

+ve lead is the longer of the two. Do get them all the correct way round, otherwise they may explode when power is applied. Holes in the PCB have been provided for a number of capacitor sizes.

Testing the Finished Board

The simplest way to test the board is just to connect up power and twin-coil turnout motor, and switch on. Connections are labelled on the circuit diagram and pin numbers for the terminals T1-T20 are marked on the PCB.

The turnout driver is powered from a DC power supply (nominal 20v if you have one) or from a **rectified and smoothed** 15Vac transformer. Connections to the board are made between 0V (T4) and +20V (T5). **Do not apply more than 23Vdc to the +20V pin.** Technical Bulletin T33/21 gives more information about using the board with different supply voltages.

Coil C (T1 or T11) goes to the common connection of the 2 motor coils. Take great care never to short-circuit the motor coil connections, as operating the driver into a short-circuit will damage the relay contacts and lead to premature failure.

Having powered the board and connected it to a turnout motor, the turnouts are operated by connecting the /SWITCH pin T3 (driver 1) and/or T13 (driver 2) to 0V. To operate both drivers (or more than 2) from the same switch, link the /CHAIN pin of one driver to the /SWITCH pin of the next with external wires. This must always be done for variants PD3-2, -3 and -4 so that both relays operate together.

Further Options - see TB T33/21

If you don't need the spare relay in PD3-2, then LK2, LK3, D3, R4, RL2 and the two 5-way headers T11-T20 need not be fitted, and can be kept for other use. In other words, if you need just one turnout driver at a particular location then use a PD3 board but just fit the components for driver 1.

Diodes PD3-PD6 need not be fitted on the PCB itself, but instead can be mounted on the turnout motor. This enables it to be driven using only 2 wires instead of 3. Fit wire links in place of PD3/PD5, and connect to the motors from terminals T1/T2 and T11/T12 only.

For Kato Unitrack 2-wire points build as a PD3-1. For the first driver, link T2 and T9 to one point motor wire and T1 to the other. For the second driver link T12 and T19 to one point motor wire and T11 to the other.

For Tomix semaphore signals (or equivalent) connect as for Kato points but employ not more than 12vDC on T5, replace R2 by a link, do not connect T7, and use standard 1000uF capacitors only. Alternatively, if wishing to retain a 20vDC supply across all motor drivers then retain R1 and exchange diodes PD3 and PD4 for approximately 15R resistors.

