
EchoLink Interface

EchoLink Interface Issues

- VOX or COS keying control
 - VOX is easier to implement; but can lead to ‘doubling’ with each other in QSO
 - COS is solid and unambiguous; but requires another control connection (I personally favor a COS keyed approach)
 - Not all interface circuits support a COS interface. RigBlaster does not, VA3TO does.
- Interface to controller/repeater or to link radio
 - If a controller with a free port is available at the same location as internet PC, this approach is very flexible. EchoLink interface circuit COS (input) is driven by controller PTT out and Interface circuit PTT drives controller COS input. Level shift and/or logic sense may need to be addressed.
 - If a link radio is used as Simplex node or as a repeater user, the Echolink interface is straight forward. Repeater is at remote location from internet PC. Depending on radio COS level and impedance, a 1 or 2 transistor interface buffer is sometimes needed.

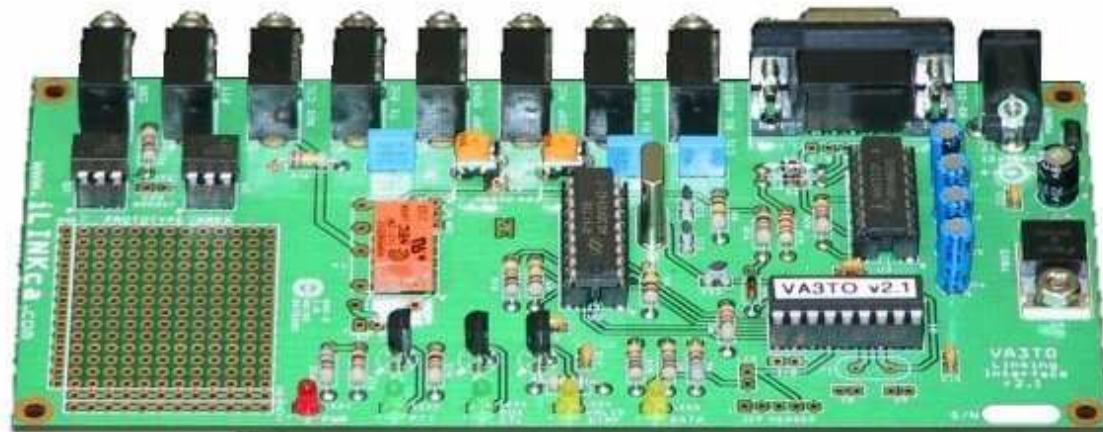
EchoLink Interface Issues (continued)

I HAVE USED BOTH METHODS

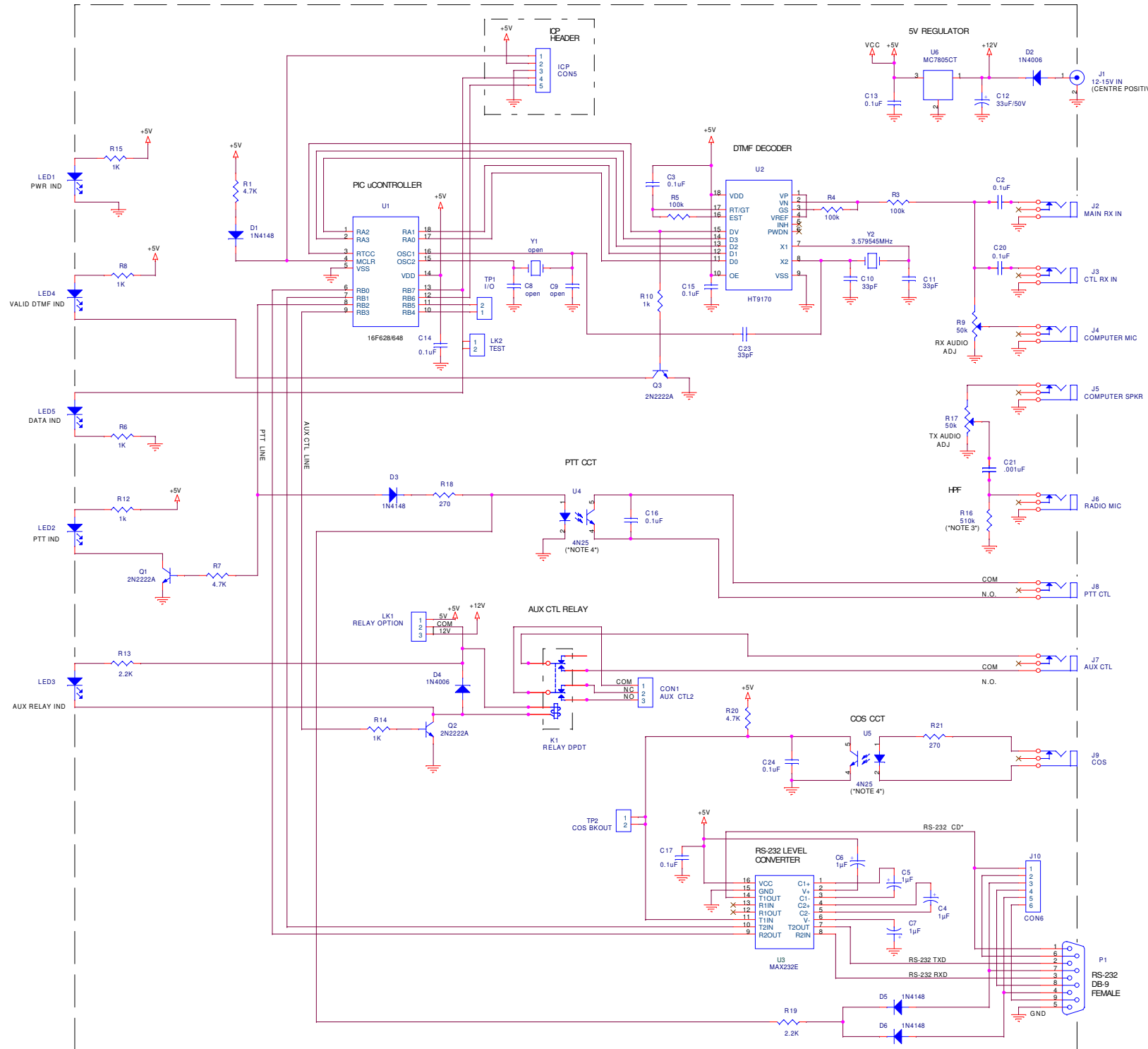
- On 900 MHz, I have a dedicated UHF Simplex link between a VA3TO EchoLink interface and the remote repeater. The repeater controller has 2 ports (one for the repeater, one for the RF link).
- On my UHF repeater, I am using a bit more complicated (and more flexible) approach. I have a 3 port (RC210) controller that interfaces the (1) home UHF repeater, (2) VA3TO EchoLink interface, and (3) half duplex link to a high level remote UHF repeater. With the controller at home, I can link any combination of the 3 ports. For example, repeaters can be linked with or without EchoLink; or EchoLink can be used with either (or both) repeater(s).
- I do not use VOX on any of the interfaces.

