

Is Your DB-4060 or DB-4062 duplexer deaf?

Have you experienced a sudden loss of receiver sensitivity in your repeater? Does it appear to have suffered a sudden case of desense? If you are running a Decibel DB-4060 or 4062 high band duplexer it is very possible the notch tuning has drifted due to failed Johanson 30 pf piston capacitors in the notch tuning assembly. The caps are only rated at 500 volts breakdown. Even with "PolyPhaser" type lightning protection the capacitors can arc over before the lightning protectors fire when a nearby lightning strike occurs.



It turns out the capacitor manufacturer is still in business and I was able to obtain replacements direct from the Johanson Manufacturing . The part number designation is 5602 air capacitor. Cost was 21.44 a piece as of March 2008.

Here's their information:

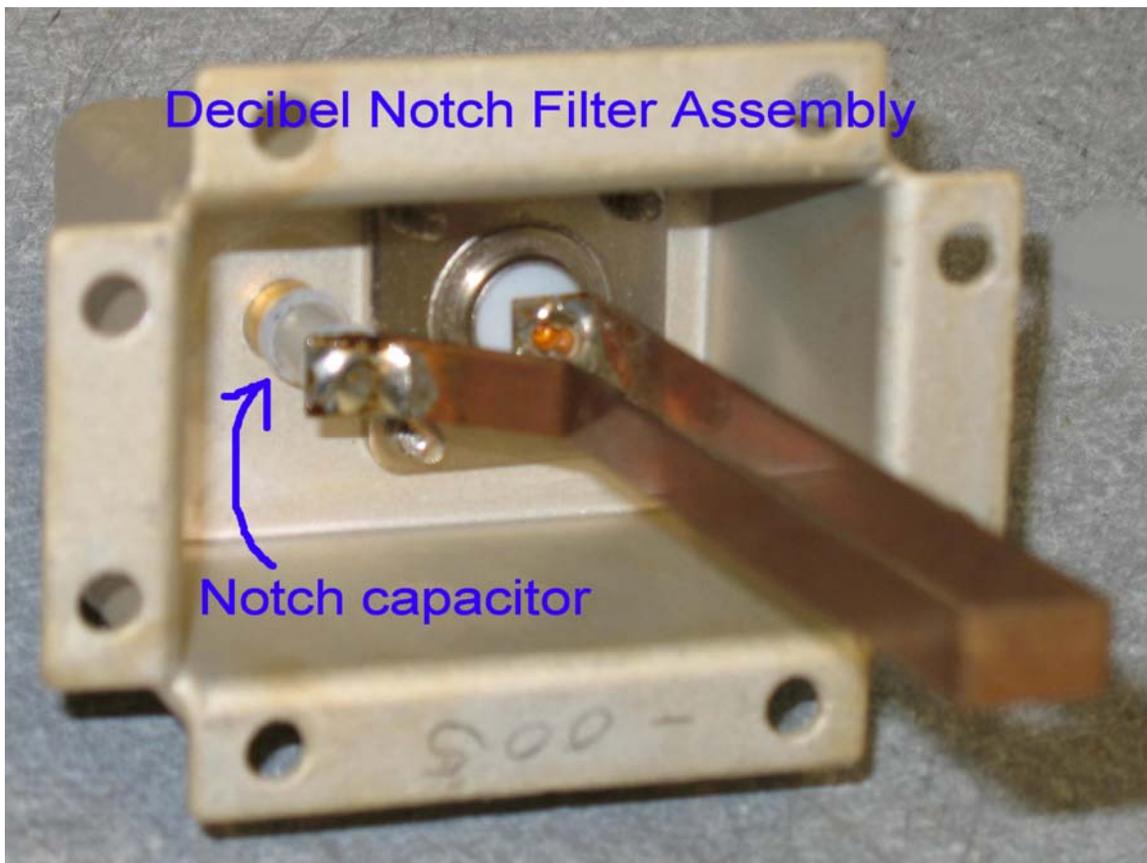
Johanson Manufacturing

301 Rockaway Valley Road

Boonton, New Jersey 07005

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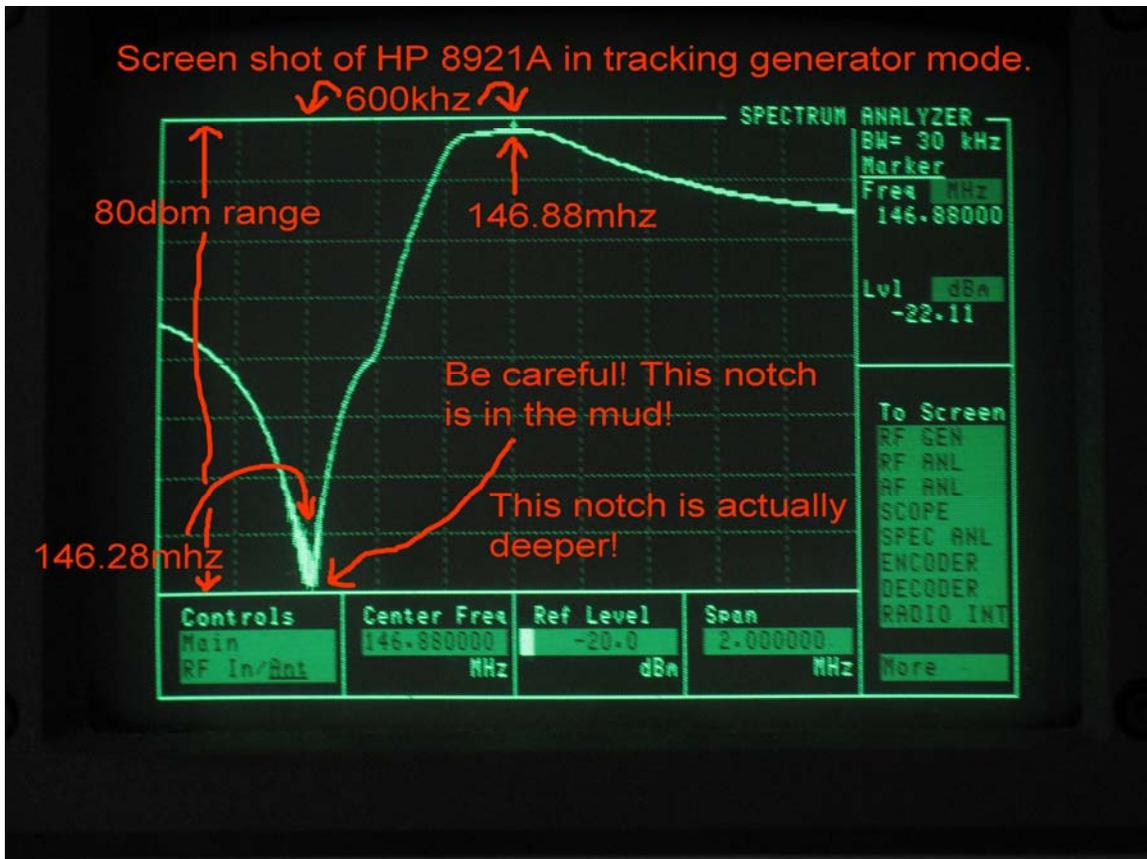
The notch capacitor is located right next the N connector in the shroud mounted on top of the duplexer can. All you have to do is remove the 8 screws holding the shroud and the assembly lifts right out.

Unscrew the nut holding the piston capacitor and the four screws hold the N connector in and it will be easy to unsolder the capacitor from the tuned line. See the picture below. I put the new piston cap in the shroud first and then the N connector with the tuned line after that.



It is easy to unsolder the capacitor with the notch tuning assembly removed.

After you complete the replacements, the duplexer will need a complete retuning. That how-to information is available elsewhere on the Repeater Builder site. If you are lucky enough to have access to a tracking generator such as the IFR 1200, 1500 or HP 8921A it is a reasonably easy job. But be careful. The notch component can be in the “mud” of the spectrum analyzer display. See picture below. By carefully adjusting the reference level of the analyzer you can avoid that problem. I usually just lower the reference level 10db or so. It will compress the peak (pass) frequency but I am looking at the notch at that point and it will not matter. I am going for the deepest notch possible.



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73

Bernie Parker

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