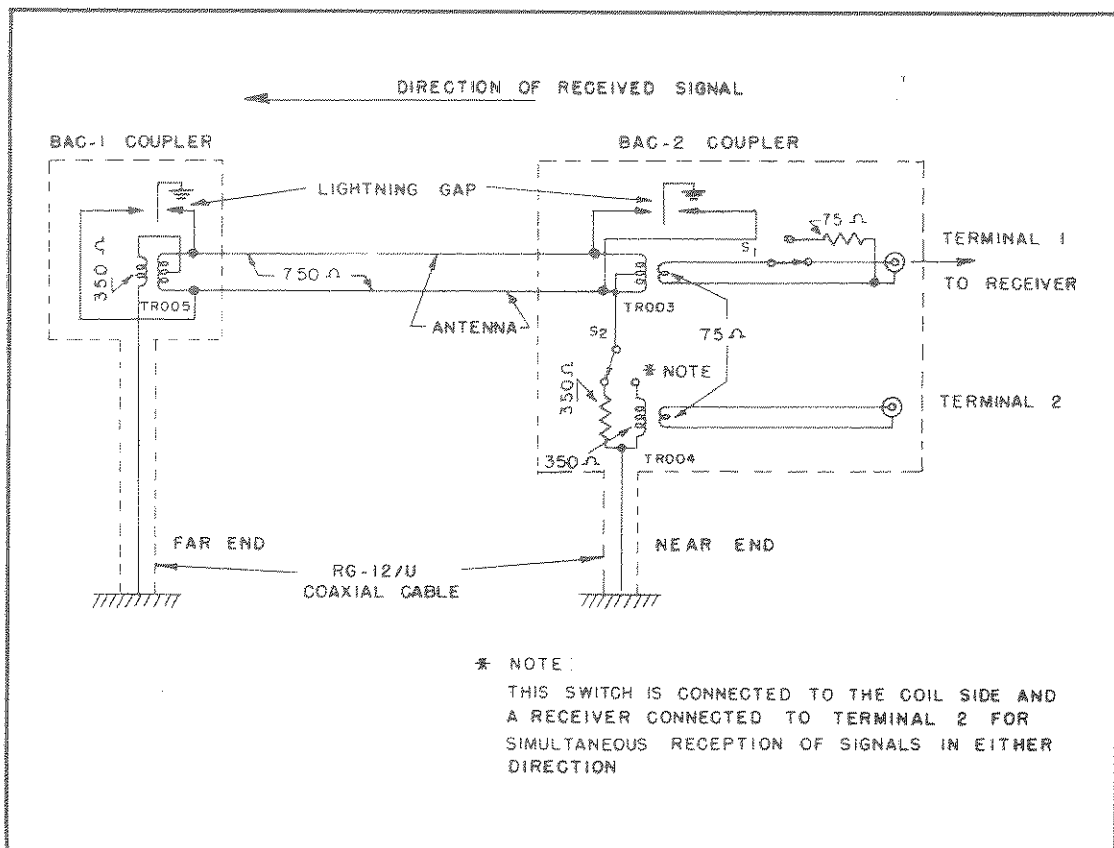


Figure 2. Direction of Received Signal From Near End

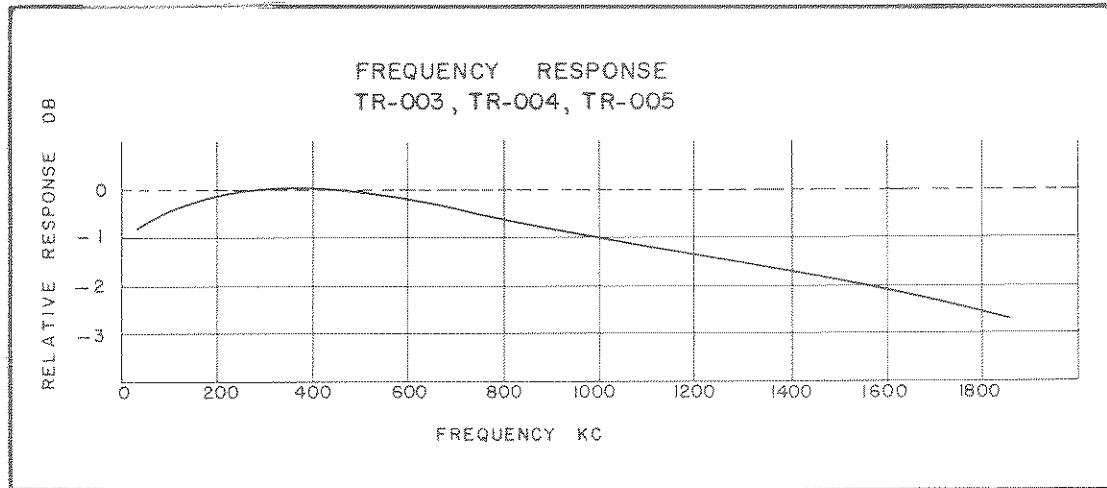


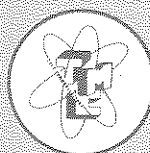
Figure 3.

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