Manual
Micro-Trak MTT4B Transceiver

The Byonics Micro-Trak MTT4B is a frequency agile, 8-10 Watt, APRS transceiver capable of operating in the 2 meter amateur radio band. The transmitter was designed with the goal of producing a low cost, easy to implement APRS tracker transceiver with limited technical knowledge prerequisites for operation.

The Micro-Trak MTT4B is the logical successor to the MT-RTG (Transmit-only) in that it incorporates not only basic transmitter functions, but also incorporates a receiver, allowing reception and retransmission of APRS data.

Unlike the Transmit-Only MT-RTG, the MTT4B utilizes the far more powerful and versatile TT4 Processor. This processor offers far more potential applications than a simple transceiver, among these, the more common uses include:

- A Simple Tracker, requiring only a simple GPS receiver and an antenna (The power cord/GPS Serial Cable is included with the tracker)
- A "fill in" or high level Digipeater not requiring the use of a computer for operation.
- A Telemetry Transmitter, the MTT4B has 5 external inputs that may be used for telemetry inputs to report the status of sensors over the APRS network. The MTT4B has two native telemetry sensors built in to the device, one monitors and reports the supply voltage, and the other monitors and reports the internal temperature.
- A control-link; The MTT4 B can optionally use the 5 telemetry inputs as addressable control lines, providing logic level controls via the APRS network
- Weather Station APRS data uplink. The MTT4B can be used with a number of commercial miniature weather stations to send weather data to the APRS network.

- Built-in support for an LCD display and Keyboard. This optional display assembly can be connected to the MTT4B via a ribbon cable and used to send APRS E-mail, have keyboard-to-keyboard QSO's, display range and bearing to other received stations, and allow "on the fly" settings of many of the programmed parameters without having to use a computer (.i.e, change the call sign, change the frequency, etc)
- Supports simultaneous functions. For instance, the MTT4B can act as a tracker and a digipeater simultaneously and transparently.
- Since the MTT4B has two serial ports, and each can be assigned flexibly to different tasks, plugging in a simple GPS "hockey puck into one port, and a computer with mapping software into the other port makes for a very simple station, without a lot of wires or complicated settings. The MTT4B is particularly well suited for use with the Avmap GPS 5 and GPS 6 display receivers
- The MTT4B is largely identical in operation to the standard TT4, but combining the radio and TNC into a single package, and having the device shipped to you pre-programmed allows for the fastest, least painful, and shortest learning curve required to get a high performance station on the air.
- GPS Power Control. The MTT4B can switch the GPS on before a scheduled transmission, wait until it acquires a valid position report, and then allow a transmission. This feature is particularly useful in stand-alone battery or solar powered applications.

The MTT4B is designed to operate from automotive, unregulated power sources, and the device has built in power regulation and filtering. A special cable is included with your Micro-Trak that allows you to plug it into a cigarette lighter output in your vehicle, boat, aircraft, etc. A fuse is contained in the tip of the cigarette lighter plug, which is easily replaced by unscrewing the tip and removing the burnt out fuse. If your installation requires removing the cigarette lighter plug and directly wiring your unit into your vehicles' power, use great care to connect the device correctly, with the red wire as 12 Volt Positive, and the Black wire as vehicle ground. Do not use the device with the magnetically mounted antenna or any antenna connected to ground on vehicles with positive ground. DC voltage input to the MTT4B should not exceed 16 Volts.

The power/serial cable is available with a cigarette lighter plug or Anderson Power Pole connectors.

The cable assembly also has a male, DB-9 serial plug, which allows the use of the Byonics GPS 2 magnetic mount "hockey puck" GPS module. Power for the GPS is provided through the DB-9 Cable. Virtually any GPS that can provide 4800 Baud, NMEA standard data is compatible with the MT-RTG. Any GPS providing NMEA serial data can potentially be used on either of the serial ports, which must be configured for the specific application. By default, Port B, the DB-9 cable assembly port is set up to use a standard, 5 Volt NMEA GPS putting out RS-232 serial data at 4800 Baud, but many of these options may be changed in configuration. Using GPS receivers of different Baud Rates is very common, and the Baud rate for your receiver may be set up during configuration. The MTT4B requires "true serial" not low level CMOS (3 Volt) or inverted TTL (5 Volt) Serial data.

Programming

Although the unit will be shipped to you programmed, nearly every Ham will eventually want to adjust the settings for his particular needs. Programming the MTT4B is accomplished by connecting either of the unit's serial ports to a computer running a terminal program. We prefer to use a simple and effective terminal program called Tera Term which is available online for free download. Regardless of the "run" settings, the TT4 always starts at 19200, N, 8 and 1 for programming, before switching over to its operational settings. (You won't have to guess what settings to use when programming) If you are using a Byonics USB-TT3 cable connecting to the DB-9 connector of the MTT4B DB-9 connector, the computer will provide power for the logic level parts of the radio without running the higher power amplifier, and connecting external DC power will not be required. If you are not using the Byonics USB-TT3 cable connected to the DB-9, you will need to supply power to the MTT4B during programming, and a dummy load or antenna should always be connected to the radio when external power is connected.

The wiring of the DB-9 connector is set up for use with a GPS. The transmitting and receiving serial lines must be reversed in respect to the GPS wiring scheme to connect this port to a computer. Byonics offers standard null modem cables as well as direct USB programming cables.

