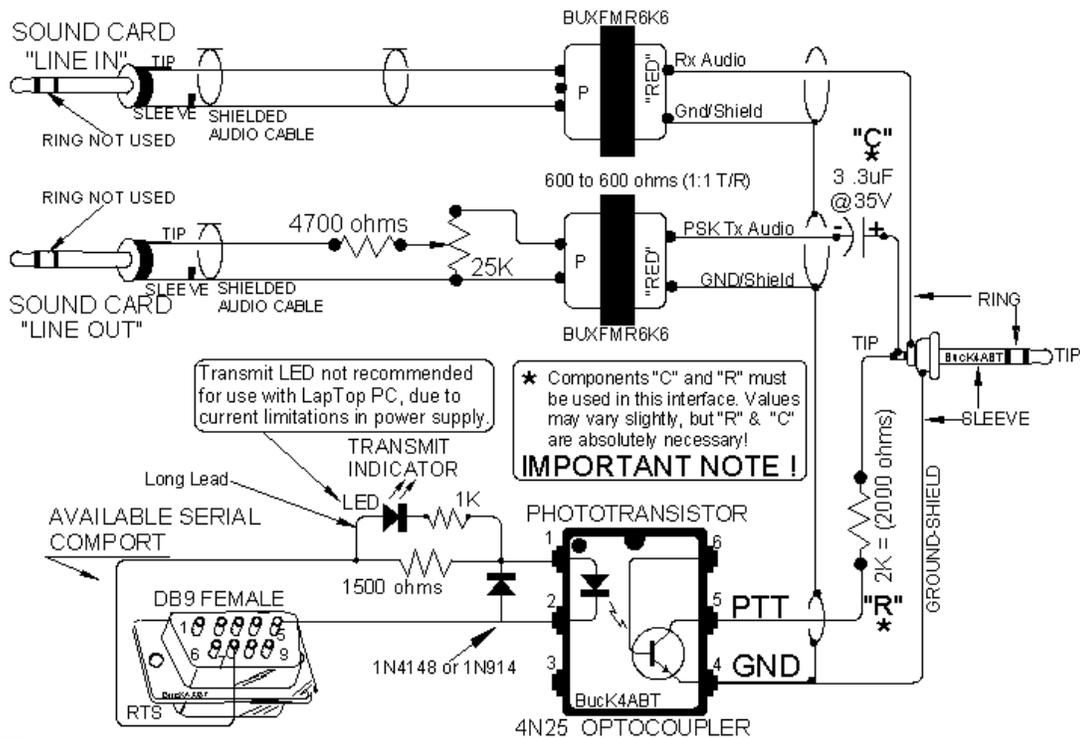


Building an interface for PSK31 and SSTV



(TIP) As a starting point, go into the sound card parameters and set "LINE OUT" half open, and set "LINE IN" half open.

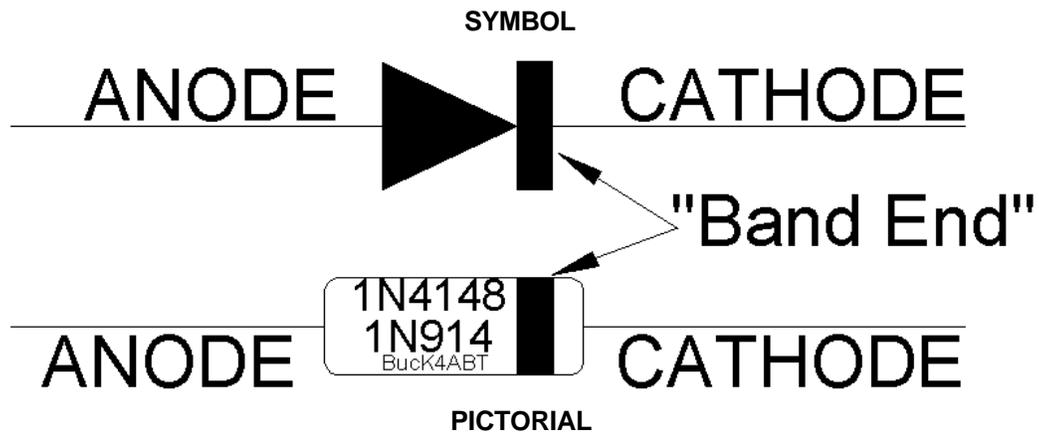
YAESU FT-767 & FT-847 3.5 mm Data I/O to PC Sound Card for PSK31 mode.

