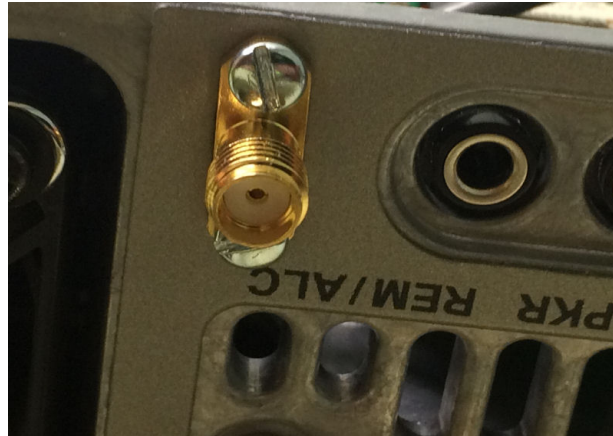


The PAT output can be brought out via the rear panel using Small Coax and A SMA Connector this is probably the best spot for a permanent surface mount or could just run coax out of the vent seen on rear of the FT991.



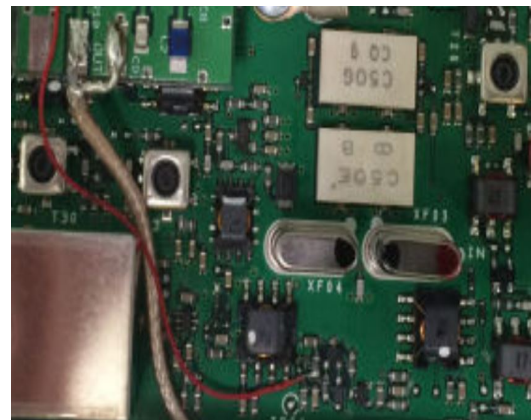
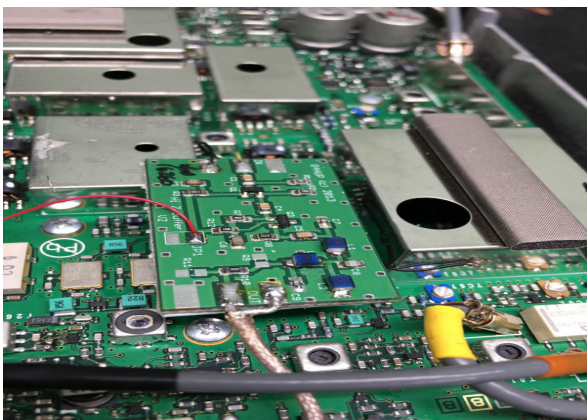
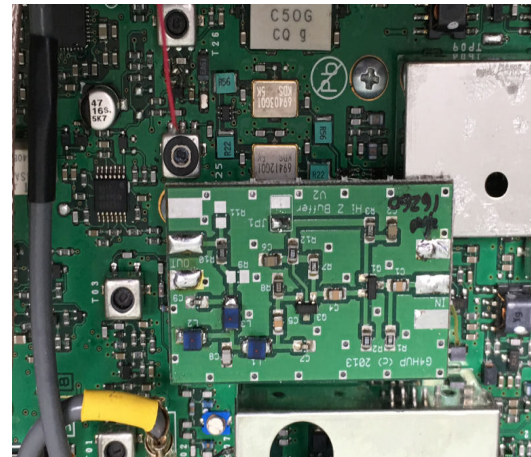
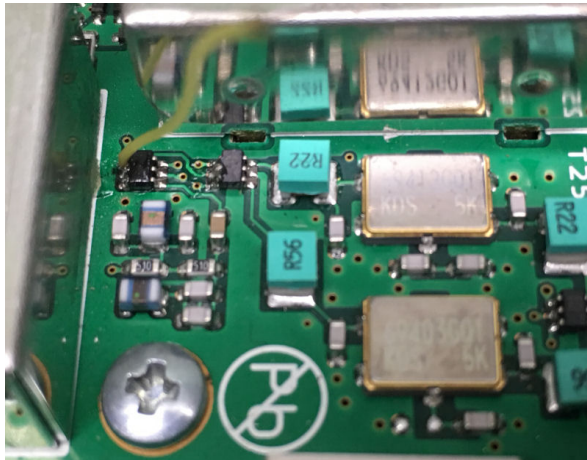
Here are Pictures of the Actual Installation

Top Left Pin 5 Og Q1088 for the IN of the Pat.

