TEST TRACK REVERSING CIRCUIT by Fred Miller, MMR

This electronic circuit was designed to provide automatic reversing for a DC powered test track. Detection of a traveling locomotive by one of the IR detectors will cause the circuit to reverse the relay, thereby reversing the DC power to the tracks. Detection by the other IR detector at the other end of the track will reverse the relay and therefore the DC track power again.

+5VDC 7805 Full Power ON LED Bridge 1000 ufd 0.1 ufd 12.6 VAC GND TEST TRACK 7406 7404 7400 Closed for UT-1 FWD See note below for DCC TO UT-1 THROTTLE throttle IR xmitter (clear) (blue) WHT TRACK POWER NOTE: Cable sensitive to motor noise Use shielded cable for best results T0 TRACK CAR SHADOW TRIGGERS F. MILLER AUG 2004 FLIP-FLOP AND REVERSES RELAYS

TRACK REVERSING CIRCUIT

Construction:

The circuit makes use of inexpensive TTL (Transistor-Transistor-Logic) chips and two IR transmitter-receiver pairs. The later are available from Radio Shack or other electronic supply sources. The circuit may need to be tweaked for the specific IR devices used. Note that the IR detection signal is not encoded (like a TV remote) so the circuit may be sensitive to sunlight or strong incandescent light. Placement of the IR receiver (and mounted in a tube) may reduce the effect of this extraneous light.

NOTE: See article on modifications to the Digitrax DCC UT-1 throttle to use this (or any reversing circuit) for DCC powered test tracks.