First we open the ISO-KIT and open the diagram... look it over and become familiar with who's on first... and 'what's on third'!

Use a small tip (pre-tinned preferred), pencil type soldering iron (35-40 watt). For instance, I use the Weller WLC-100 variable heat (controlled) solder station with an ST-1 tip installed. Keep tip clean, I use a small damp (with water, of course) sponge from Radio Shack to keep my tips clean.

I use a "LUXO" lighted Magnifier to view the small components, and solder traces.... as something happened to my eyesight after I passed 60 years of age... a few years back.

To help you fully understand and identify the markings on the diode(s) used in the ISO-KITS, I've drawn a symbol and picture help the user relate the symbol definition to a pictorial of a diode.



Some parts may vary from the original photo, or diagram. If your kit contains isolation transformers (and most all kits do), look at the color of the covering around the transformer winding. A **"RED"** tape/cover indicates a 1:1 turns ratio winding (600 to 600 ohms) (*BUXFMR6K6*). In most (all) applications, a RED transformer is used in the transmit (sound card OUT), to accessory, mic, etc... INPUT. In many cases, the same type (color) transformer will be used in the accessory, Patch OUT, and Data Out ports.

If your kit uses (extracts) audio from the external speaker jack (usually marked 'Ext Spkr'), one of the isolation transformers may have a **'BLUE'** covering. This is a 1000 ohm to 8 ohm (*BUXFMR1K8*) isolation transformer. The 8 ohm side will be wired towards the external (8 ohm) speaker jack, while the 1000 ohm (side marked "P") is wired to the sound card tip and sleeve shielded 'LINE IN,' usually a 3.5 MM plug/jack.

Please notice in the diagram(s) that the computer sound card is/must be isolated from the transceiver. This is the main purpose for using the "isolation transformers." Most of my diagrams reflect the correct measures for maintaining the isolation characteristics of the interface.

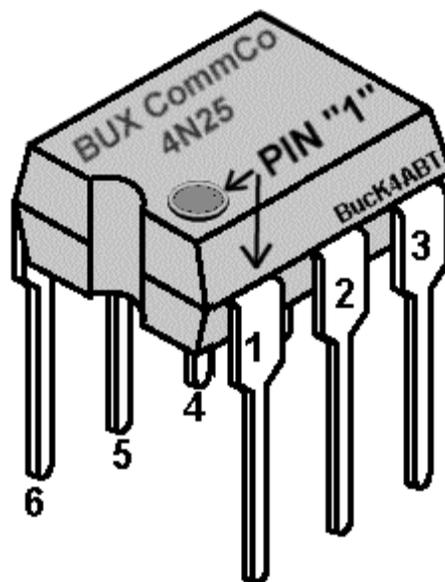
To further define... the ground/shields on the transceiver side of the isolation transformers and Optocoupler may be considered one set (or side) of grounds, while the shield/grounds on the PC side of the 'isolation' transformers and Optocoupler are considered as a separate ground set.

The transformer may have a **"P"** stamped on one side of the red cover. This **"P"** denotes the 'Primary' winding, or the first layer laid onto the bobbin/core. Some diagrams will note the position of the transformer in the circuit, relative to this winding (**P**) indicator.

NOTE: On most all isolation transformers, there are three leads on each side. The center lead from each side of the transformer is *the "Center-Tap" and is NOT used*. This center-tap may be cut off, or simply folded back onto the winding, and taped out of the way. Make sure it does not touch any other component or any metallic surface of the transformer itself.

