



Fox Delta

Amateur Radio Projects & Kits

FD – TinyEcho

Tech Details & Schematics: A Tiny, Radio to PC Interface for VOIP

Tiny Echo: Revision 0808

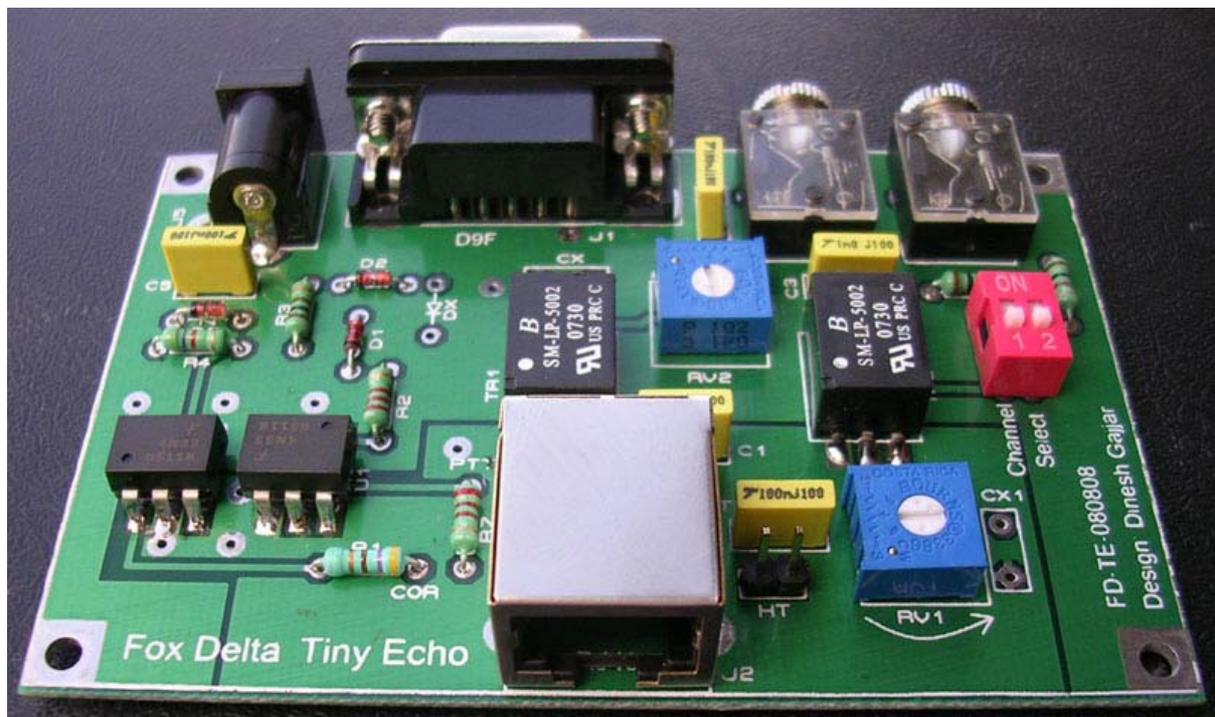
Any VOIP facility, such as Echo Link, may be used by a simple interface detailed here. Interface provides full isolation between PC Sound Card and your Rig by way of using two isolation transformers & Two Opto Couplers.

TinyEcho is nothing but a Sound Card Interface with addition of a “COR” control for echolink, which requires receive signal detection. However, new sound card interface SC2, includes COR..

