



[Technical Information Doc.:](#) VixenTrak An APRS GPS-less Tracker Module for [FoxView2](#)

VixenTrak Module for FoxView2

This particular project is targeted to make a simple, low power, Plug-in Module for [FoxView2](#), An APRS LCD Viewer.

VixenTrak is similar to [FoxDigi](#) detailed elsewhere on this site. However, in this application its role is limited to transmit APRS Position beacon without a GPS (Home Station Use) and act as a Digipeater.

VixenTrak is designed to achieve following:

1. Transmit APRS Position without a GPS
2. Acts as a Digipeater for the connected Radio to [FoxView2](#)
3. Easy configuration thru Hyper-Terminal
4. True RS232 interface to your PC
5. Option to use GPS at 9600 or 4800 baud.

VixenTrak uses a MX232 to get true RS232 levels. When used with FoxView2, you will require a Null-Modem adapter to configure VixenTrak.

“RX”, “TX” and “Power” activity LEDs are provided for observing VixenTrak Activity.

VixenTrak Configuration:

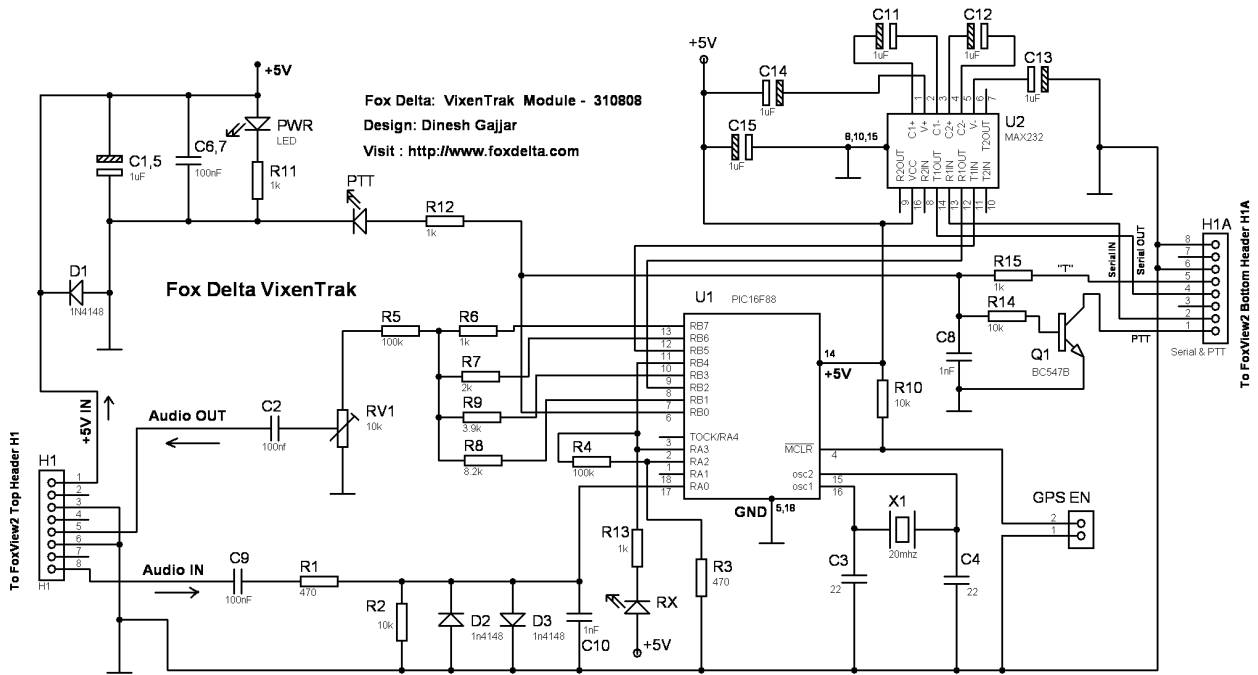
User data (Station Call Sign etc) is stored in PIC88 by using a simple window's program called “HyperTerminal”.

To enter Configuration Mode, install VixenTrak on FoxView2 and connect a serial cable using a null modem.