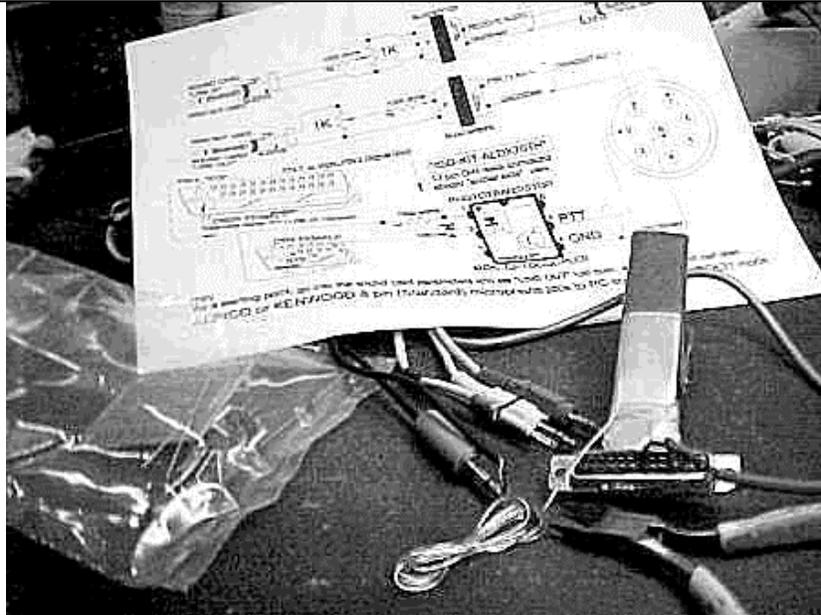
In some interface part kits, there may be a small electrolytic type capacitor(s). One such kit is the Yaesu FT-847 (ISO-KIT-3). Notice the small print on the capacitor, and note the side/lead marked with the plus (+) sign. Remember that this is the lead that goes to the radio Data I/O connector (yep, I had to use my handy magnifier to see it, but it's there).

In most of the diagrams that I provide for your PSK31 interface, I try to display the I/O (accessory, Mic, Data In/Out, Patch I/O...etc.) port connector. I try to draw these diagrams so the connector illustration shows the back side, or **solder side view** of the pins. Again, a "caveat" PLEASE; Verify the connections against your transceiver/radio manual. **I AM NOT RESPONSIBLE FOR MISTAKES, ERRORS, OR OMISSIONS!**

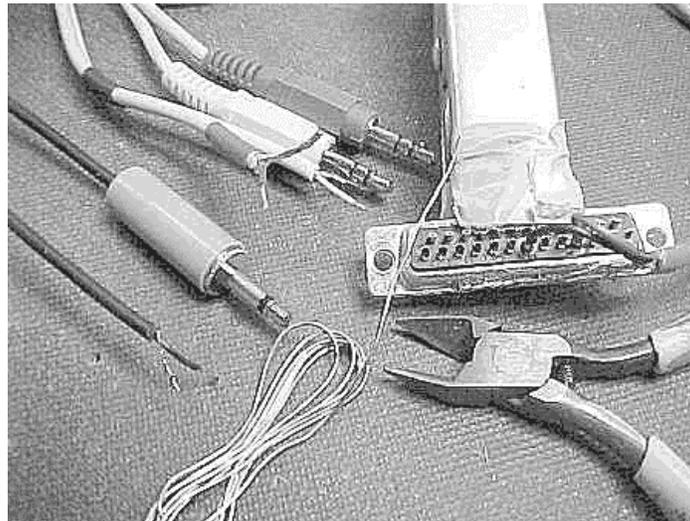


There's always that one final little 'knot-bite' that is the "got'cha" for many new HAMs who have never had an opportunity to work with integrated circuits. In the illustration above, I've drawn an IC similar to the 4N25 or PS2601 that is used in my PSK31 interface. **NOTE**, that pin 1 is identified by a small, almost obscure circle, just above the pin (1) location. I

hope my illustration will clarify pin identification of the 4N25/PS2601 optocoupler/phototransistor..



