How I Integrated a Siemens TWT into My Station

Dave Meier N4MW

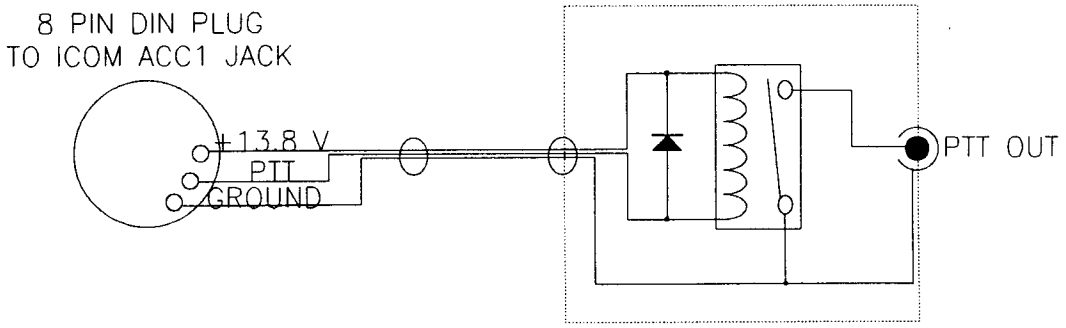
A literature search turned up some information about TWTs in general and Siemens types in particular, but little surfaced to describe how to integrate one into a station. Since TWTs can generate noise which could interfere with reception, they are inactivated for receiving. This can be done somewhat dangerously and inconveniently with the standby switch. I first set out to bring the standby switch function out to an external relay box. After looking over the TWT supply, I decided to simplify the control circuitry by integrating it into the power supply itself. This allows use of the same 24 volt source for the TWT supply, control relay and antenna T/R Transco relay.

The supply I used runs from a -24 volt supply. It has more room inside than some others. You will have to come up with your own physical layout on other supplies. If your supply requires a higher voltage, you can include a small regulator circuit to supply the added relays.

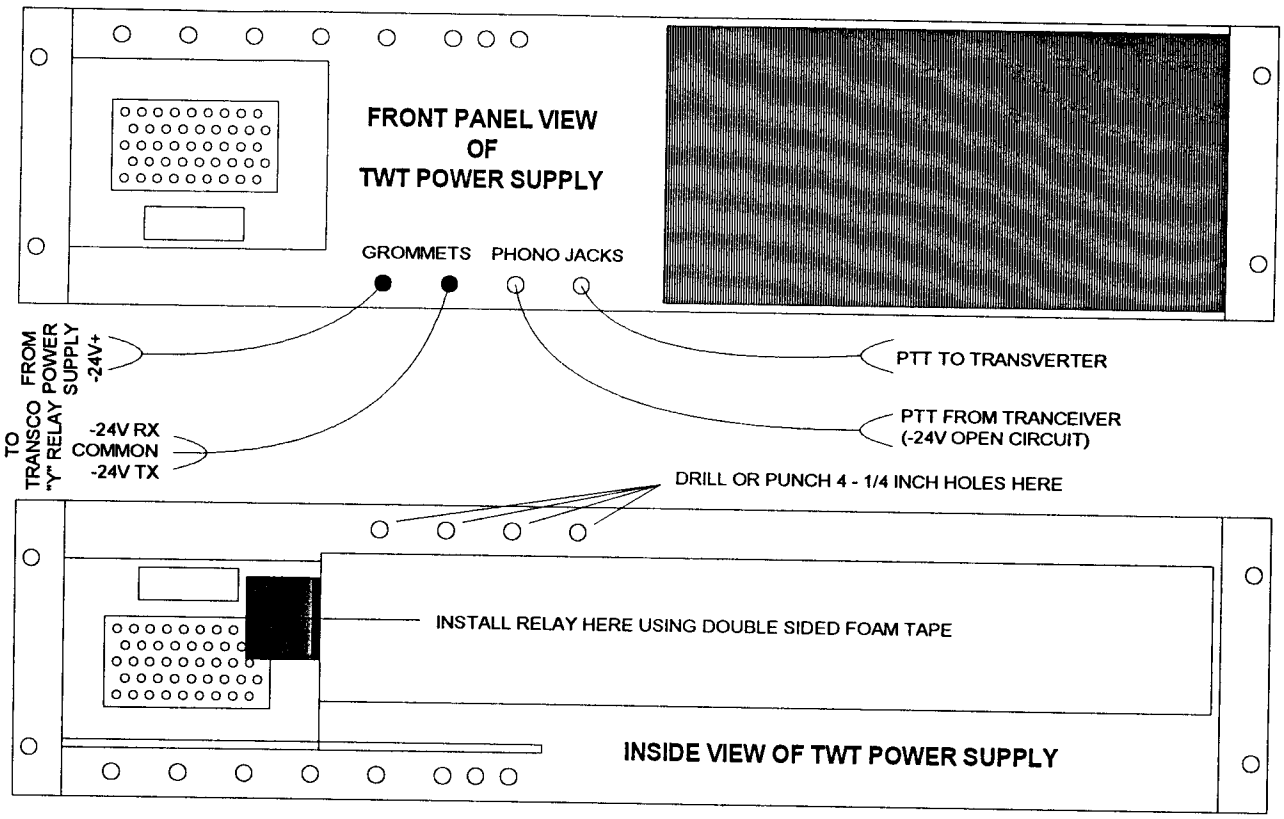
I punched holes along the lower edge of the TWT supply to mount phono jacks for PTT in and out and for grommets for the power supply and T/R relay leads. I did not use the existing low voltage input connecter so I punched an extra hole to bring out a pair of wires to the 24 volt source. I prewired the relay as shown in the diagram and then taped it inside the power supply with double sided foam tape.

