



DEM TRSB and TRSK Transmit / Receive Sequencer

Specifications

Operating Voltage:	+8 - 16 VDC
Sequenced Steps:	4
Full Sequenced Time:	≅ 500 ms, User adjustable
Outputs Sink or Source:	2 Amps max./ @ 30VDC or less 0.6 A @ 125VAC, 0.5 A @ 150VDC
Outputs:	8
Keying:	PTT-L (Ground) Sinks 1 ma. PTT-H (+1.5-16 VDC) Source 2 ma.
Size:	2.6" x 4.9"

Operation:

The DEM TRSB and TRSK are based on a design by W5LUA. It is a time delay generator / sequencer that is intended to be used with any lash-up that requires separate sequenced switching circuits to control pre-amps, TR relays, transmitters, and power amps. The sequencer is activated by either a push to talk to ground (PTT - L) or by applying a + 1.5 - 16 VDC (PTT-H). At the time of activation, a R/C timing circuit in combination with a voltage divider network, begins to turn on each individual op-amp, (LM324D has 4 total), 1st through 4th in sequence. The op-amps in turn drive their respected switching transistor and relay circuits. When the PTT circuit is released, the sequencer moves back to the resting state in the reverse order, 4th through 1st. Each of the 4 sequenced stages have 2 separate outputs (8 total) that may be wired to produce a voltage, a connection to ground or an open circuit in either transmit, receive, or both. This provides many switching functions and output combinations that should fit any requirement. The outputs may be changed or altered at any time if your station's requirements change. Provisions have been made in all versions to incorporate external supplies such as negative voltage biasing, +28 volt relays, or even AC switching.

The TRSK is a PC board kit version only. When assembled, it is a complete working circuit board that is ready to be installed and be lashed up in any system. The blank PCB is also available. This is truly one of the most versatile sequencer on the market today. By changing the R/C time constant, the sequencer's switching speed may be altered. The TRSK is useful in a home-brew VHF-UHF-Microwave station where multiple Gain stages, both RX and TX, need to be wired to a common DC supply. If you plan on using some sort of DC power control, why not sequence it.

In a properly sequenced system involving a transceiver, the sequencer must key the transceiver last. A transceiver can not start the sequence by keying the sequencer the same time it sends RF out the coax connector. The relays and pre-amps need to be switched before the transmitted signal gets there.