

## MODEL QT-1 VOICE CONTROL ANTI-Trip UNIT

The QT-1 is a plug-in unit for use with the Multiphase Exciter. It prevents operation of the voice control circuit by the loudspeaker.

In the exciter, the microphone output is amplified, rectified and applied as a positive voltage to the grid of the relay control tube. With positive voltage applied, the control tube's plate current increases and operates the relay. Strong loudspeaker signals will trip the relay.

With the QT-1, voltage across the loudspeaker voice coil is amplified, rectified, and applied in opposite polarity to the grid of the relay control tube.

The loudspeaker will develop two opposing voltages at the grid of the relay tube, one thru the microphone channel and the other thru the QT-1. When these two voltages are correctly proportioned, the loudspeaker will not trip the relay.

### QT-1 OPERATION INSTRUCTIONS

1. Plug the 12AT7 into the QT-1. Plug the QT-1 into the octal socket in the Multiphase Exciter chassis.
2. Turn the QT-1 gain control knob OFF. (Counterclockwise)
3. For optimum voice to room noise ratio, it is recommended that the operator speak within a few inches of the microphone.
4. Adjust the VOX sensitivity control on the rear of the 10A for reliable voice control action.
5. Find a weak signal with the receiver. Adjust the gain to a comfortable listening level. Now tune the receiver to a loud signal, preferably a heterodyne, that will trigger the voice control relay. Advance the QT-1 gain control knob until the trigger action just ceases. If the QT-1 gain control is advanced too far, the negative voltage derived from the received signal will be greater than the positive voltage derived from the operators voice. This condition will prevent the operator from voice controlling the exciter.
6. For satisfactory operation, the level at the microphone induced by the operators voice must exceed that of the loudspeaker. It may be necessary to reduce the volume of a loud signal to operate the voice control.

### SCHEMATIC OF THE QT-1

