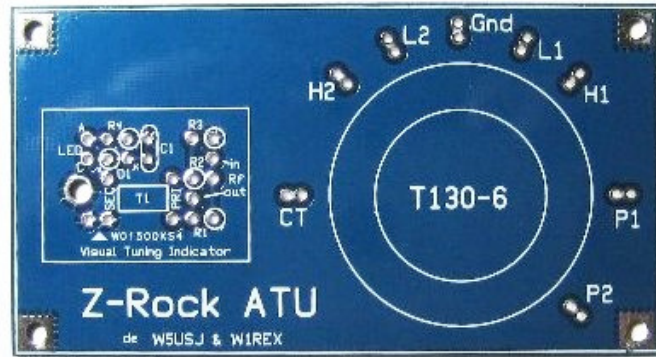


## Z-Match ATU Assembly Outline

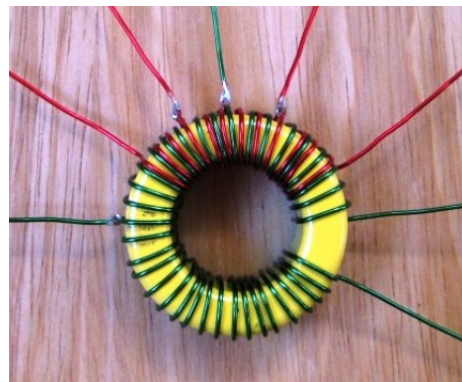
Schematic, LoM and T2 assembly in Appendix

### Assemble ATU PCB

Preferred solder is Radio Shack silver bearing # 64-035

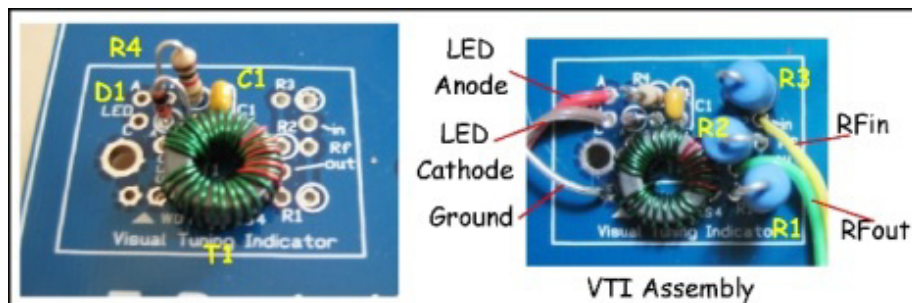


Assemble T2 – drawing with wire lengths – See appendix  
Needs new picture using 22 AWG bus wire.



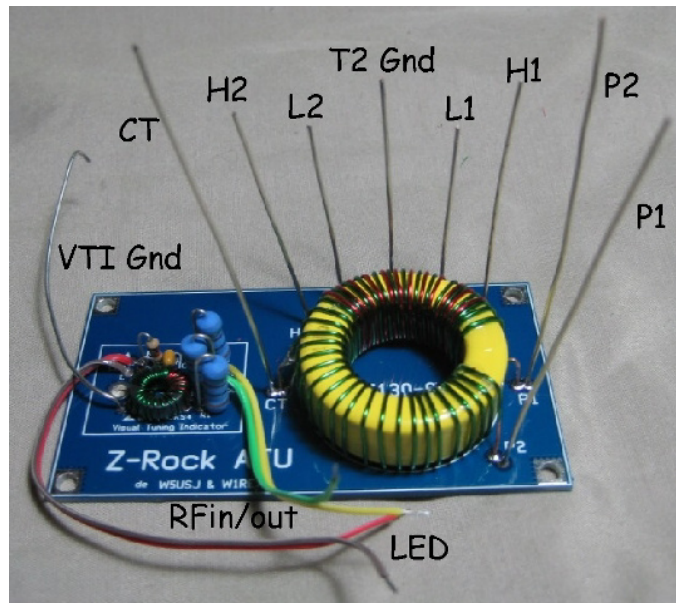
Assemble AT1 -- annotated pictures  
T1 25 t #28 (18 in), 5 t #28 (5 in)

In illustration below, red is primary (P) winding, green is secondary (S) winding. Strip off wire insulation close to transformer body Insert the wires in the associated P and S holes, snug the transformer down and solder.



## Pre Wire ATU BCB -- annotated pictures

Dress all wires on T2 straight down. Carefully insert them in the proper pads on the PCB. Press T2 firmly down on against the PCB. Solder in place.



Wire lengths: red/brn 4 in, yel/grn 2.5 in

Lay the PCB on a flat surface protected from heat.

Insert each connecting wire length in the proper location and solder from the top side of the PCB.