VA3TO Interface

- RS232 interface to PC
- Available assembled in housing
- All control and audio lines plug into standard audio jacks
- On board DC voltage regulator
- “Prototyping” area is available on board for adding any custom interface circuitry (as in COS buffering).



K5TRA



CONNECTOR PINOUTS	
J1	= 12-15VDC IN (2.1mm Centre Positive)
J2	= FROM MAIN RX (AUDIO IN)
J3	= FROM CONTROL RX (AUDIO IN)
J4	= FROM COMPUTER MIC (AUDIO OUT)
J5	= TO COMPUTER SPEAKER (AUDIO IN)
J6	= TO TRANSFER/MIC (AUDIO OUT)
J7	= AUX CTL RLY (N.O. DRY CONTACTS)
J8	= ISOLATED PTT CONTACTS
J9	= ISOLATED COS INPUT
J10	= ACCESS TO UNUSED RS-232 CTL LINES

K1 SECONDARY CONTACTS	
CON1-1	= AUX CTL COM.
CON1-2	= AUX CTL N.C.
CON1-3	= AUX CTL N.O.

LINK STRAPPING OPTIONS	
LK1	1+2 = 5 VOLT RELAY USED
LK1	2+3 = 12 VOLT RELAY USED
LK2	= FOR ICP USE

- NOTES:
1. USE 5V or 12V RELAY AT K1. SET LK1 ACCORDINGLY. DEFAULT = 12V. CUT PCB LINK TO 12V BEFORE LINKING TO 5V. RESTORE CONNECTION WITH A JUMPER FOR NORMAL USE.
 2. CUT PCB LINK AT LK2 WHEN USING ICP. RESTORE CONNECTION WITH A JUMPER FOR NORMAL USE.
 3. R16 CHANGED FROM 120K TO 510K TO MOVE HPF CUTOFF FREQ DOWN TO 312Hz. (Nov/04)
 4. U4 & U5 CHANGED FROM 4N33 TO 4N25 (Nov/04)
 5. RESISTOR VALUE CHANGES (Feb.05):
 R6, R8, R15 FROM 880 ohms TO 1K
 R7 FROM 100 ohms TO 4.7K
 R13 FROM 1K TO 2.2K
 R14 FROM 100 ohms TO 1K
 R18, R21 FROM 1K TO 270 ohms

Router Port Forwarding

- The router provides the interface between your modem connection to internet (your WAN IP address) and your internal (protected) internal LAN IP addresses.
- Internal IP addresses are usually 192.168.0.x (where x is a number 1, 2 ... etc).
- Your PC networking can be setup to automatically assign an IP address (in the 192.168.0.x range) when it boots, or it can be set to always use a fixed IP.
- It is best to choose an IP for your EchoLink PC LAN connection --- like 192.168.0.10
- The router can be set to always forward key EchoLink port traffic to that PC
- For EchoLink, the key ports are:
 - UDP ports 5198 and 5199, and
 - TCP port 5200.