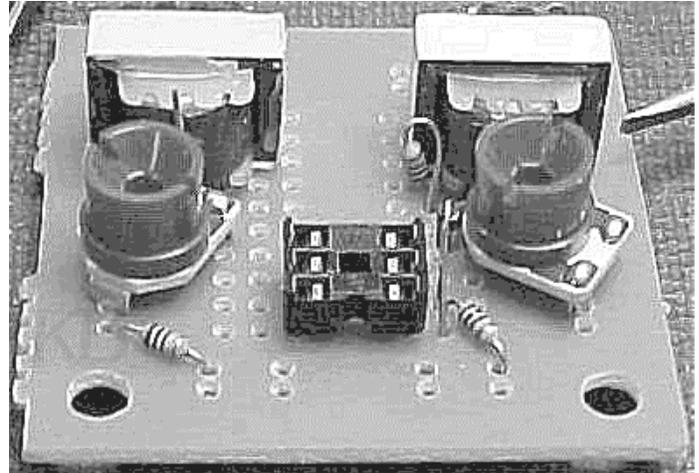
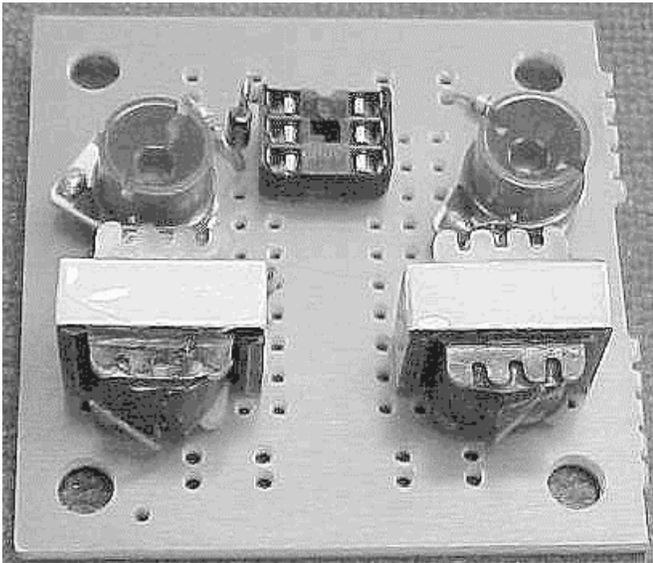
Then we do a check the parts against the diagram. I always include more parts than are shown on the diagram, including the solder!



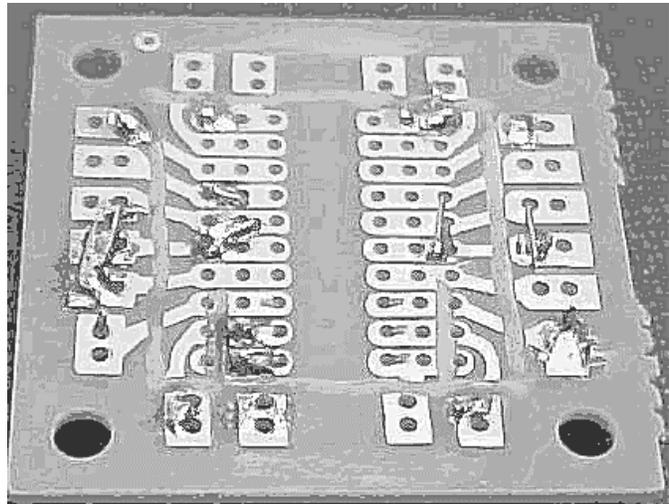
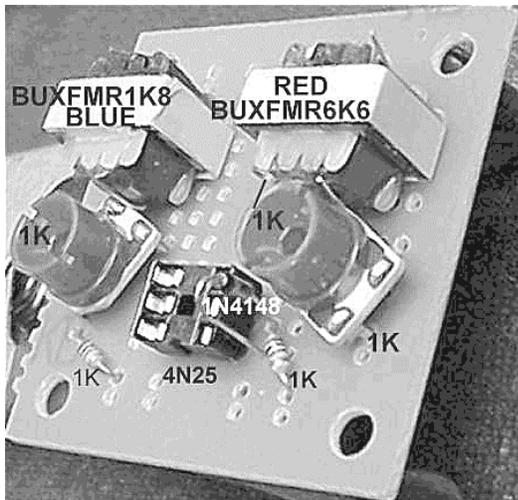
Carefully follow the diagram and begin the assembly of our interface by dressing the cable ends first.



