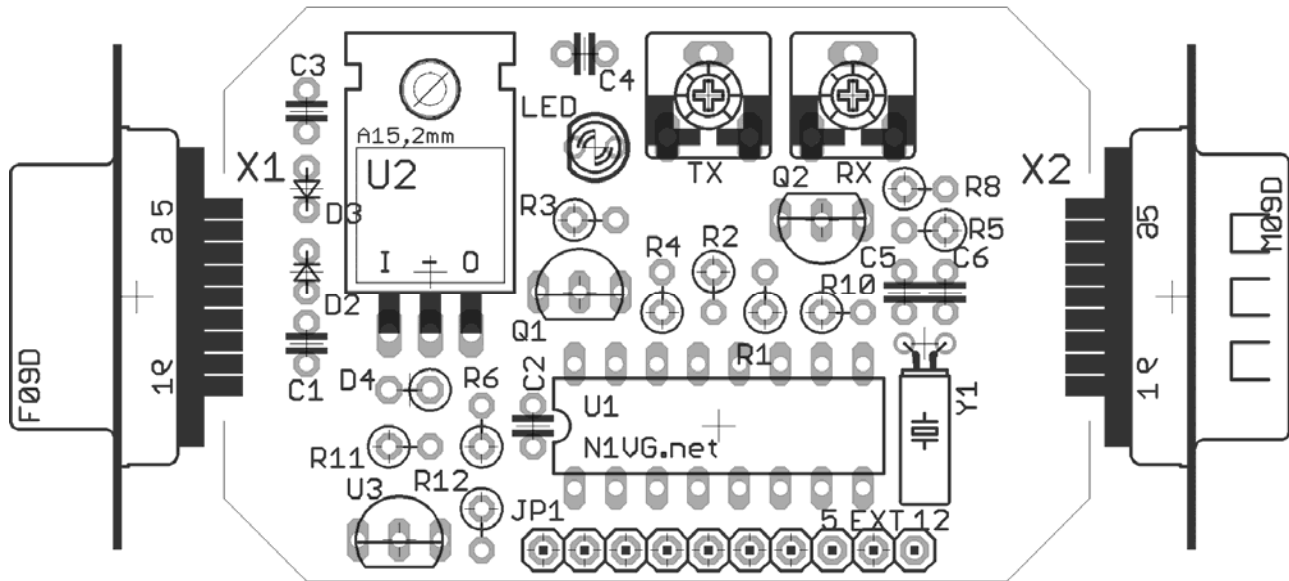


OpenTracker 1x Addendum



Part	Description	Notes
U1	MC68HC908KX8 MCU	Reference notch faces left
U2	7805 Voltage Regulator	Align to silkscreen outline
U3	LM335Z	Align to silkscreen outline
R1, R12	10 K resistor	Brown-Black-Orange
R2	220K resistor	Red-Red-Yellow
R3	2.2K resistor	Red-Red-Red
R4	1K resistor	Brown-Black-Red
R5, R8	680 ohm resistor	Blue-Gray-Brown
R6	6.8K resistor	Blue-Gray-Red
R8, R9	10K potentiometer	Align pins to holes
R10	10M resistor	Brown-Black-Blue
R11	20K resistor	Red-Black-Orange
JP1	10-pin header	Single row .100 pins
C1	0.33uF capacitor	Yellow with "334" marking
C2-C4	0.1uF capacitor	Yellow with "104" marking
C5, C6	18pF capacitor	"180j" or "180" marking
Q1, Q2	2N7000 transistor	Align to silkscreen outline
D2, D3	1N4148 diode	Black band denotes cathode
D4	SA30CA TVS	Not polarity sensitive
LED	Red LED	Short lead faces toward D1
X1	DB9 Connector – female	Left edge of board
X2	DB9 Connector – male	Right edge of board
Y1	29.4912 Mhz crystal	Bend down parallel to PCB

The OT1x is a modified version of the standard OpenTracker board, designed to fit the PacTec CNS-0101 enclosure. Changes include a larger voltage regulator, capable of powering 5-volt GPS receivers, potentiometers mounted for vertical access and a Dallas 1-wire data bus signal on pin 7 of the serial connector.

The 10-pin header layout has been changed slightly, and the voltage output on pin 4 of the serial port can be selected by placing a jumper on JP8 and JP9 for 5 volts, or JP9 and JP10 for the unregulated supply voltage from the radio connector.

The 10-pin header should be installed from BENEATH the board, and soldered on the top side, for proper clearance. D4 is non-polarized and can be installed in any orientation.

3. Connector Pin Assignments

Table 2 – Pin Header 1 (JP1)

Pin	Designator	Notes
JP1	PTT Input or Relay Out	See note #1
JP2	Ground	
JP3	Jumper	Usually used to switch configurations
JP4	IRQ	See Note #2
JP5	ADC0	On-board temperature sensor
JP6	ADC1	On-board divider provides 1/3 V _{in}
JP7	ADC2	1-wire data bus
JP8	+5 Volts	Regulator output
JP9	V _{in}	6.7 to 35 VDC input
JP10	V _{ext}	(see Note #3)

Note #1 – JP1 can be used for either PTT input for mic encoder operation, or as a relay control output if power control is enabled. When used as a relay output, the pin can provide no more than 15 ma current.

Note #2 – JP5 pulled momentarily to ground will force an immediate transmit.

Note #3 – If JP9 and JP10 are jumpered together, pin 4 on connector X2 (Serial Port) can be used to supply raw voltage (V_{in}) to an external device such as a GPS receiver, or to receive power via a specially wired cable assembly. Connecting JP8 and JP9 provides +5 volt regulated power on pin 4.

Pin	Function
1	Audio Out
2	COR / Squelch Input
3	PTT
4	No Connection
5	Audio In
6	Ground
7	Power in
8	PTT Input
9	No Connection

Table 3 – DB9 Female (X1) – Radio Port

Pin	Function
1	No Connection
2	Data In
3	Data Out
4	V _{ext}
5	Ground
6	No Connection
7	No Connection
8	No Connection
9	No Connection

Table 4 – DB9 Male (X2) – Serial Port

X2 is wired as DTE to allow connection to a GPS receiver using a standard cable. A null modem cable is required for connection to a computer.