Top Right the Location of the Pat on the FT991

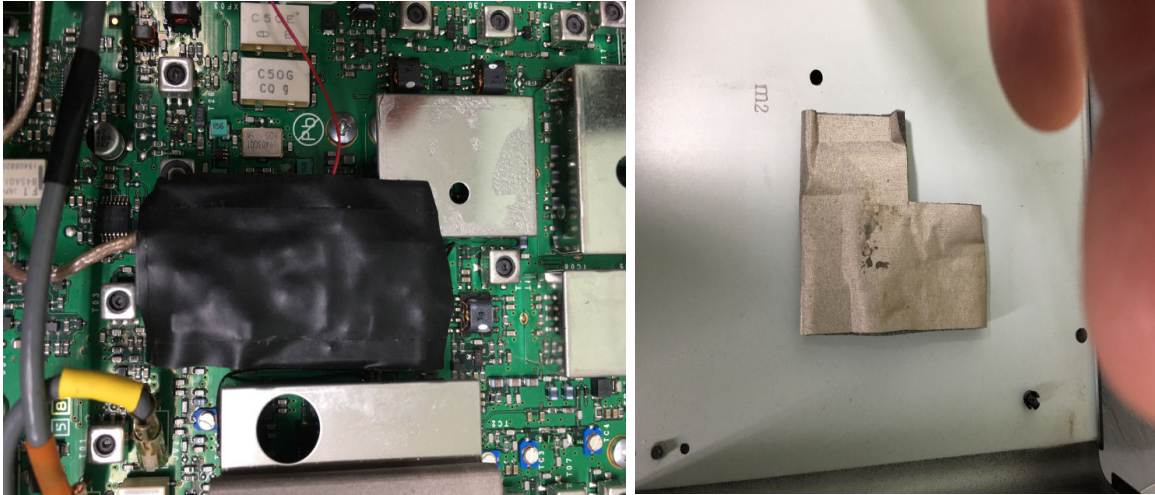
Bottom Left Completed Termination of all Connections and Location on shield (take note of the 0VDC on the side of the shield from the Pat.)

Bottom Right Location of the 9VDC + for supply to the pat from R1734.



ATTENTION !!!

Here is probably the most important thing you will need to cover the pat with Electrical Tape or Scotch 130c or something nonconductive. Also add another layer of thin two sided or carpet tape to the underside of the pat due to exposed solder there. There is a shield under the cover of the FT991 and it will short the pat and thus the 991 that is what happened to me the first install I didn't pay attention to under the cover shown here. The Braid keeps the shield cover tight and it is recommended not to remove it. A cushion or alternative mounted is your choice.



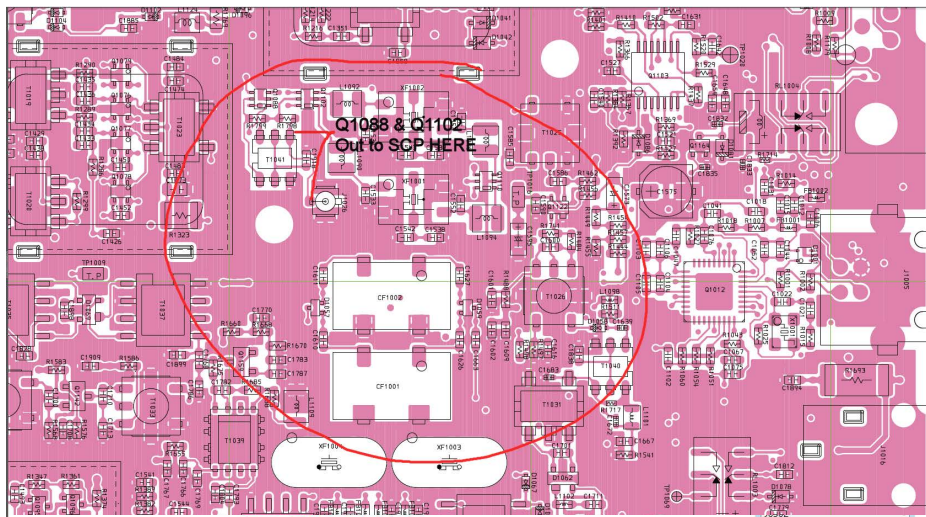
Here are some Notes to the Instillation From who we can call an "Expert"