VTI to Gnd -- 2.5 in  
Toroid to SW-3 and Gnd  
L1, L2 -- 1.25 in  
Gnd, H1, H2 -- 1.75 in  
CT, P1, P2 -- 2.5 in

### Assemble back panel parts and prewire

Ensure a clean ground under BNC connectors

Annotated pictures

Wire lengths: A/R see illustration

Don't solder ground lugs yet



**Affix MeSquares adjacent LED hole**

Mark the negative (short) LED lead close to the LED body (black marker)  
Shape the LED leads and attach to MeSquares

**Assemble SW-1 to front panel and prewire**

SW-1 Jumper see illustration



**Position the ATU PCB in the bottom of the enclosure**

Attach wires to SW-1 and LED MeSquares  
RFin to SW-1 3.75 in  
SW-1B C to C1



Assemble PCB to enclosure bottom

Insert 4 4-40 x ½ in screws in bottom holes and hold in place

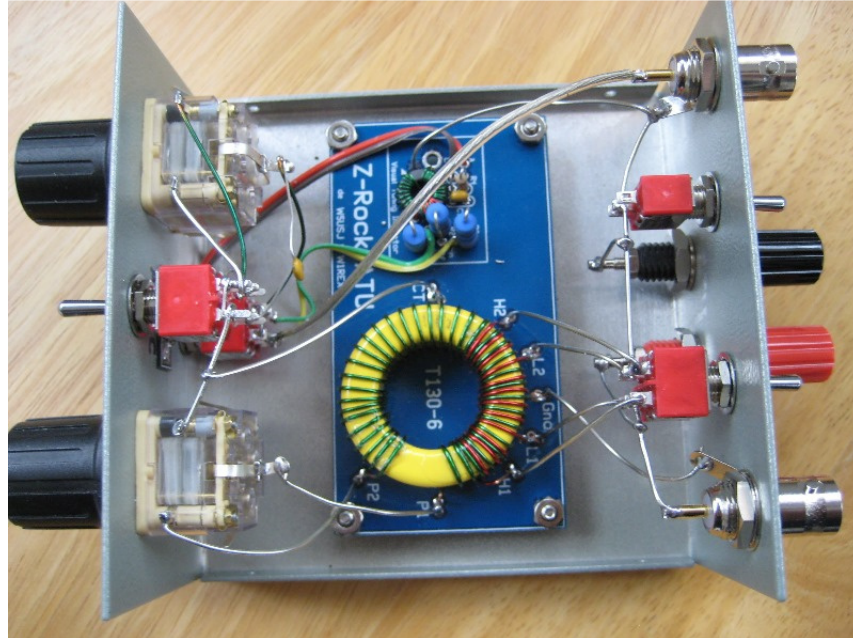
Lay the assembly on a flat surface

Place 4 ¼ in standoffs over screws

Position PCB on the screws

Affix 4 4-40 nuts on the screws

Affix 4 feet on the bottom



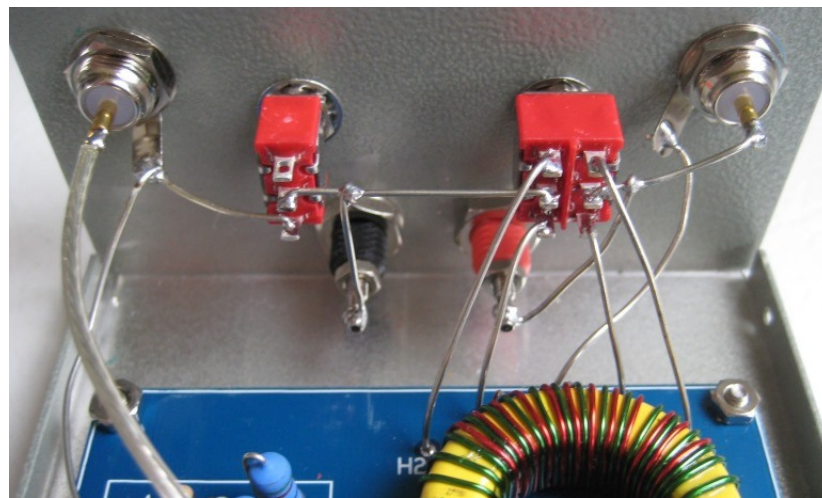
Connect PCB wires to back panel SW-3

ATI ground to J1 ground lug – Solder

T2 ground to J2 ground lug – Solder

H1/H2 wires to SW-3

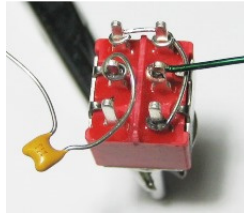
L1/L2 wires to SW-3





Pre-wire SW-2

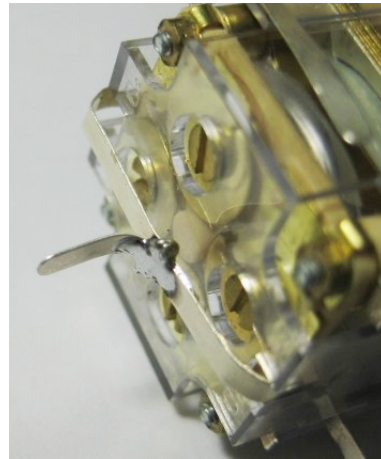
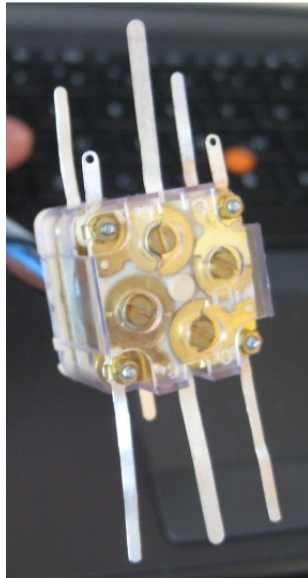
Jumpers and 470 pF capacitor  
Connection to C1