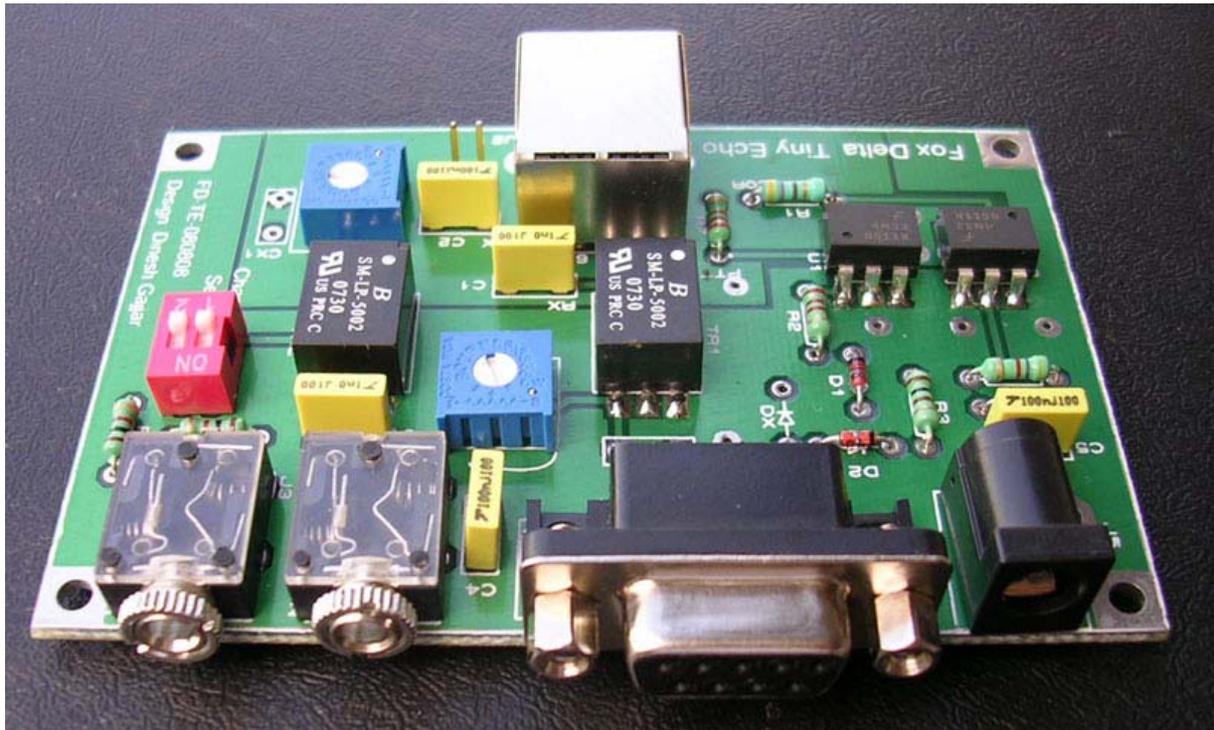
This interface may be made “Self-Powered” by running a script called “DTR on/off”. Since DTR is not used, it may power the Opto coupler transistors.

Since most ham stations have 12VDC available, 12V DC may power Interface. Requirement of 12V DC is merely for providing active pull-up for COR operation.

