

Upgrade your AIM4170

Phil Salas – AD5X

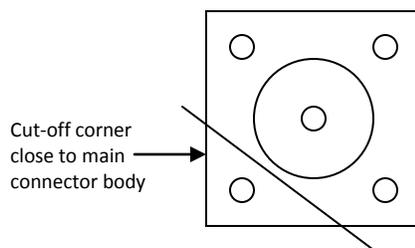
The AIM4170 is quite an instrument, as you can see from the review on this website. Since the review, The AIM4170 has been upgraded to the AIM4170B, and now the AIM4170C. The original AIM4170 only had a BNC connector on it. The AIM4170B added the option of a UHF or N-connector, and the AIM4170C added faster operation and extended the low-end frequency range to 5KHz.

For most who have the original AIM4170, a N- or UHF-connector is often highly desirable as these connectors are more commonly used than the BNC connector. Adding a N- or UHF-connector is not difficult, but it is a little tricky as there is really no clearance for all the mounting screws between an added connector and the internal pc board. I also wanted to add the connector from the inside of the case so it wouldn't cover up the port labeling on the box.

The first step is to remove the pc board from the case, and then remove the BNC connector that is soldered to the pc board. The easiest way to do this is to simply cut the center pin and ground conductors that are side-by-side that solder to the pc board. Now use a small flat-bladed screwdriver and pry off the BNC connector. Two large ground posts will remain. Unsolder the clipped-off center- and ground pins but leave the two large ground posts in place.

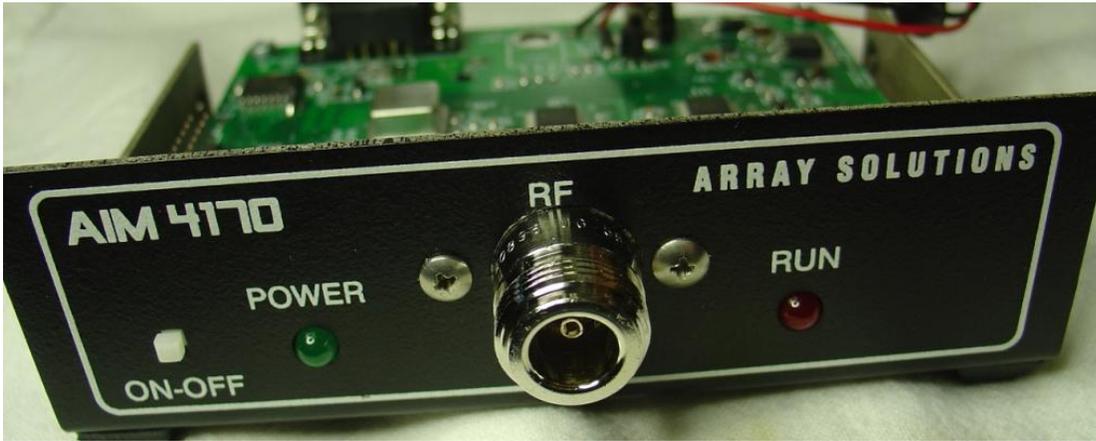
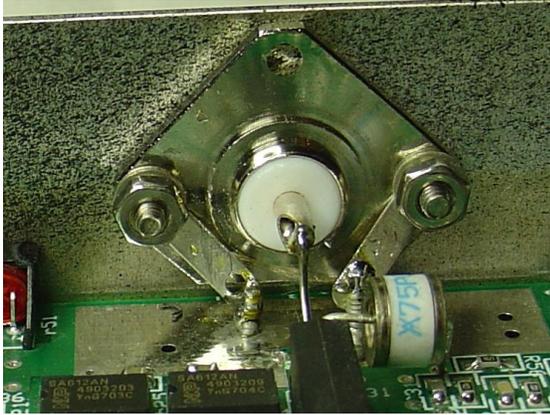
Now use a 5/8" Greenlee (or similar) punch to open up the original BNC front panel hole. Place the punch offset in the existing hole such that the upper end of the hole will just clear the "RF" label on the front panel. Make sure the cutting portion of the punch is on the outside of the panel (the bolt-end should be on the inside of the box) or you will scratch the front-panel paint when operating the punch.

Next, take your UHF- or N-connector and hack-saw off one corner of the connector as close to the connector body as possible as shown below.



Insert the connector in the new larger hole oriented to the cut end of the connector is oriented such that it will be parallel to the pc board. Mark, center-punch and drill two #4 clearance holes in the front panel. Now mount the connector in the hole using two 4-40x3/8" screws, nuts, lockwashers and #4 solder lugs. Leave the screws loose so the solder lugs can be rotated.

Solder a 2" length of #20 buss wire into the pc board center conductor hole. RE-install the pc board and tighten the pc board mounting screws (don't forget about the regulator that screws to the case bottom). Now rotate the solder lugs and bend as necessary to they contact the two large ground posts left from the BNC connector. Tighten the connector mounting screws, and solder the connector solder-lugs to the pc board ground posts. Finally, solder the center conductor wire to the connector center pin, minimizing the wire length as much as possible. The photos below show a close-up of the connector, and the inside and outside of the final upgraded AIM4170.



That's it. For about an hour of your time, you can upgrade your original AIM4170 with an SO239 or N connector.