Prepare capacitors C1 and C2

Trim excess leads

Form common connections

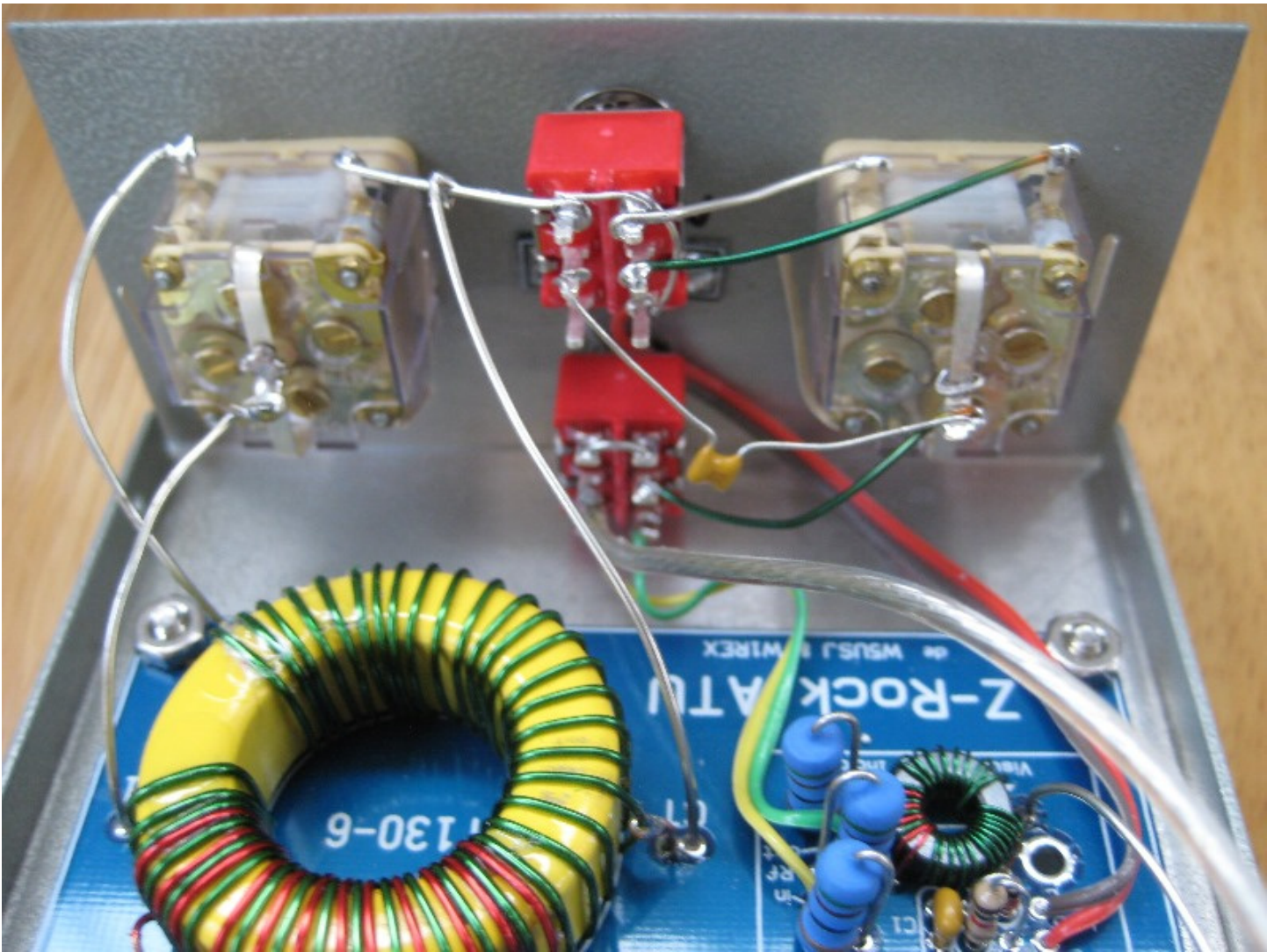


Complete assembly of front panel parts

C1/C2 and SW-2

Connect wires for SW-2

Connect remaining wires from T2 to C2



Chuck Carpenter, 15 December 2014

## Test

- Check all wiring
- Use QEX Procedure
- Alternate Test Method

## Theory of Operation

## Appendix

- Schematic
- T2 Assembly
- VTI Assembly ?