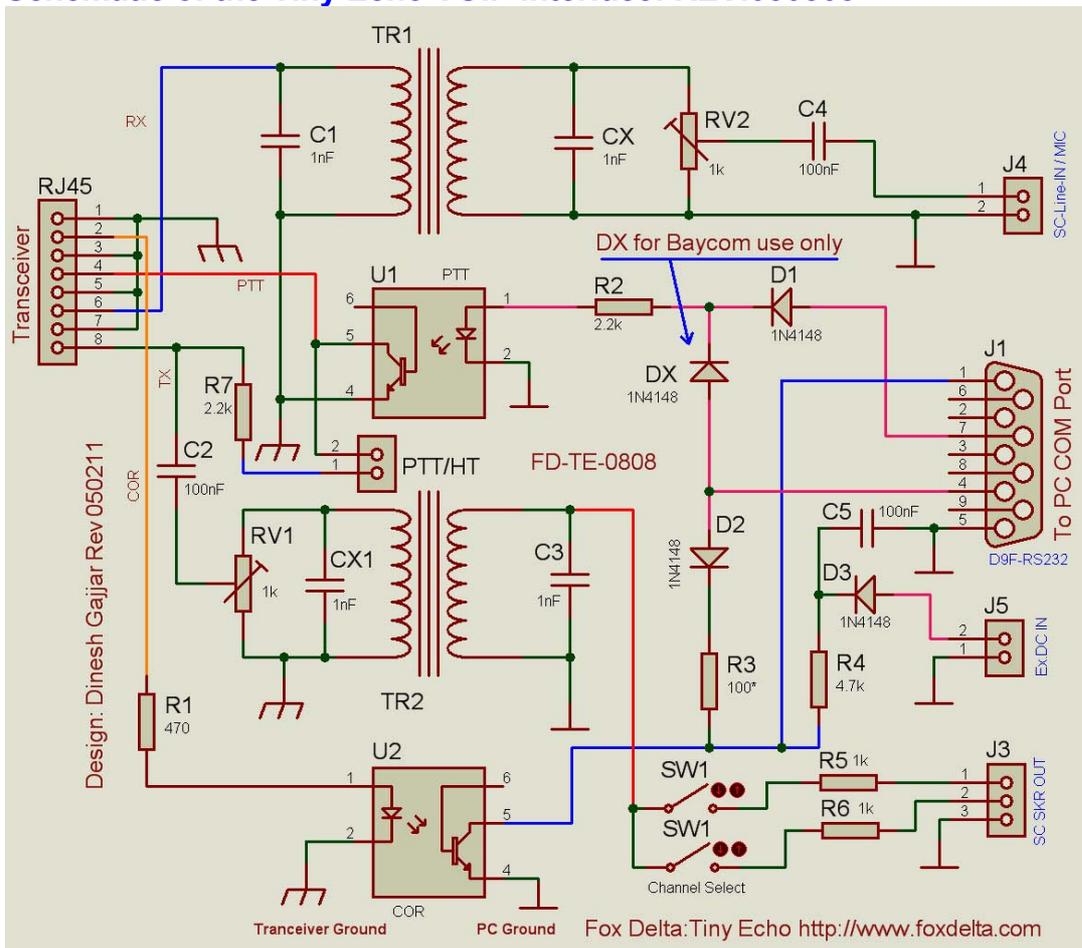
Picture of the completed TinyEcho Interface:



Back View:



Schematic of the Tiny Echo VOIP Interface: REV.080808



Notes:

1. Install either D2 or D3, **not both**. Install C5, D3 only if Ext 12V used.
2. This interface may be used for Baycom type program with DX diode installed.

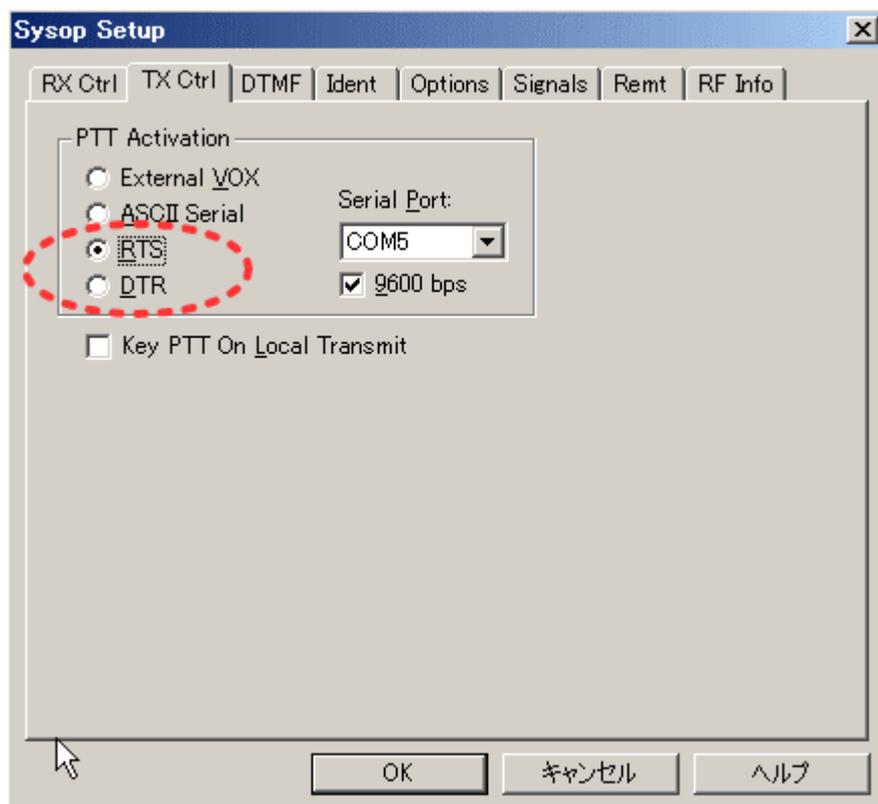
Transformers & Opto Couplers:

Tiny Echo uses high quality Bourns SMT Transformers SM-LP-5002 and 4N33 SMT Opto Isolators.

