SPECTRUM COMMUNICATIONS
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TIMER RESET TONE ANNUNCIATOR BOARD

TRA-1

1.0 DESCRIPTION

The TRA-1 is an all solid state circuit which triggers the repeater ID tone oscillator to signal the operator that the proper amount of time has elapsed to reset the repeater time-out timer. When a signal is received, the repeater will be instantly triggered in the normal fashion. When the signal is dropped, however, the TRA-1 will delay the repeater "Reset" for some time (set by R3). At the end of this delay, the TRA-1 keys the ID tone oscillator for a short "beep" (beep length set by R4) to signify that enough time has elapsed to reset the time-out timer. The TRA-1 thus provides a variable time-delay for reset of the timer, and an annunciator to alert the operator that reset has occurred. This is a very effective measure to elminate "tail-gating" on the repeater and allow time for breakers to enter between transmissions. If a user transmits before the "beep", he may "time-out" the repeater if his transmission plus the previous transmission's time exceeds the repeater's time-out time.

2.0 INSTALLATION

When used with the SCR1000 repeater, the TRA-1 should be mounted on the chassis side wall near the COR-TIMER-CONTROL board (CTC100). The terminals on the TRA-1 should be wired to the designated terminals on the CTC100 - see the TRA-1 component layout drawing. (NOTE: SCR1000 users - remove jumper between E305 and E307 on the CTC100 before installing the TRA-1.)

Key the repeater in the normal fashion and note that a beep is produced on the transmitted output sometime after the input signal is removed. Adjust R4 for the desired beep duration, then adjust R3 for the desired amount of delay before beeping. The TRA-1 is now adjusted properly, and the repeater "Hang" timer should be used to effect any change in the overall "Hang" time.

If the TRA-1 is used with other repeaters, it should be wired directly in line with the signal which triggers the timer circuits. The TRA-1 is designed to work with standard TTL levels on all inputs and outputs, but can only drive one TTL load. Also, some signal inversion might have to be provided in the interface to accomadate the TRA-1 logic sense. See the theory of operation.