

## Bill of Materials

1	PCB		
		<a href="http://pcbway.com/project/shareproject/DCC_Turnout_Decoder_2288d9b4.html">pcbway.com/project/shareproject/DCC_Turnout_Decoder_2288d9b4.html</a>	
1	MCP23017 I2C Serial Interface - 16 bit I/O Expander Module		
		<a href="http://ebay.com.au/itm/265734933121">ebay.com.au/itm/265734933121</a>	
1	Arduino Nano		
		<a href="http://store-usa.arduino.cc/products/arduino-nano">store-usa.arduino.cc/products/arduino-nano</a>	
1	2W10 Bridge Rectifier 1000V 2A		
1	7805 Voltage Regulator - 5V TO220		
1	6N137	opto isolator	
2	Tantalum Capacitor	voltage 20V; capacitance 1 $\mu$ F	
1	Electrolytic Capacitor	voltage 20V; capacitance 22 $\mu$ F	
1	Ceramic Capacitor	voltage 6.3V; capacitance 100nF	
1	Rectifier Diode	1N4001	
1	1k $\Omega$ Resistor	resistance 1k $\Omega$ 0.5w	
2	10k $\Omega$ Resistor	resistance 10k $\Omega$ ; 0.25w	
1	Screw terminal - 2 pins	0.2in (5.08mm)	
1	Generic double row female header - 20 pins		
1	Generic female header - 10 pins		
2	Generic male or female header - 4 pins		**
1	Generic female header 0.1in (2.54mm) - 2 pins		*
2	Generic female header 0.1in (2.54mm) - 8 pins		*
1	Generic female header 0.1in (2.54mm) - 12 pins		*

\* these can be screw terminals if preferred.

\*\* male or female depending on whether or not using stacking with driver board (see construction details). Outer could be screw terminal if required.