"The best pick-off point (in fact probably the only point for useful pan function on both HF and VHF) for the panadapter is the junction of Q1088 pin 5 and Q 1102 pin 5. These devices are a fairly new item showing up in recent rig designs. They are RF switches which replace the pin diode switching of earlier designs. They were developed for cell phones but have found their way into radios apparently for better IMD performance. Think of them as solid state SPDT relays. RFC is RF common, RF1 is one side of the switch and RF2 is the other. Think of the ctrl input as the relay coil. In this case the common connections are tied together with Q1088 switching between HF/VHF and Q1102 switching between the 3khz and 15khz roofing filters. Because of their origin, these devices are tiny, making connection to them a challenge. To make things even more challenging, pin 5 is the center pin so the job will require a very small iron and a fairly high skill level. Not a job for the average do-it yourselfer. I don't mention this to be discouraging but to emphasize the "first-do no harm" aspect of the job. I'm sure it can be done, just not by someone who isn't sure they can get it right the first time There is also the consideration that you want to wind up with no mechanical strain on the connection. I would start with a short length of 30ga Teflon insulated wire and then connect that to the center conductor of a well anchored coax. Soldering the braid directly to the adjacent metal shield might be a good option along with some slack in the 30ga wire. Certainly not the only option, but probably my choice at first glance. Another hint, Pre-tin the end of the wire leaving minimum solder. That leaves fresh shiny tin on the wire along with some flux. Then just lay the wire on top of the pin 5 contact and touch it with the tip of the iron until you see a shiny blob. Don't even think about adding solder. I would probably put a dab of flux on pin 5 before making the connection. You learn fast that with SMT, flux is your friend. A cotton swab with alcohol or MEK will clean it up. The things I like about the Teflon wire are that the insulation doesn't melt and make a mess and it slides easily along the wire. You can solder the end and then slide the insulation right up to the solder joint. Another thought - without a board in front of me, it might be easier to scrape the conformal coating off a spot in the foil between the connections and connect there."

G4HUP -Tap Boards should be Back up for Sale @ <https://www.sdr-kits.net/> and <http://huprf.com/huprf/pat-board/> for more Information
 "KENT BRITAIN" wa5vjb@flash.net -- He may Have some of Dave G4HUP Pat Boards or he may have some different make.
 "David Calo" kd2c56@gmail.com -- He Maybe also doing A Pat Board

I want to Thank Dave G4HUP Now (SK) For the Pat 70 Product and the many conversations we had. I want to thank Jim AB4D with his technical knowledge and helping with this project and getting the right information for many to enjoy. I KU0D was the Guinea and went through the steps to get it finished in working order. Thanks for the many others I talked to with their knowledge. I hope many others are successful and can enjoy this for years to come. Regards KU0D

The FT-991A made it a bit Easier to Tap the IF. It looks like everything can be done at the SCP UNIT. The Main Unit is a bit different than the previous FT-991. Where Q1088 and Q1104 Meet. In the Ft-991A they Meet at T1041 and Out at J1026 to SCP UNIT. Tap the IF At Point J6501 which either side is easier. Much better than trying to get the Main Unit than the FT-991 where a scope is a must to complete the task. Pin 5 and out to TP 6508 is where you can get the 9VDC From. And anywhere is convenient for the 0VDC. Looks like a big Solder point right on the top of the SCP Unit check there. Below is some visual good luck.



Tap Either which is Easier or the Best Spot