The other serial port (Port A) on the MTT4B is a 2.5mm jack. This is a Kenwood compatible serial cable and is ordinarily used to connect the device to a computer.

NOTE: Although the MTT4B can be configured through either port, any new firmware version updates may ONLY be loaded through the 2.5mm PORT A serial connection.

Please refer to the Byonics TT4 programming manual for a detailed list of available commands and settings.

Operation

WARNING: Do not plug the cigarette lighter plug into your vehicle or apply power to the unit until the system is fully assembled. Operating the MTT4B without an antenna or dummy load attached may destroy or damage the power amplifier in the unit!

Assuming you ordered your Byonics MTT4B pre-programmed; all that is required is simple "plug and play" operation. Connect the 6 pin mini din plug on the "dongle" cable into the mating receptacle on the MT-RTG. The connector fit is quite snug, which should prevent unintentional removal. Note that the plug is keyed, and only fits in one way, so make sure you are properly aligning the plug and jack before applying any significant degree of pressure. Do not install the device in any position that places strain on the connector.

Connect the SMA antenna connector to the mating SMA connector on the MTT4B. Place the magnetically mounted antenna as close to the center of the vehicle roof as possible. Non-metallic roofs may require metal foil or other improvised ground planes. In the event that you choose to utilize an antenna other than one utilizing an SMA connector, use the appropriate adapter and a 2 meter antenna capable of handling at least 10 Watts. The antenna should be a vehicular or ground plane antenna designed for two meter operation. Rubber duck or short whip antennas will not work and will probably result in damage to the unit. The unit can be "swamped" with RF power, causing continuous resetting.
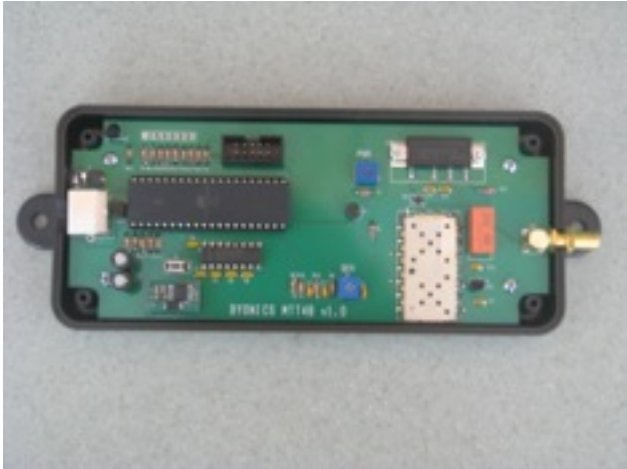
Plug the GPS 5 or other GPS device into the MTT4B serial cable and place it in a position to give it the best possible line of sight view of the sky.

LED Indicators

After all connections are made, plug the cigarette lighter plug into the power jack, and switch the vehicle to whichever position allows the cigarette lighter jack to provide power. The MTT4B has two bi-color LED indicators. The "top" LED is Red/Green, the bottom indicator is Red/Yellow.

On initially powering the unit, both LED's will flash in a start up sequence while "booting up", indicating that it is starting properly. The bottom LED red segment indicates that the unit is running (Note that this is not a "power on" indicator, but instead is indicating the CPU is running)

The top green LED segment should begin to flash at a rate of about once per second. This indicates that the unit is receiving serial data from the GPS, but the GPS is not "locked" onto the satellites. When the GPS is providing "good" data, the green LED will stay lit continuously.

The top red LED segment will flash briefly indicating a transmission is taking place. APRS transmissions are very short, and may last from about 1/3 of a second to a second, depending on the unit's programming and how often a " Beacon" versus a "Position" report is sent, and whether or not the packet contains telemetry. By default, the MTT4B will transmit a position report every two minutes after the unit recognizes a Valid GPS signal. Also, a transmission will be automatically sent after the unit is running, announcing to the world that a TT4 is alive and running, but this transmission will not include position or other data; Just a generic " Here I am world" beacon.

The "start-up" beacon will NOT be sent after powering the unit if the device has previously been programmed to use the "SmartBeaconing" algorithm.

The bottom LED yellow segment flashes indicating that you are receiving activity on the channel. This may or may not be actual data, and could be other types of transmissions or noise on the band.

If you have your MTT4B plugged into your computer with the correct settings, or if you have the optional LCD/Keyboard adapter, valid received transmissions will be displayed on the screen.

The APRS network is unlike the cellular network, in that the nationwide network of digipeaters may not cover every area of the Country. Since the system is entirely operated by volunteer hams, there is no guarantee that every (or any) position report you send will make it to a digipeater or onto the APRS-IS sites like openaprs.net or aprs.fi. Although the MTT4B is more powerful than handheld radios, it is still relatively low power in comparison to mobile users running potentially hundreds of Watts of power, and we occasionally have to struggle to get a word in edge wise.

The MTT4B has internal adjustments for setting power and deviation levels. These should only be adjusted by qualified individuals with proper test equipment. The power and deviation levels are pre-set and fixed at optimal levels for the device. There is no on/off switch: The device is powered and drawing current whenever it is plugged into a "hot" cigarette lighter outlet. The MTT4B uses a special version of the Byonics TT4 chip, and care must be taken not to load versions of the standard TT4 firmware, which can potentially damage the device. The default values included when your unit was shipped are generally optimal.