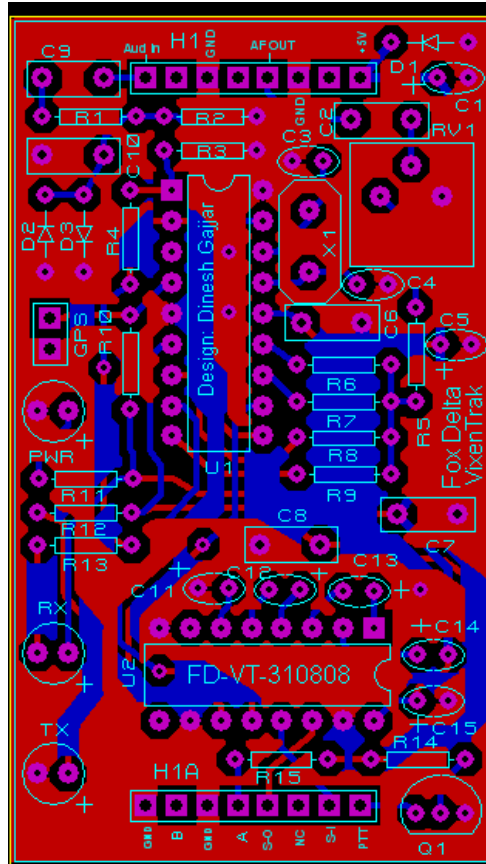
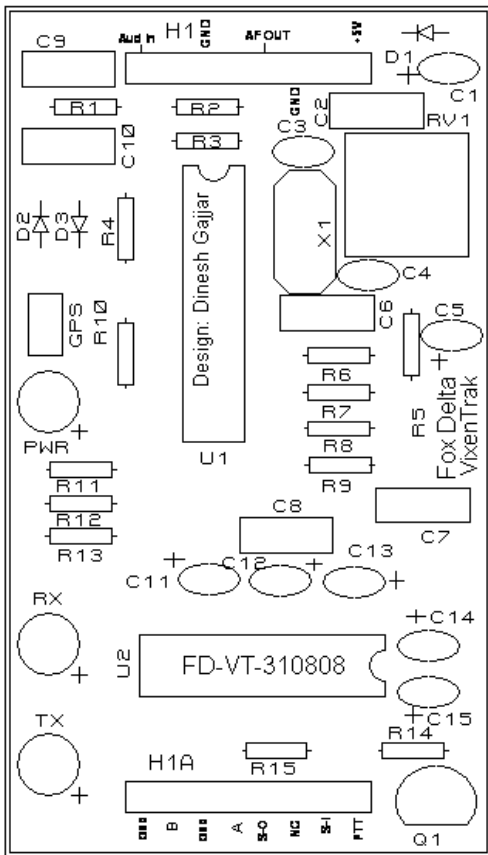
Open HyperTerminal and set it up for 9600N1 or 4800N1. Apply power to FoxView2 & a message will appear. Type, “help” to get list of commands or Type “Disp” to see present content of PIC's Flash.

If you like to know how VixenTrak can be configured and how you can proceed with Hyper-Terminal, please refer to related document available for download.

VixenTrak Schematic:



Silk Snap & PCB view for VixenTrak Module:



VixenTrak APRS Tracker Module Parts List:

Qty	ID	Details
1	U1	PIC16F88, Pre-Programmed With Firmware
1	U2	MAX232 or Equiv. RS232 Driver
1	PCB	VixenTrak Double Sided PTH Board
1	Q1	BC547B, PTT Switch
1	GPS-En	2pin Header with Shorting pin
3	LED	3mm: RX, TX & Power
1	X1	Crystal 20MHZ HC49US
1	RV1	Preset Bourns 10K
3	D1, 2, 3	1N4148
1	DIP18	IC Socket for U1
1	DIP16	IC Socket for U2
1set	0.1inch headers	8 Pin Male & Female Headers for Module Connections

Qty	ID	Details
7	C1, 5, 11, 12, 13, 14, 15	1uf 35V Tantalum
4	C2, 6, 7, 9	100nf Poly
2	C10, 8	1nf Poly
2	C3, 4	22pf Ceramic
15		
2	R1, 3	470 ohms
3	R2, 10, 14	10K
2	R4, 5	100K
5	R6, 11, 12, 13, 15	1K
1	R7	2K
1	R8	8.2K
1	R9	3.9K
15		

It should be noted that basic design concept of VixenTrak is not to use it as a Moving Tracker with a GPS but rather, it is intended to be used as a **GPS-less Position encoder for Home Station APRS Digipeaters/Viewers**

I hope efforts made in this design will fulfill basic requirements of the FoxView2, an APRS GPS-less Position Encoder and Digipeater.

Dinesh Gajjar / 11th September 2008

Please visit <http://www.foxdelta.com> for more information on this project.