

1 Yaesu DR1X easy remote reset modification DE- K5BLS

Supplies:

Commspec TS-64 CTCSS or DCS-23 *DCS Decoder board

SPDT 12 Automotive relay 30A

SPDT Relay Harness

Heat shrink tubing

Wire ties

3M Automotive double sided tape

Solder

Wire Cutters

Philips and a small flat head screw driver

Soldering Iron

**-Used in this modification & instructions*

Confident proficiency to accomplish this task is MADNITORY, DO NOT ATTEMPT & get help from someone else if you are unsure of your abilities.

Scope:

This modification allows remote reset of the Yaesu DR1X repeater remotely for under \$100

All modifications are done with the power removed!

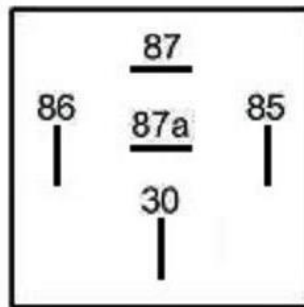
Directions:

1. Remove all screws from unit to gain access into radios and harnesses.
2. Locate the coil of extra wire leading from the RX radio, looped toward the front panel (RX radio is located above the power supply)
3. Sever the positive wire and tin both ends, insert heat shrink for use later.
4. Remove the power distribution, and feature interconnect board located bedside the RX radio. Carefully remove all plugs and note position for reassembly.
5. Refer to the Commspec instructions for setting your decoder up as follows. Active LOW on correct code. The DCS-23 manual states to add a solder jumper to JU-12.
During this step select the code you wish to use per the Commspec instructions and complete the jumpers on the provided chart for your selected code.
6. Remove the following wires from the DCS-23 plug as they will not be used for DECODE ONLY operation: Orange, Gray, Yellow, & Blue
7. On the DCS-23 harness locate the purple and black wires. Cut these at a central point and solder them together, then re extend by soldering the cut off black wire back onto the junction of the purple and black. Use heat shrink to cover the junction of the 3 wires. **See figure 1**
8. On the bottom of the feature interconnect board locate the solder terminals labeled RX radio. Attach your Red and Black wires to this location to power the DCS-23.
9. Locate the 15 pin connector at the back of the board. Pin #8 is unfiltered discriminator audio, attach your green wire from the DCS-23 to this point on the bottom of the board. Make 100% sure you do not short or touch any other pin or pad!! **See Figure 2**
10. Route the Red, Black & Green wires away from any screw attachment points and use 3M automotive grade tape to secure wires in place on bottom of options board. **See Figure 3**

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11. Carefully re-insert and re-install the options board back into the DR1X chassis. Remember to double check routing of all wires to assure nothing is pinched by the 6 screws that hold the board to the chassis.
12. Lay harness from DCS-23 to the side and prepare the SPDT relay in the relay harness.
13. The connections to the relay will be as follows, match them to the correct wires on your harness:
 - 85- Positive 12V from the power distribution/option board
 - 86- To the White wire from the DCS-23 board (this will provide ground when correct tone is received)
 - 30- Positive 12V from the power distribution/option board
 - 87A- This is the NC pole on the relay and will be connected to the positive wire leading to the RX radioSee Diagram below

**Relay Pinout
(Viewed from Bottom)**



14. Solder the relay harness wires 85 & 30 together. Add heat shrink over the wires. Solder the wire coming from the power supply distribution board that was previously severed and tinned in step #3. Once securely soldered use the heat shrink to insulate the wire from ground.
15. Locate the wire from the relay harness that goes to 87A, add heat shrink over this wire for use in the next step.
16. Solder the wire from the relay harness that leads to 87A to the other side of the severed wire that leads to the RX radio, once securely attached use heat shrink to insulate from ground.
17. Locate the wire in the relay harness going to the 87 contact, remove this wire it is NOT needed.
18. Carefully wire tie the cut positive wire and relay harness wires in a neat fashion inside the radio chassis. *See figure 4*
19. Locate the wire coming from relay harness 86 and install heat shrink.
20. Locate the White wire from the DCS-23 harness and solder to the wire leading from the relay harness, attached to terminal 86 of the relay.
21. Carefully route the 86 wire along the existing harness inside the chassis to where you may want to mount the DCS-23 board, and attach to harness with wire ties.
22. Using 3M automotive double sided tape, coat the bottom of the DCS-23 board.
23. Remove the double sided tape insulation on the DCS-23 board and connect to the DCS-23 wiring harness to the board. Locate a space inside the radio chassis that is out of the way and affix the board to that spot. *See Figure 5*
24. Clean up, & **double check your work!**
25. Power up and test your repeater. It should work properly until the code you have chosen is received, then reset itself.

