

INSTRUCTIONS FOR THE B&W MODEL 350 TYPE 2Q4 90 DEGREE

AUDIO PHASE SHIFT NETWORK

The B&W Model 350, Type 2Q4, 90 Degree Audio Phase Shift Network has been designed for single sideband suppressed carrier radiotelephone receiving and transmitting applications. The unit is designed to split any audio signal, within the range of 300 to 3000 cps, into two equal amplitude components that are 90 degrees, plus or minus 1.5 degrees, out of phase with respect to each other. It is a compact unit composed of precision components and requires no adjustments. The network is the size of a type 6J5 tube and plugs into a standard octal socket.

A typical circuit for transmitting applications is shown below. The circuit is adjusted at 1000 cps so that the output voltage of T2 is equal to that of T3 and is 90 degrees out of phase with respect to it. Feeding a 1000 cps signal to the grid of V1, adjust R7 so that Output #1 is 90 degrees out of phase with Output #2 (as observed on an oscilloscope.) R9 is then adjusted so that these two outputs are equal in amplitude. A finer and more accurate adjustment of these controls can be made by adjusting them for minimum ripple on a single tone single sideband signal using a 1000 cps modulating tone. When making adjustments, be sure that none of the stages are overdriven causing audio distortion.

For receiving applications the reader is referred to the July-August 1951 issue of the G. E. Ham News.

