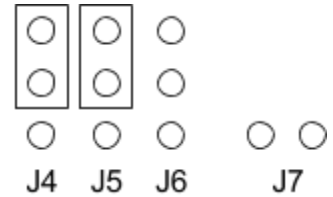# BYONICS MTT4BT Manual Addendum v0.1

The Byonics MTT4BT is a TinyTrak4 based transceiver with an internal bluetooth module allowing a serial bluetooth connection to a computer, tablet, or phone. The bluetooth module is preconfigured with the name MTT4BT or TT4BT, and a PIN/password of 1234. These settings can be changed by following the instructions below. The TinyTrak4 based devices have 2 independent serial ports. The MTT4BT makes PORTA available either via bluetooth or a 2.5mm stereo jack. 3 jumpers on the circuit board select how PORTA is configured and are described below. PORTB is available as a DB-9 connector, generally used with a Byonics GPS receiver.
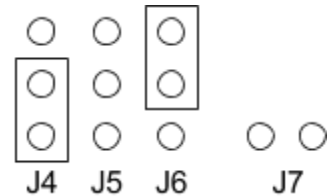
Jumpers for Wired PORTA Mode

Setting J4 jumper shunt on the top pair, and J5 jumper shunt on the top pair will connect the MTT4B controller to the 2.5mm jack. The Bluetooth module will be bypassed. This configuration can be used if a wired PORTA connection is desired and is identical to the original, non-bluetooth version of the MTT4B.
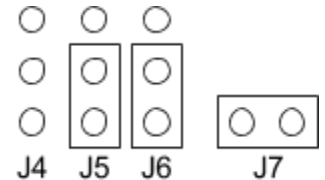
Bluetooth Wireless PORTA Mode

Setting J4 jumper shunt on the bottom pair, and J6 jumper shunt on the top pair will connect the MTT4B controller to the Bluetooth module. The 2.5mm jack will be bypassed. This default configuration can be used for a wireless bluetooth connection to PORTA.

Bluetooth Configuration Mode

Setting J5 jumper shunt on the bottom pair, and J6 jumper shunt on the bottom pair will connect Bluetooth module to the 2.5mm jack. The MTT4B controller will be bypassed. This configuration can be used to communicate with the Bluetooth module via a terminal program to adjust settings. Doing this will require a serial cable to connect to the 2.5mm jack to the computer. Byonics has these in both DB-9 and USB varieties. Configure the terminal program with the proper COM port at 19200 baud. Remove the J7 jumper shunt, power the MTT4BT, then place the J7 jumper shunt on the two pins. Enter `A T <enter>` in the terminal and the module should respond with `OK`. If it does not, check that the terminal is sending CR/LF when enter is pressed. It may be possible that the baud rate is 38400 or 9600, so also try those. Be sure to remove J7 jumper shunt and select the wireless PORTA mode after configuring.

The bluetooth module is a common HC-05 bluetooth to serial device. Full datasheets can be found on the internet, but some basic commands are listed below.

`AT+ORGL`	- Restores the module to factory default (38400 baud)
`AT+UART?`	- Read the current serial configuration
`AT+UART:19200,1,0`	- Set the serial configuration to 19200 baud, 1 stop bit, no parity
`AT+NAME?`	- Read the current device name
`AT+NAME=MTT4BT`	- Set the device name to MTT4BT
`AT+PSWD?`	- Read the current connection PIN/password
`AT+PSWD=1234`	- Set the connection PIN/password to 1234