The MTT4B has two built in telemetry channels, one that reports the supply voltage to the unit, another, which reports the temperature inside the unit's enclosure. If your application calls for a more accurate external temperature reading, you may remove the lid from the enclosure to allow better access to ambient air temperatures. If necessary, the temperature sensor may be removed and remotely-mounted. Five additional telemetry channels are available for use (PA3 through PA7) These inputs are capable of reading 0-5 Volt sensors and reporting the values over the APRS network.

Voltage and Temperature graphs from the MTT4B will be available on aprs.fi. Further information regarding setting up telemetry parameters can be found in the TT4 configuration manual.

Schematic
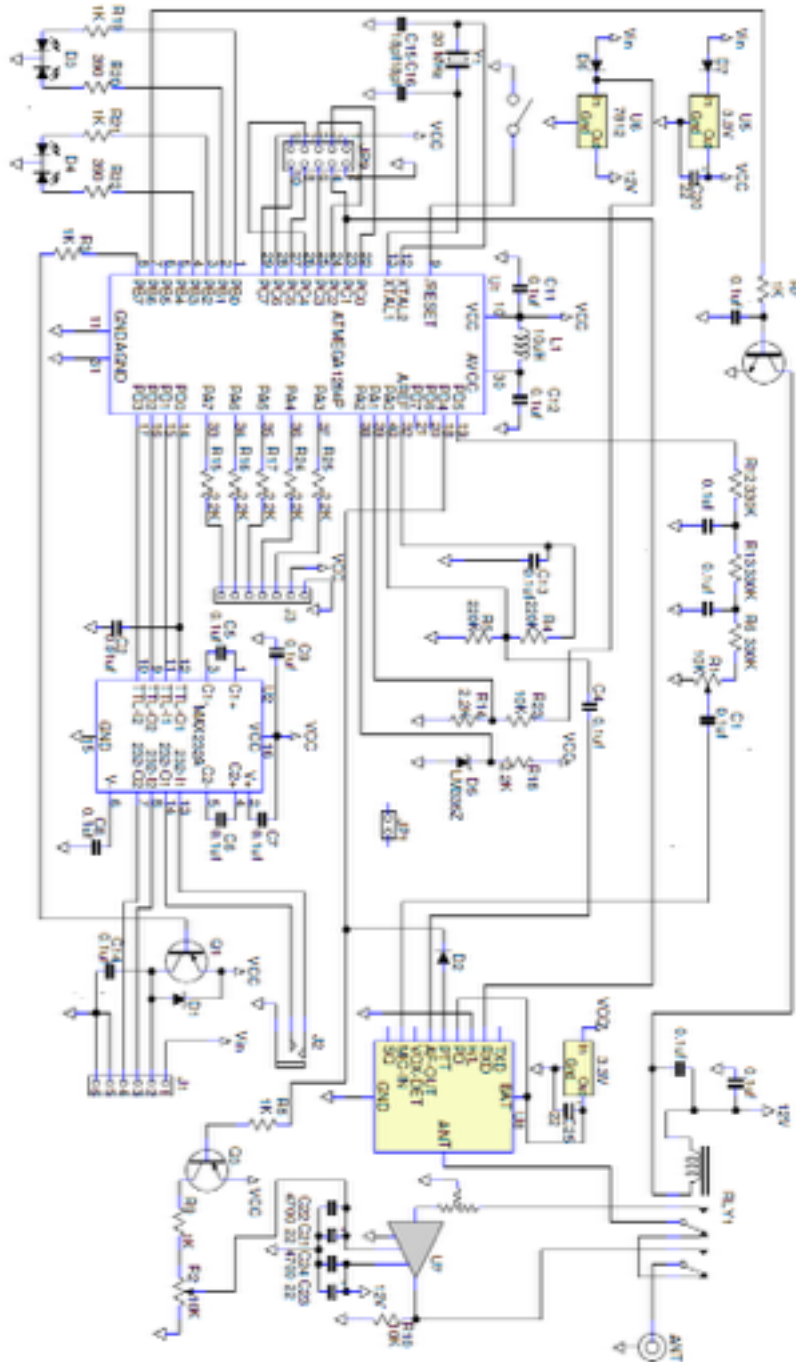
Printed Circuit Board
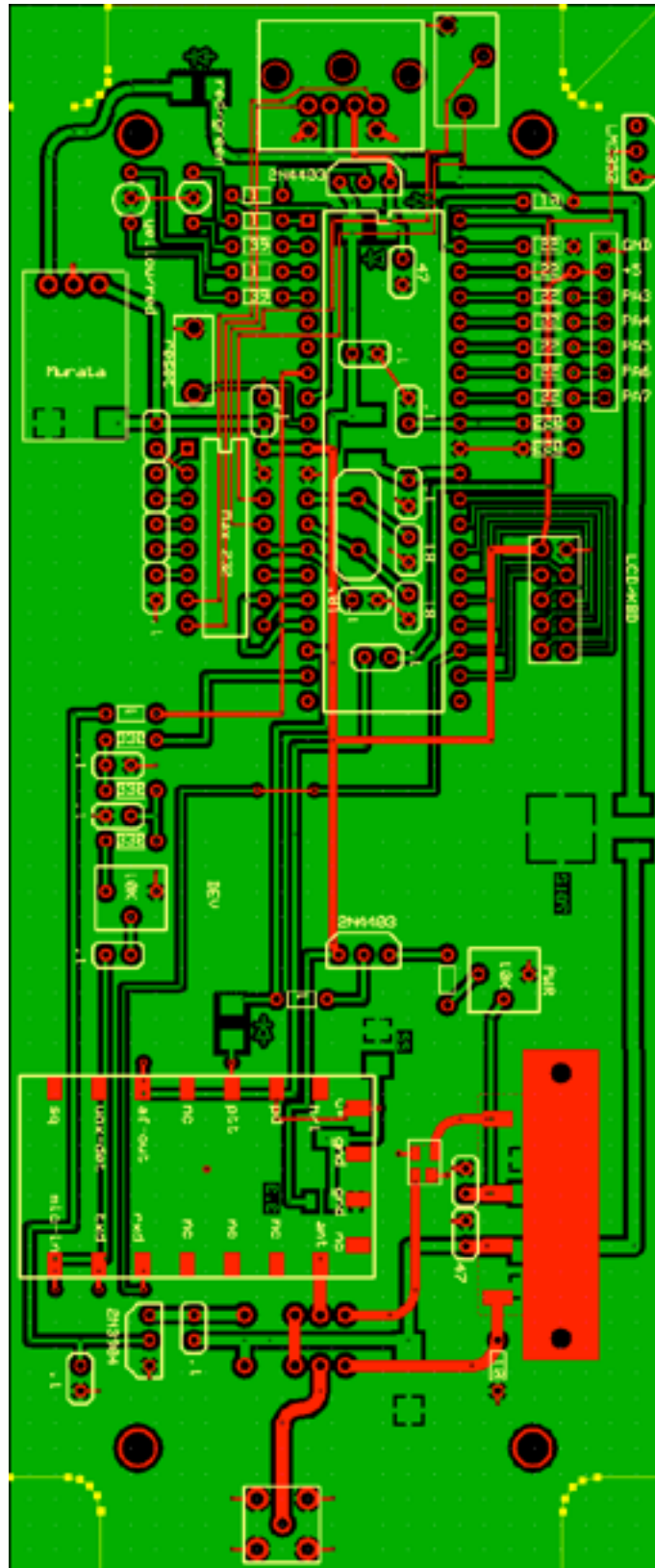
Pin assignment for Mini-DIN 6 Connector