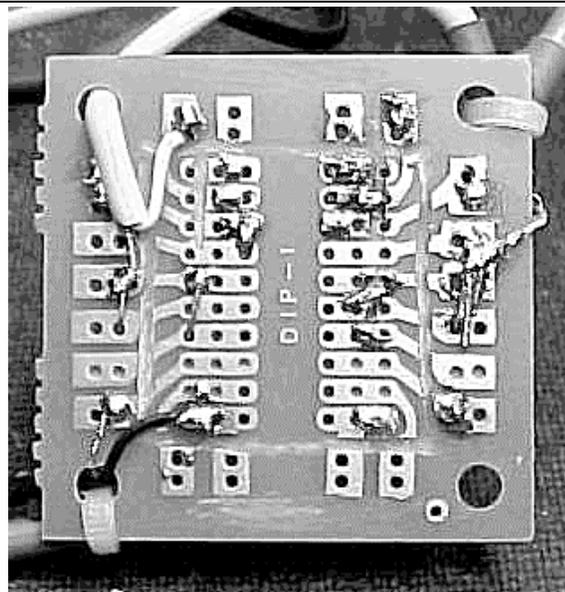
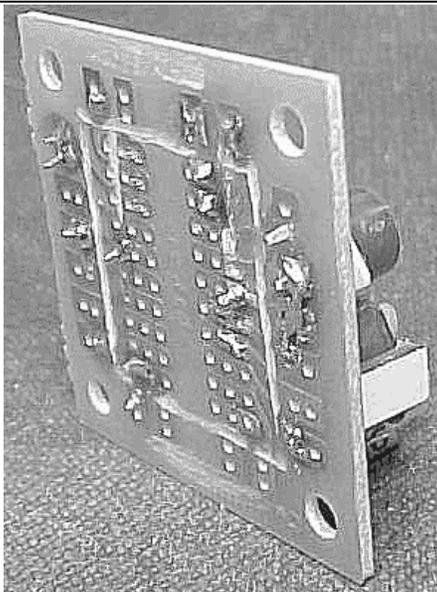
OH NO!... I just hate it when that happens..... Have you ever installed a coax connector, and later realize you forgot to slide the retainer barrel on the coax first!!! Oh Geeze..! **STAY ALERT !**



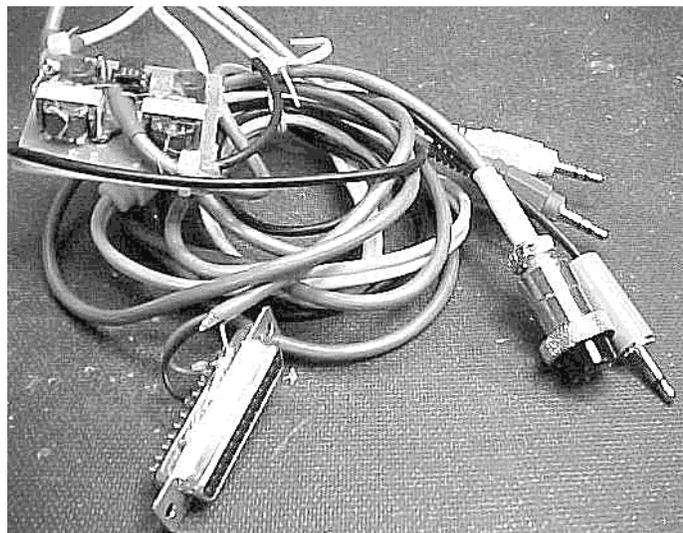
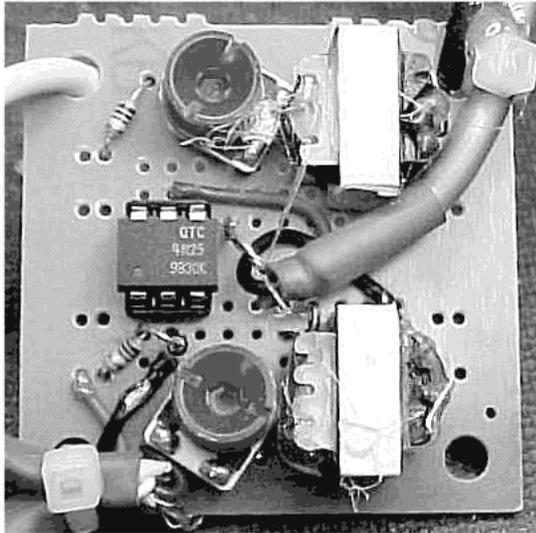
The project PCB is only 2" X 2"... so plan your parts layout. These photos may give you some ideas.



