

Harris RT-1446 / RF-350 Low Pass Filter Relay Mod

This Mod adds a small amount of current flow to the receive signal path on the low pass filter board through the receive relay contacts. This has no effect on normal receive sensitivity or normal transmitting operations what so ever..

It's only purpose being to help keep the relay contacts clean and operational . If they are already dirty they will have to be cleaned first to insure correct operations with this mod.

I have changed the design of this circuit since I first got a copy from Marvin De Sautel (W7RPT) who first came up with this idea.

While the design is simple, installing this on the board is not for anyone with out good and experienced soldering skills to complete this mod.

I found all the parts at Mouser Electronics on line and others as well. You need two 4.7 Mhy RF chokes and one .1 @ 100VDC ceramic cap. The resistor is now of any type at 1.5 k and at least a 1/4 watt rating. Normal current flow with these values I found to be about 9 Ma.

The Mouser part numbers I used in my design are:
2 of 542-5800-472 encapsulated RF Choke.
1 of 80-C430C104M1U Ceramic capacitor.

Installing these parts on the board requires great care in how they are positioned and attached. One lead of each the two chokes are very close to both J2 or J3 and can easily short to the plug if not done correctly.

The axel type cap I used as a stand off type of support between the common ground trace at location "B" and the connection of the choke and resistor. You will have to remove the green coating from the ground trace between AR1 and C123 or R25 and R5 on that board. Only short leads will be needed on the cap to perform this need. One soldered to the ground trace and one up in the air to provide a tie point.

The choke is then connected to the center wire of the three on one side of relay K15 and run over to the .1 axel cap already mounted on the board. The 1.5K resistor now goes between this point you just made at these first two components and the choke mounted on the board L24. The lead is soldered to the leg closest to J5 which is a 34 pin male connector.

The second choke is then installed from point "D" to point "E" on this same circuit board across from the side you just worked on. One end is soldered to point "E" which is the grounded end of R 23. The other end is connected to the junction of the wire on spark gap E1 and the plated through hole at point "D". This is very close to jack J2 so the wires must be dressed correctly to avoid coming into contact with plug J2 when it is in place.

Now if done correctly the components will be located as close to the board. The flat ribbon cable should clear the added parts as well as the metal cover that fits on over the board itself.

The unit I did to be able to write this up only has one notable difference in normal operations. It has a slight pop in the speaker when returning back to receive after being in the transmit mode. While this pop is not real objectionable, it is there as it is not a malfunction of the radio.

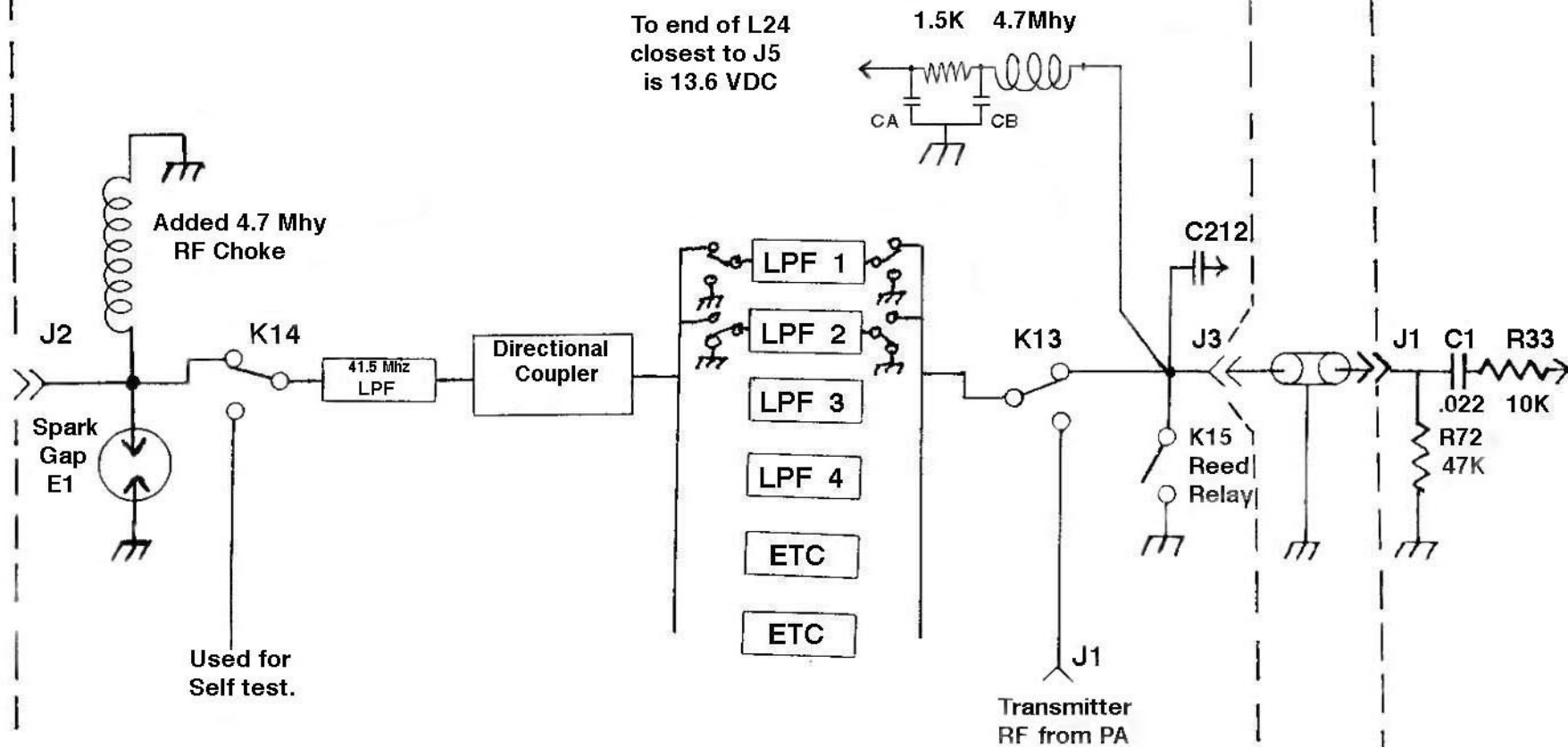
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Low Pass Filter Board
A1A5

Caps in MOD are
CA is C169 on board.
CB is added .1@100v
axel type ceramic cap.

First Converter
Board A1A3



MOD by Marv DeSautel W7RPT 9/5/2007

Redesign by Bud 9/22/07