5-6   Ground
4   Serial out (From Transceiver)
3   Serial in (To Transceiver)
2   +5 regulated output (to GPS)
1   Unregulated 12 VDC input (Power Supply)

Female connector from the front
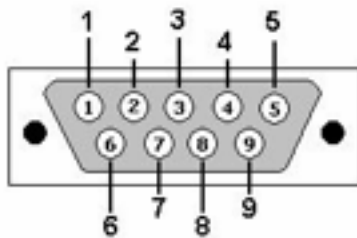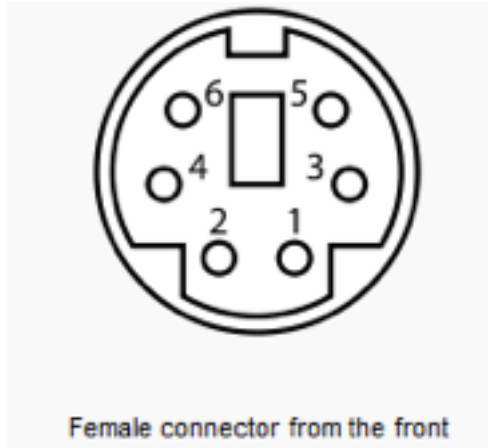
DB9: View looking into male connector

Pin No.	Dir	Notes/Description
1	-	No Connection
2	IN	Serial Input - From GPS RS-232 TX or PC
3	OUT	Serial Output -
4	OUT	+5 volts output to power GPS
5	OUT	Ground

Installation and Trouble Shooting

Configuration via Terminal Software

The MTT4B generally ships to you pre-programmed. In the event that you would like to change the programming, you will need the following:

1) A Terminal program capable of operating at 19200 Baud (Tera Term recommended)
2) A serial, gender-changing, null modem cable. For older computers with DB-9 serial ports, you will preferably, want to purchase a Byonics USB-TT3 power/ programming cable and a Byonics "Kenwood" style programming cable for access to both ports.
3) A dummy load or antenna.

Programming is accomplished by connecting the MTT4B to your computer with the null modem/gender changing cable or USB-TT3 cable or "Kenwood" programming cable on Port A (2.5mm jack) and opening The Tera Term terminal program. The Tera Term software should be set to 19200, N, 8, and 1. For detailed information on individual programming parameters, download the TT4 manual from the Byonics website.

Immediately upon power up, the MTT4B should prompt you on screen to hit "ESC" three times. Doing this will put you into the Command mode. Type "Help <CR>" and a list of all available commands and a brief explanation will be displayed. Type "Display <CR> "and all the unit's current settings will be displayed. For instance, typing "MYCALL <CR> will show you the Call sign programmed into the device (Default without programming will say "NOCALL") While remaining in command mode, you can change the call sign by typing MYCALL ABCD123 <CR> The display will read "MYCALL was NOCALL MYCALL ABCD123.