There's no need for a lot of push'n and shove'n, the parts should fit well, as this is one of the most populated of all the *BuxBlazter* part kits.



Yes, I did use a dremel tool to cut the traces. Every PCB shipped is pre-cut to provide more solder pads. At 2:00 AM in the morning... I want to look at this project PCB from both angles...

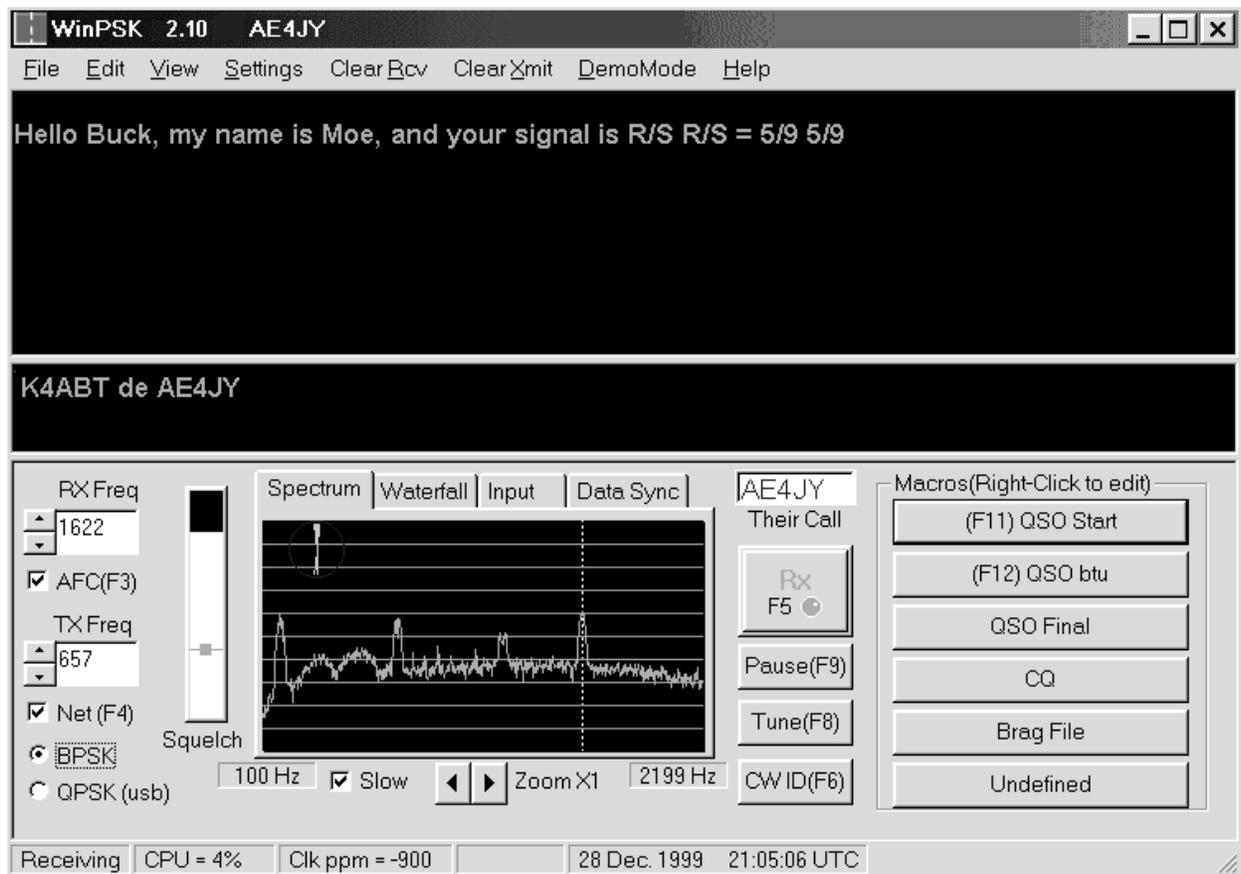


All.... Rightttt... , SO now you know why I send all those lil ty-wraps with the ISO-KITS.



Transmit LED displays easily through the RED lens face.

Finished, Complete... and ready to plug and play... gotta set the levels and,...



Ahhh..... SUCCESS IS SO SWEET.

