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QST Issue: Mar 1964
Title: Recent Equipment: Heathkit HW-12 (January 1964 QST)

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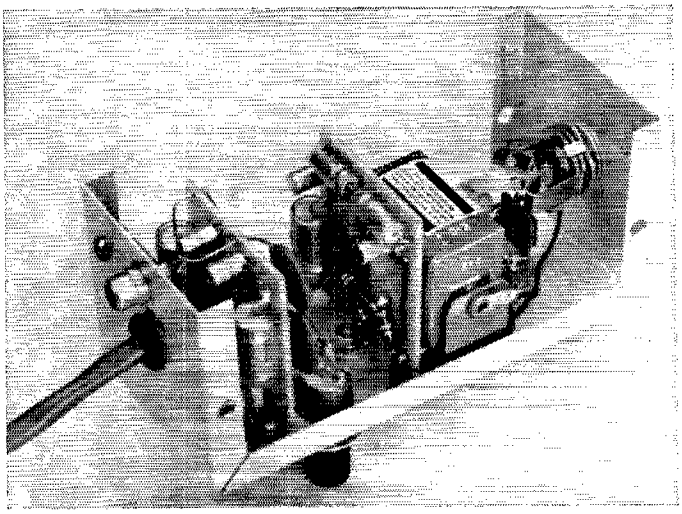

Fig. 4—The finished VOX unit with its cover removed takes on a compact look, although a large part of the space inside the chassis actually is taken up by the battery and its holder. This view also shows the phono connector and the output cable.

Heathkit audio generator simulating a microphone, we got our unit to close with as little as 3 millivolts input. Since most high-impedance microphones have at least 10 to 20 millivolts output, there should be no problem in driving the unit.

Delay between the time of the last word spoken into the mike and the time the relay opens can be adjusted from almost zero to several seconds with control R_2. The time constant is determined by the value of capacitor C_1 and the resistance, R_2R_3, across it. It may be necessary to juggle these values around somewhat to get the desired range of delay.

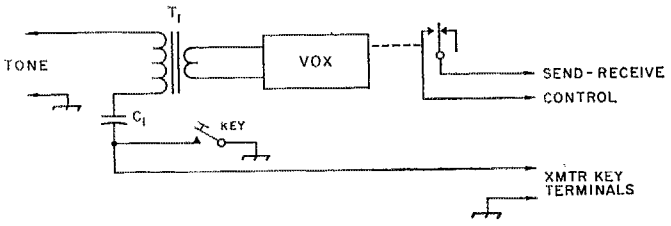

Fig. 5—A keyed tone, fed into the VOX unit, will give semibreak-in operation for the station c.w. rig. T_1 is a filament or output transformer. C_1 is .01 μf.

To use the device for semibreak-in operation on c.w., connect the relay terminals to the send-receive control circuits of the transmitter-receiver. A tone source (code practice oscillator, signal generator, etc.) must be keyed in parallel with the transmitter. The keyed tone is fed to the microphone input of the VOX unit. Fig. 5 shows a typical hookup for this kind of operation.

T_1 is a filament transformer or an output transformer with the low-impedance side connected to the VOX unit. This is necessary since the VOX will trip when its input is connected to an unshielded high-impedance circuit, because of hum or electrical noise pickup. Capacitor C_1 is used to isolate the d.c. keying circuit in the transmitter. The value of C_1 is not critical; something like 0.01 μf. will do.

When using the VOX on c.w., the first dot or dash made with the key will close the VOX relay, turning on the transmitter. The relay will remain closed (the transmitter will stay on) between characters and words or even sentences, if desired. After a pause in keying, the relay will open and turn off the transmitter. The amount of delay is adjustable with the DELAY control. Other control circuits can be added to the system for receiver muting, antenna switching, or illuminating your on-the-air sign.

It is also possible to remove C_1 completely so that there is, for all practical purposes, no delay at all. When a keyed tone is fed into the VOX unit from a tape recorder or a receiver, the relay, K_1, will be keyed along with it. This way, a tape recorder or receiver can key the station transmitter. QST

Strays

FEEDBACK

Tube life is short if you try to run a six-volt tube with twelve volts on the filament. The 6GJ5s in Fig. 2, page 39, January *QST*, should be 12GJ5s when the filament source is 12.6 volts.

The 6GE5s used as linear amplifiers in the Heathkit HW-12 transceiver (see Recent Equipment, page 50, *QST* for January, 1964) were called Novars, but are actually Compactrons (Duodecar type).