The Commands available in the MTT4B are largely identical to the commands in the standard TT4. One major difference is that the transmit and receive frequency are set in software, and by default are both on 144.390 MHZ. You can have a split frequency or a simplex frequency without problems. To set the frequency from the command line, type:

TXFREQ 144.390 <CR> (It will respond with what it was and what it is now)
RXFREQ 144.390 <CR>

After you have made any changes, you can either type "quit", recycle power, or push the reset button on the PC board inside the unit. Your changes will now be in effect.

Connecting to a computer

Standard serial ports are becoming increasingly rare on computers. This means that you will probably have to configure the MTT4B with a USB programming cable or USB adapter and a programming cable. Most computers will not automatically carry the drivers for any individual USB/Serial adapter, and it is important that you know you have the adapter installed and running properly prior to attempting programming. Please make sure you have installed the current drivers for your cable or adapter. Remember that a USB adapter may show up in your Windows devices list without actually being available for use. If you encounter difficulties with being able to read or write to the MTT4B, the problem is almost certainly an improperly loaded driver. (ONLY the Byonics USB-TT3 programming cable will supply DC power for programming through the DB-9 jack on the MTT4B, in all other cases you will need to connect the MTT4B to external power.)

Turning off the FIFO settings on your USB Device is recommended.

BYONICS

MTT4B Firmware Manual

Version 1.0

This manual explains how to manually update the firmware in the Byonics MTT4B. Firmware can be downloaded from the TinyTrak4 website above, and programmed into a TinyTrak4 with a terminal program, and a USB-2.5mm programming cable (available from www.byonics.com)

⌨ Download **Tera Term Pro** from **http://www.ayera.com/teraterm/** or any other location. This is a free terminal program for Windows, and is known to work well. Other terminal programs may also be used, if they have the ability to upload a file in **binary mode**.

⌨ Start TeraTermPro.
⌨ Select "**Setup**" then "**Serial Port**" and select correct com port and **19200** baud, click **OK**.
⌨ Connect the MTT4B to a computer serial port with a Kenwood –style programming cable for firmware updates. (Configuration changes need not be made through Port A)

⌨ Power-up the MTT4B.
⌨ It should send a **?**
⌨ You have about 1 second to send back a **b** or **B**.
⌨ If you make it, it responds with the bootloader version: **TinyTrak4 v1.2c >**
 ⌨ If you don't make it, it runs the current code, if any. Cycle power and try again. If you have to, hold the **b** key down while powering up the TT4.
⌨ The yellow and green LEDs will alternate flashing when in the bootloader.
⌨ You can send a **v** or **V** to confirm you are in the bootloader. It will respond with the version.
⌨ You send an **s** or **S** be begin to send a new TT4 firmware file. It will respond with nothing. The yellow and green LED will stop flashing for couple seconds, and then begin alternate flashing again.
⌨ In Term Term Pro, Select "**File**" and "**Send File**".
⌨ Check the **Binary** option box at the bottom left of the send file screen.
⌨ Select the proper file you want to send (ending with .TT4) and then **Open**. Be sure to only select firmware file for bootloader version for the MTT4B
⌨ It should respond with many **.** (periods) as it is updating.

☒ It should finally end with a * (asterisk) to show the update was complete
☒ Then, you can either type **x** or **X** to run the new code, or just cycle power and don't press **b** this time.

After uploading the Alpha firmware, you should configure your settings manually with TeraTerm Pro or other similar Terminal program, connecting through either Port A or Port B