Kit doesn't include a ready made cable for transceiver connection. You can make this cable at home using a simple CAT5 Cable Crimping Tool.

Configuration for Echolink:

TinyEcho uses RTS for PTT control.



TinyEcho may be powered by DTR line if it is made "Active". With script running, DTR line will remain high & provide required power to the interface.

You have two files:

TurnDtrOn.vbs and TurnDtrOff.vbs.

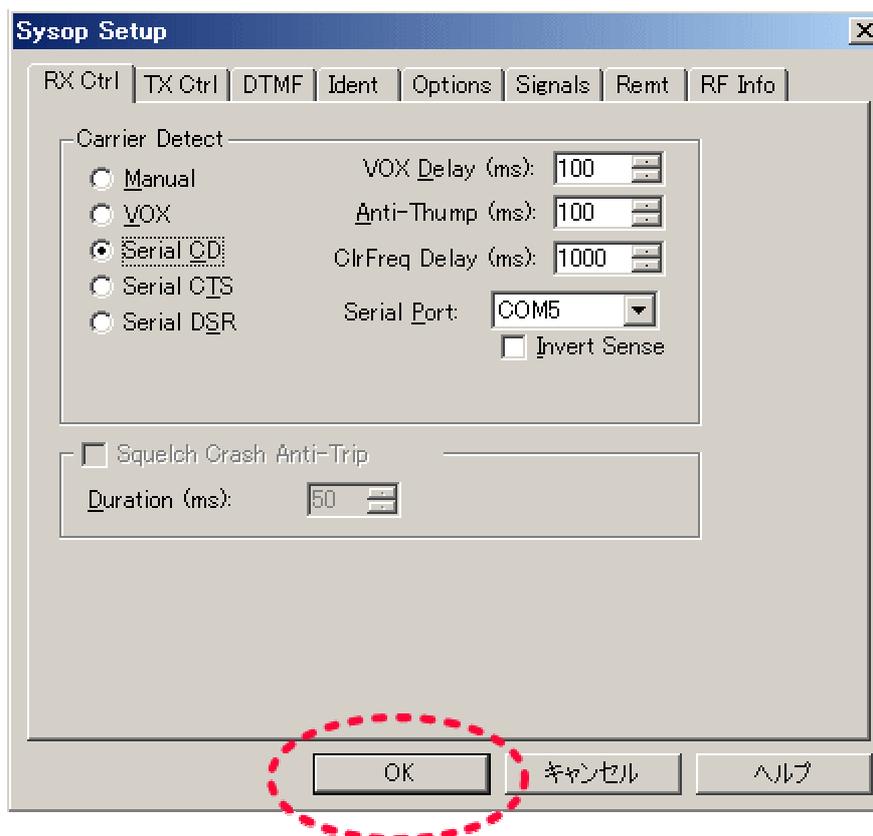
From the command line, type

```
>cscript TurnDtrOn.vbs
```

This will make DTR active. Similarly run TurnDtroff.vbs to turn DTR off.

Note:

Special care should be taken when you try to change the Sysop setup. If you Press the OK button in the window below, Echo Link resets the DTR state to the default inactive. If this happens, you may run the script again to reactivate DTR.



Normal Power:

A 9V battery may power Tinyecho or 12V DC supplies available within your station. Apply external power at J5. DTR script and related details given above are not applicable if external supply is used.

RJ45 / J1 connector is used for rig connection. A male RJ45 connector is supplied with Kit for easy hook-up with your rig.

I think this will end all the discussion about requirement of an economical interface for VOIP or echo link.

Basically, you will not require anything more than what this interface provides for interfacing your PC to a Radio for VOIP purpose.

Dinesh Gajjar
8th August 2008

Visit Project Page at: <http://www.products.foxdelta.com>