My relay is wired such that voltage is provided to the T/R receive coil only when the TWT supply power switch is on. Also, I chose to wire the standby circuit such that both the standby swich and PTT must be activated before the TWT supply operates.

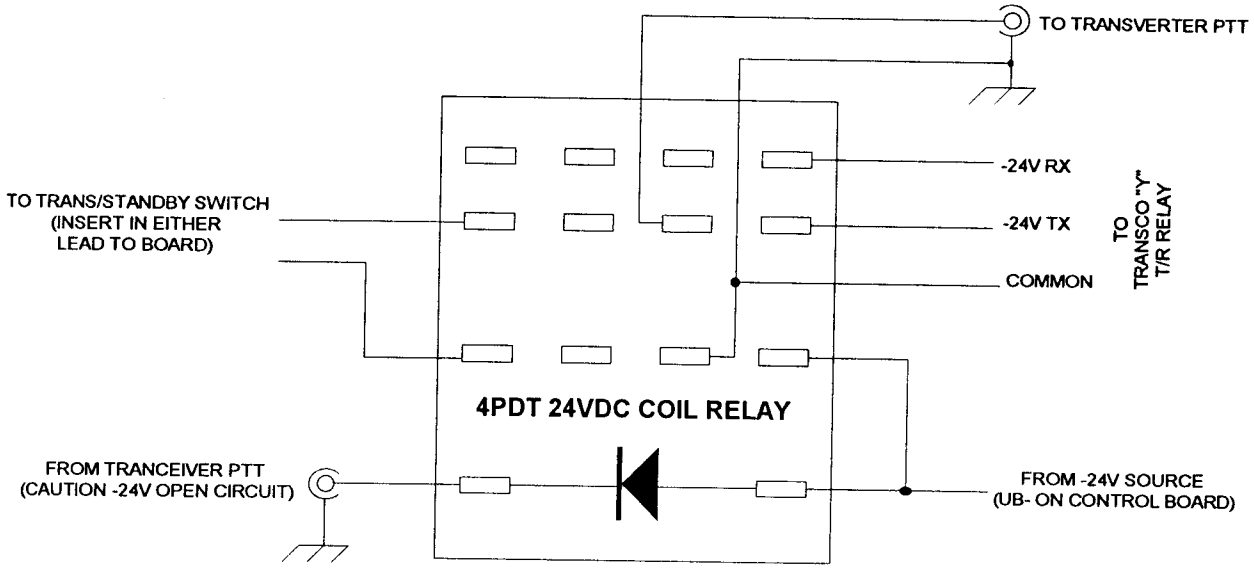
One word of warning. Be careful connecting to your tranceiver's PTT. It probably should not be connected to directly, especially if switching a negative supply control relay. Use a relay or circuit capable of switching negative 24 volts. I use ICOM tranceivers, so I built a special cable which plugs into the accessory connector, which supplies +13.8 volts, PTT and ground. This cable terminates in a small box housing a miniature relay with its normally open contacts connected to a phono jack. This way a switching catastrophe is less likely to make it back into the tranceiver.



ICOM PTT INTERFACE – N4MW SEPTEMBER 1992



SIEMENS TWT POWER SUPPLY MODIFICATION
PHYSICAL LAYOUT - N4MW SEPTEMBER 1992



SIEMENS TWT POWER SUPPLY MODIFICATION
CONTROL RELAY WIRING DIAGRAM

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