Tera Term Port Settings
(Port settings vary with computer and connection mode)
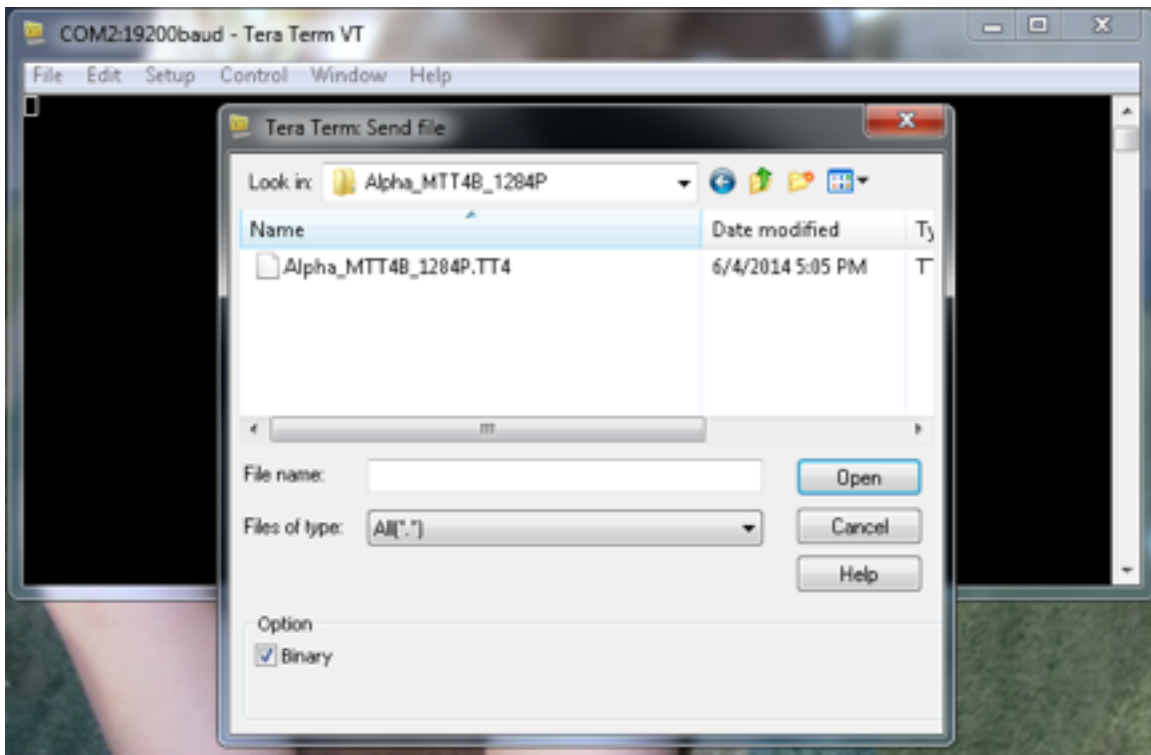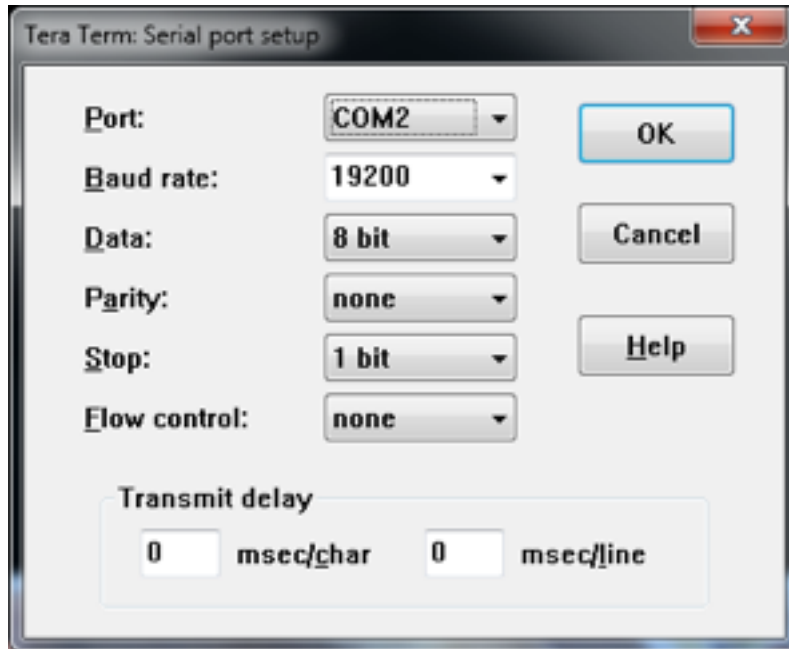
Firmware, ready for upload. The "Binary" option box must be checked

COMMAND OPTIONS

BANK - Set the current bank used for options
P300 - Set the Packet module to send 300 baud (rather than 1200 baud)
TXTDISP - Set to display sent incoming serial text
NODISP - Set to disable the display (which enables digital telemetry)
PPATHING - Set to enable proportional pathing
DMSDISP - Set to display seconds (DD MM'SS") instead of decimal minutes (DD MM.mmmm)
MICETMV - Set to transmit MIC-E format including type, manufacturer, and version
ENTS - Set the use of Time Slotting (use TSOFFSET)
TELHIRES - Set telemetry to send high-res data (0..999 rather than 0..255)
TELVOLT - Set telemetry to send the supply voltage
TELTEMP - Set telemetry to send the temperature
PREEMPT - Set Preemptive Digipeating
DIGIID - Set Digipeater to replace digipeater callsign with MYCALL
WXPOS - Set weather reports to include position
TELREAD - Set telemetry to send temp and voltage in readable form
FRAWDISP - Set to disable display packet parsing
HRAWDISP - Set to hide unparsed packets from display
WYPTXT - Set to send waypoints to TEXT ports in addition to GPS ports
PKTICOM - Set to send decoded packets to computer TEXT and KISS ports
PKTOCOM - Set to send generated packets to computer TEXT and KISS ports
RPATHDISP - Set to show path for raw packet display
LEDS - Set to enable LEDs
PAVPEN - Set to enable PAVP mode
DEC96 - Set to decode 9600 baud packet rather than 1200 baud packet
DDIST - Set to display distance to stations on LCD
HEADERLN - Set to send a new line between headers and content
DMETRIC - Set to display metric on the LCD
SOFTRST - Set to allow software reset via serial
MSGCMD - Set to parse commands in messages
MSGCAP - Set to show message capable in APRS Text position reports
LRNTPS - Set to make the TPS time auto-learning
GPSCHK - Set to validate checksums on incoming GPS sentences
INTCLK - Set to internal only clock (not GPS based)
DECSTAT - Set to display decoding stats
DIGIMY - Set to digipeat when MYCALL in path
TOSV - Set the tracker to only send valid position reports
TALT - Set the tracker to send altitude, if available

TSPEED - Set the tracker to send speed and heading

TIMESTAMP - Set the tracker to send a timestamp (format defined by TIMEHMS)