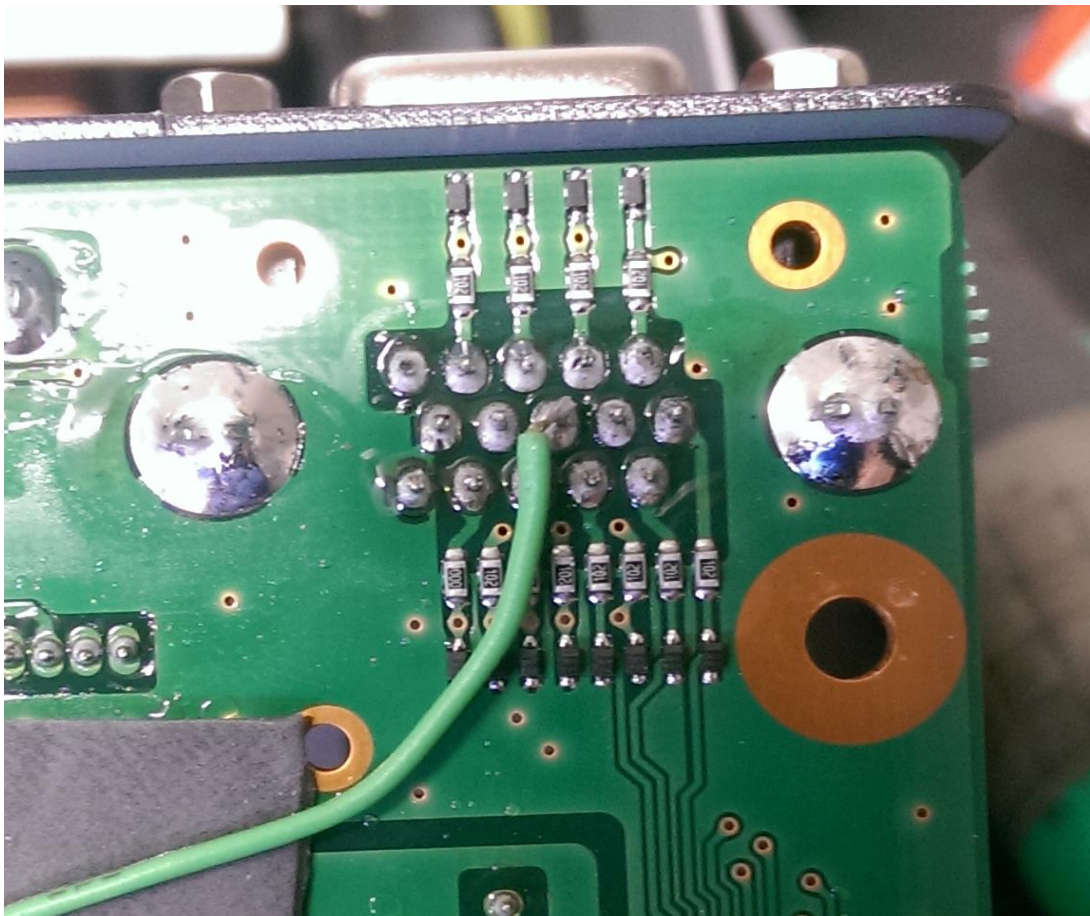
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Figure 1:

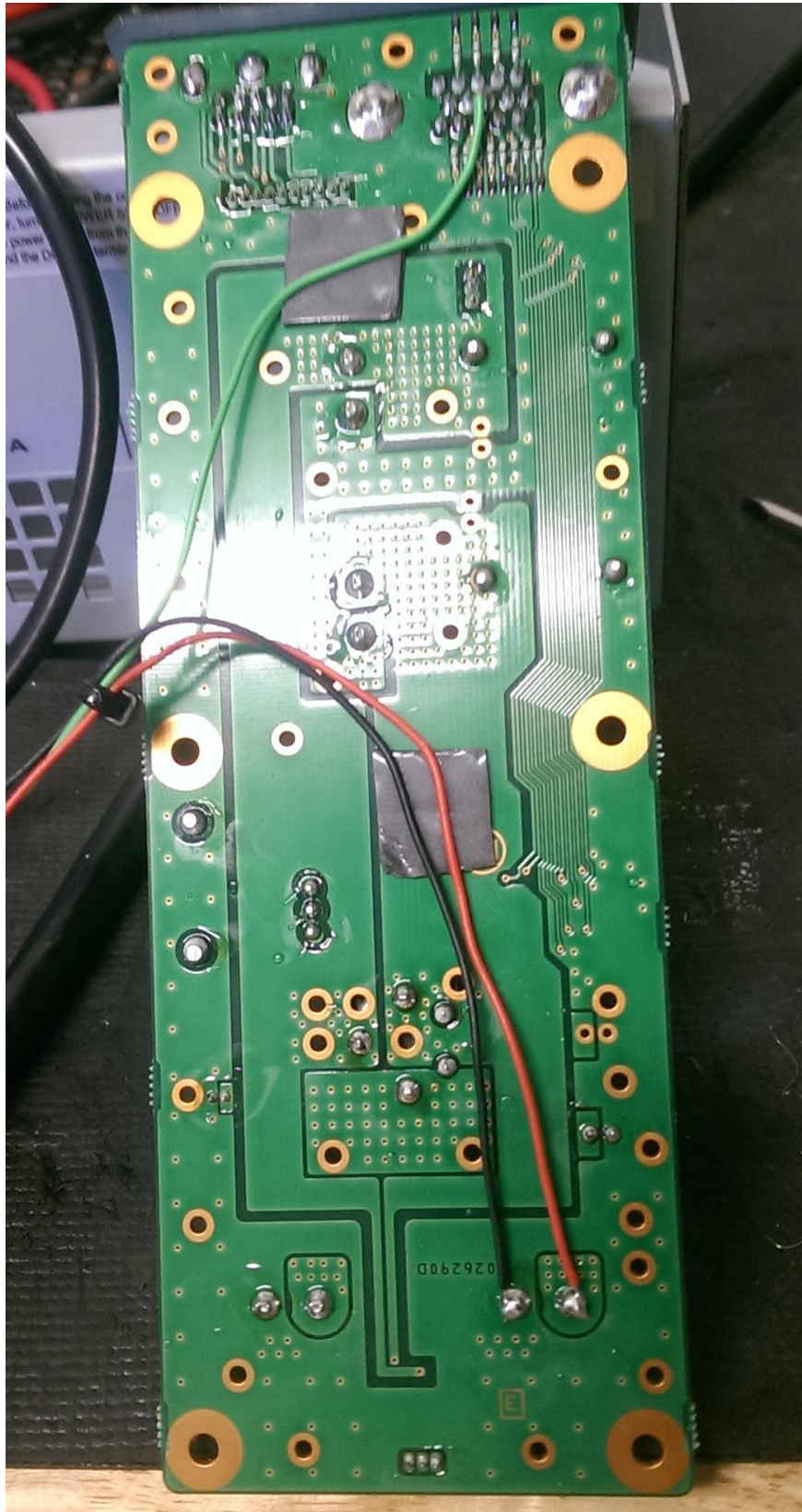


Figure 2:



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Figure 3:



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Figure 4:

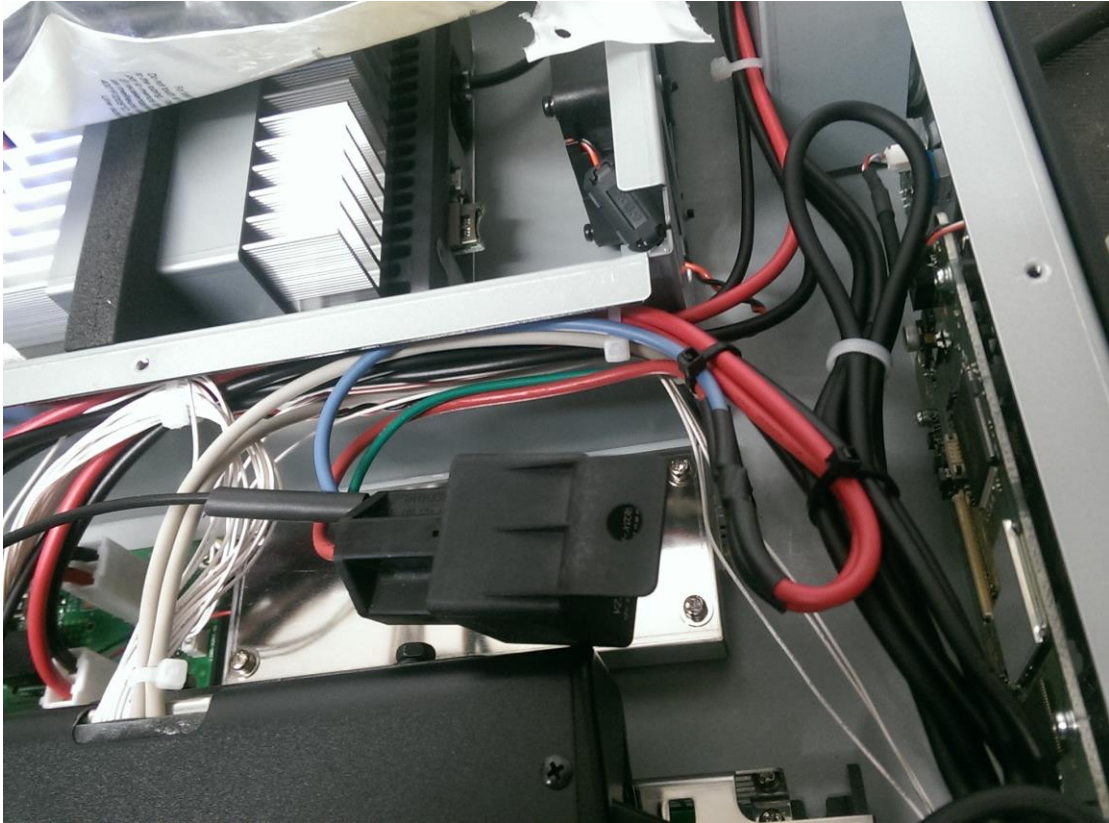


Figure 5:

