

as .01 volt when the threshold control is set carefully. The circuit is designed so that compensating factors tend to hold the threshold setting substantially constant over a moderate change in supply voltage to the communicator.

To disable the squelch, just turn the squelch control slightly past the point where the gate "opens" on background noise with no station tuned in. It is not necessary to turn it full clockwise.

To use the squelch, back off the threshold control counter-clockwise just to the point where the background noise disappears, and stop there. This makes the squelch the most sensitive (so that it will open on weak signals). Unfortunately, this also makes the squelch sensitive to electrical noise that is sufficiently strong to cause the AVC voltage to change. This means that, if such noise (such as very strong ignition noise or interference from a nearby commutator motor) is intermittent in na-

ture, the threshold control must be backed off enough to prevent the intermittent noise from triggering the squelch. It will then take a stronger carrier to open the squelch. In extremely noisy locations it may be necessary to turn the threshold control full counter-clockwise to prevent triggering of the squelch by noise. Such operation will be possible only if the desired signals are quite strong.

Certain limitations to the operation of the squelch should be kept in mind. For instance, the normal change in quiescent AVC voltage that occurs as the receiver is tuned over the band will cause the threshold setting to change slightly as one tunes over the band. For this reason, it is recommended that the squelch be used only after a station is tuned in.

## RECEIVER AUDIO SYSTEM

The second detector, noise clipper, and audio system of the COMMUNICATOR receiver have been designed for maximum intelligibility of weak signals. Because the individual characteristics all have been engineered to complement each other as an overall system, often it will be found that it is possible to copy weak signals which are not intelligible on a receiver having a comparable sensitivity. This is true even in a

quiet location where a noise clipper ordinarily would not be needed for suppression of impulse type noise.

It is recommended that the noise clipper be left on all the time, the clipper in-out switch being provided primarily to assist in aligning the RF and IF coils on background noise when a signal generator is not available.