TIMEHMS - Set the tracker to send a timestamp in Hour, Minute, Second format (rather than Day, Hour, Minute)

SBEN - Set to enable tracker SmartBeaconing (Use other SB commands to configure)

TSWPT - Set the tracker to output a GPS waypoint of self when position is transmitted

AMODE - Set the Primary serial port mode [KISS | TEXT | GPS | DEAFTEXT]

BMODE - Set the Secondary serial port mode [KISS | TEXT | GPS | DEAFTEXT]

ABAUD - Set the Primary serial port baud rate

BBAUD - Set the Secondary serial port baud rate

BNKMODE - Set the current bank switching mode

SSIDROUTE - Set the SSID routing mode

ALTNET - Set and alternative network destination

MYCALL - Set the Packet source (user) callsign with SSID

PATH1 - Set the outgoing digi path first callsign

PATH2 - Set the outgoing digi path second callsign

PATH3 - Set the outgoing digi path third callsign

TSTAT - Set the tracker status text

BTEXT - Set the beacon text

BPERIOD - Set the beacon period in seconds

TXD - Set the Packet Transmit delay time in bytes (about 7ms each at 1200 baud)

MTXD - Set the Manual Packet Transmit delay time in bytes (about 7ms each at 1200 baud)

PERSIST - Set the Packet persist value. (0 to 255, higher is more likely to transmit)

SLOTTIME - Set the Packet slot time

QUIET - Set the Packet delay after carrier detect drops before a transmission can occur (in 100ms units)

TRNKMODE - Set the Trunking Mode

CDMODE - Set the Carrier Detect Mode

CDLEVEL - Set the Carrier Detect Level (applicable to Audio Level and Audio Tone methods)

TXLEVEL - Set the Packet transmit audio level (0 .. 128)

TXTWIST - Set the Packet transmit audio twist (0 = all low tone, 50 = even tone levels, 100 = all high tone)

RXAMP - Set the Packet receive audio amplifier

GWAYLEN - Set the GPS Waypoint output name length

GWAYMODE - Set the GPS Waypoint mode

GRELAYBITS - Set the GPS Text Relay Sentence Type Bits

GRELAYRATE - Set the GPS Text Relay Rate (0 = disabled)

GKRELAY - Set the GPS KISS Relay ID (0 = disabled)

LOCATION - Set the default location (in the form ddmm.mmmmx dddmm.mmmmx

GALT - Set the default location altitude

TSYMCODE - Set the tracker Symbol code character

TSYMTABLE - Set the tracker Symbol table or overlay

STATUSRATE - Set the tracker Status Rate (0 for never, uses the TSTATUS)

PPERIOD - Set the tracker position report period in seconds

MPPERIOD - Set the tracker manual position report period in seconds

SBSSPEED - Set the tracker SmartBeaconing Slow Speed (Use TSB to enable)

SBFSPEED - Set the tracker SmartBeaconing Fast Speed (Use TSB to enable)

SBSPERIOD - Set the tracker SmartBeaconing Slow Period (Use TSB to enable)

SBFPERIOD - Set the tracker SmartBeaconing Fast Period (Use TSB to enable)

SBTANGLE - Set the tracker SmartBeaconing Turn Angle Speed (Use TSB to enable)

SBTSLOPE - Set the tracker SmartBeaconing Turn Slope (Use TSB to enable)

SBTTIME - Set the tracker SmartBeaconing Turn Time (Use TSB to enable)

MMSG - Set the tracker MIC-E Message number

TSOFFSET - Set the tracker Time Slot Offset (Use ENTS to enable)

TDAO - Set the tracker !DAO! resolution (0 for disabled, 1 for 1 extra digit, 2 for 2 extra digits)

TPROTOCOL - Set the tracker output protocol (MIC-E, APRS Text, Compressed)

TPSWITCH - Set the tracker Power Switch Time

TPERIOD - Set the telemetry report period in seconds

TVOLTTWK - Set the telemetry report period in seconds

TTEMPTWK - Set the telemetry report period in seconds

WPERIOD - Set the weather report period in seconds

ALIAS1 - Set the digipeater alias callsign with SSID

ALIAS2 - Set the digipeater alias callsign with SSID

ALIAS3 - Set the digipeater alias callsign with SSID

DUPETIME - Set the digipeater alias callsign with SSID

FILTERCALL - Set the callsign to filter match

QUIT - Quit the options menu

DISPLAY - Display all option values and commands

EXPORT - Display all option values in a way that can be parsed

HELP - Display help for all options and commands

RESTORE - Restore default factory settings

MONITOR - Monitor incoming audio level

CALIBRATE - Calibrate transmit audio level

COPY - Copy options to other bank

PASSTHRU - Pass serial between ports

RESTORED DEFAULTS (No configuration entered)

