Traverser
Circuit Board

Circuit board is RoHS compliant. Using RoHS-compliant (non-lead) solder and components will result in a finished board that is also RoHS compliant. If maintaining RoHS-compliancy is not important to you, you may use solder containing lead or components that are not RoHS-compliant.

Assembly and installation instructions can be found on our website at:
http://circuits4tracks.daxack.ca/php/productdocs.php?id=3

Part List

Part Number	Description	Digi-Key Number
B1	W06M bridge rectifier	W06M-BPMS-ND
C1, C2	1000 µF, 25 volt electrolytic capacitor	P12379-ND
C3	100 µF, 25 volt electrolytic capacitor	P12924-ND
C4, C5	100 nF, 10 volt or greater capacitor	399-4151-ND
C6, C7	1 µF, 25 volt or greater capacitor	445-8517-ND
D1 - D3	1N4148 diode	1N4148TATB-ND
K1	DPDT relay, 5 volt/40 mA coil, 2 Form C	PB1121-ND
LED1 - LED2	3mm LED, green	350-1557-ND
LED3 - LED6	3mm LED, red	25-1182-ND
R1	1 to 1.5 ohm, 2 watt resistor	1.0ZTR-ND
R2	10k ohm, ¼ watt resistor	CF14JT10K0TR-ND
R3	1000 ohm, ¼ watt resistor	CF14JT1K00TR-ND
R4	330 ohm, ¼ watt resistor	CF14JT330RTR-ND
R5	2700 ohm, ¼ watt resistor	CF14JT2K70CT-ND
R6	10k ohm trim pot	262UR103B-ND
SIP1	1k ohm SIP resistors, 7RES 8SIP	4608X-1-102LF-ND
U1	PIC16F753P microcontroller	PIC16F753-I/P-ND
U2	LM358 Op Amp	LM358NFS-ND
VR1	78L05Z regulator	AS78L05ZTR-E1DICT-ND
VR2	LM317 regulator	LM317AHVT-ND
X1, X2	2-position screw terminals	A97996-ND
X3	6-pin header	ED7206-ND
X4, X5	2-pin header	ED7202-ND
X6	6-pin 90° header *	609-3327-ND
heatsink	for VR2	HS198-ND [†]

* Only used for ICSP (In Circuit Serial Programming)
[†] Left fin (viewed from front of device) must be removed for clearance

Circuits4Tracks can supply individual parts where needed.
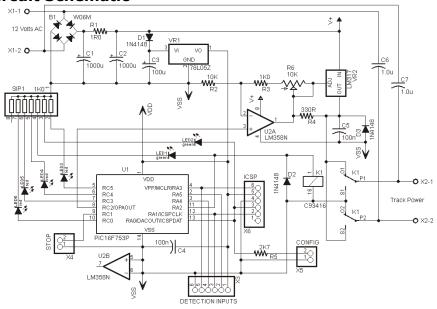Send an email to circuits@daxack.ca for information.

Microcontroller Programming

If you are using your own microcontroller, you will need to program it with our software. A HEX format image is available from our website at:

http://circuits4tracks.daxack.ca/php/productdocs.php?id=3

Instead of programming the microcontroller prior to installation, our circuit board has a connector (X6) available for in circuit serial programming (ICSP). It will be necessary to install a 6-pin header on the board. When using the ICSP feature, all other inputs to The Traverser must be disconnected.

Circuit Schematic

This document is available in PDF format on our website.