BANK is 0
P300 is FALSE
TXTDISP is FALSE
NODISP is FALSE
PPATHING is FALSE
DMSDISP is FALSE
MICETMV is FALSE
ENTS is FALSE
TELHIRES is FALSE
TELVOLT is TRUE
TELTEMP is TRUE
PREEMPT is FALSE
DIGIID is TRUE
WXPOS is TRUE
TELREAD is TRUE
FRAWDISP is FALSE
HRAWDISP is FALSE
WYPTXT is FALSE
PKTICOM is TRUE
PKTOCOM is FALSE
RPATHDISP is FALSE
LEDS is TRUE
PAVPEN is FALSE
DEC96 is FALSE
DDIST is FALSE
HEADERLN is FALSE
DMETRIC is FALSE
SOFTRST is FALSE
MSGCMD is FALSE
MSGCAP is FALSE
LRNTPS is FALSE
GPSCHK is FALSE
INTCLK is FALSE
DECSTAT is FALSE
DIGIMY is FALSE
TOSV is TRUE
TALT is TRUE
TSPEED is TRUE
TIMESTAMP is TRUE
TIMEHMS is TRUE
SBEN is FALSE

TSWPT is TRUE
AMODE is GPS
BMODE is GPS
(Restored defaults, continued)
ABAUD is 4800
BBAUD is 4800
BNKMODE is 0
SSIDROUTE is 0
ALTNET is APTT4
MYCALL is NOCALL
PATH1 is WIDE1-1
PATH2 is WIDE2-1
PATH3 is
TSTAT is /TinyTrak4 Alpha
BTEXT is >/TinyTrak4 Alpha
BPERIOD is 0
TXD is 30
MTXD is 10
PERSIST is 65
SLOTTIME is 15
QUIET is 10
TRNKMODE is 0
CDMODE is LEVEL
CDLEVEL is 20
TXLEVEL is 128
TXTWIST is 50
RXAMP is 12
GWAYLEN is 9
GWAYMODE is NMEA
GRELAYBITS is 1
GRELAYRATE is 0
GKRELAY is 0
LOCATION is 1234.5678N 12345.6789W
GALT is 1000
TSYMCODE is >
TSYMTABLE is /
STATUSRATE is 1
PPERIOD is 0
MPPERIOD is 0
SBSSPEED is 5
SBFSPEED is 60
SBSPERIOD is 1800
SBFPERIOD is 90

SBTANGLE is 27
SBTSLOPE is 255
SBTTIME is 5
MMSG is 0
TSOFFSET is 17
TDAO is 0
(Restored defaults, continued)

TPROTOCOL is MIC-E
TPSWITCH is 0
TPERIOD is 0
TVOLTTWK is 128
TTEMPTWK is 128
WPERIOD is 0
ALIAS1 is TEMP
ALIAS2 is
ALIAS3 is
DUPETIME is 30
FILTERCALL is

TRACKER/DIGIPEATER EXAMPLE
BANK is 0
P300 is FALSE
TXTDISP is FALSE
NODISP is FALSE
PPATHING is FALSE
DMSDISP is FALSE
MICETMV is FALSE
ENTS is FALSE
TELHIRES is FALSE
TELVOLT is TRUE
TELTEMP is TRUE
PREEMPT is FALSE
DIGIID is TRUE
WXPOS is TRUE
TELREAD is TRUE
FRAWDISP is FALSE
HRAWDISP is FALSE
WYPTXT is FALSE
PKTICOM is TRUE
PKTOCOM is FALSE
RPATHDISP is FALSE
LEDS is TRUE
PAVPEN is FALSE
DEC96 is FALSE
DDIST is FALSE
HEADERLN is FALSE
DMETRIC is FALSE
SOFTRST is FALSE
MSGCMD is FALSE
MSGCAP is FALSE
LRNTPS is FALSE
GPSCHK is FALSE
INTCLK is FALSE

DECSTAT is FALSE
DIGIMY is FALSE
TOSV is FALSE
TALT is TRUE
TSPEED is TRUE
TIMESTAMP is TRUE
TIMEHMS is TRUE
SBEN is FALSE

(Tracker/digipeater example continued)
TSWPT is TRUE
AMODE is GPS
BMODE is GPS
ABAUD is 4800
BBAUD is 4800
BNKMODE is 0
SSIDROUTE is 0
ALTNET is APTT4
MYCALL is AF6OF
PATH1 is WIDE2-2
PATH2 is
PATH3 is
TSTAT is /TinyTrak4 Alpha
BTEXT is >/TinyTrak4 Alpha
BPERIOD is 0
TXD is 30
MTXD is 10
PERSIST is 65
SLOTTIME is 15
QUIET is 10
TRNKMODE is 0
CDMODE is TONES
CDLEVEL is 20
TXLEVEL is 128
TXTWIST is 50
RXAMP is 5
GWAYLEN is 9
GWAYMODE is NMEA
GRELAYBITS is 1
GRELAYRATE is 0

GKRELAY is 0
LOCATION is 1234.5678N 12345.6789W
GALT is 1000
TSYMCODE is #
TSYMTABLE is /
STATUSRATE is 1
PPERIOD is 3600
MPPERIOD is 0
SBSSPEED is 5
SBFSPEED is 60
SBSPERIOD is 1800
SBFPERIOD is 90
SBTANGLE is 27
SBTSLOPE is 255
SBTTIME is 5
(Tracker/digipeater example continued)
MMSG is 0
TSOFFSET is 17
TDAO is 0
TPROTOCOL is MIC-E
TPSWITCH is 0
TPERIOD is 0
TVOLTTWK is 128
TTEMPTWK is 128
WPERIOD is 0
ALIAS1 is WIDE1
ALIAS2 is
ALIAS3 is
DUPETIME is 30
FILTERCALL is