

DSP UPGRADE FOR YAESU FT-897D



The [BHI NEDSP1061-KBD](http://www.bhinstrumentation.co.uk/html/nedsp1061-kbd.html) module (originally built for the YAESU FT-817 and the KENWOOD TS-50) can be used with the same great results on a YAESU FT-897D.

The DSP module removes almost all of the non-impulse background noise (the hiss) and is controlled by a single push button with LED indication. It features 4 levels of noise cancellation (11, 13, 20 and 30 dB white noise reduction), low-power consumption, low distortion to audio signal, visual and audible indication of filter level, and two demonstration modes.

You can order and/or find more details about it visiting:

<http://www.bhinstrumentation.co.uk/html/nedsp1061-kbd.html>

or

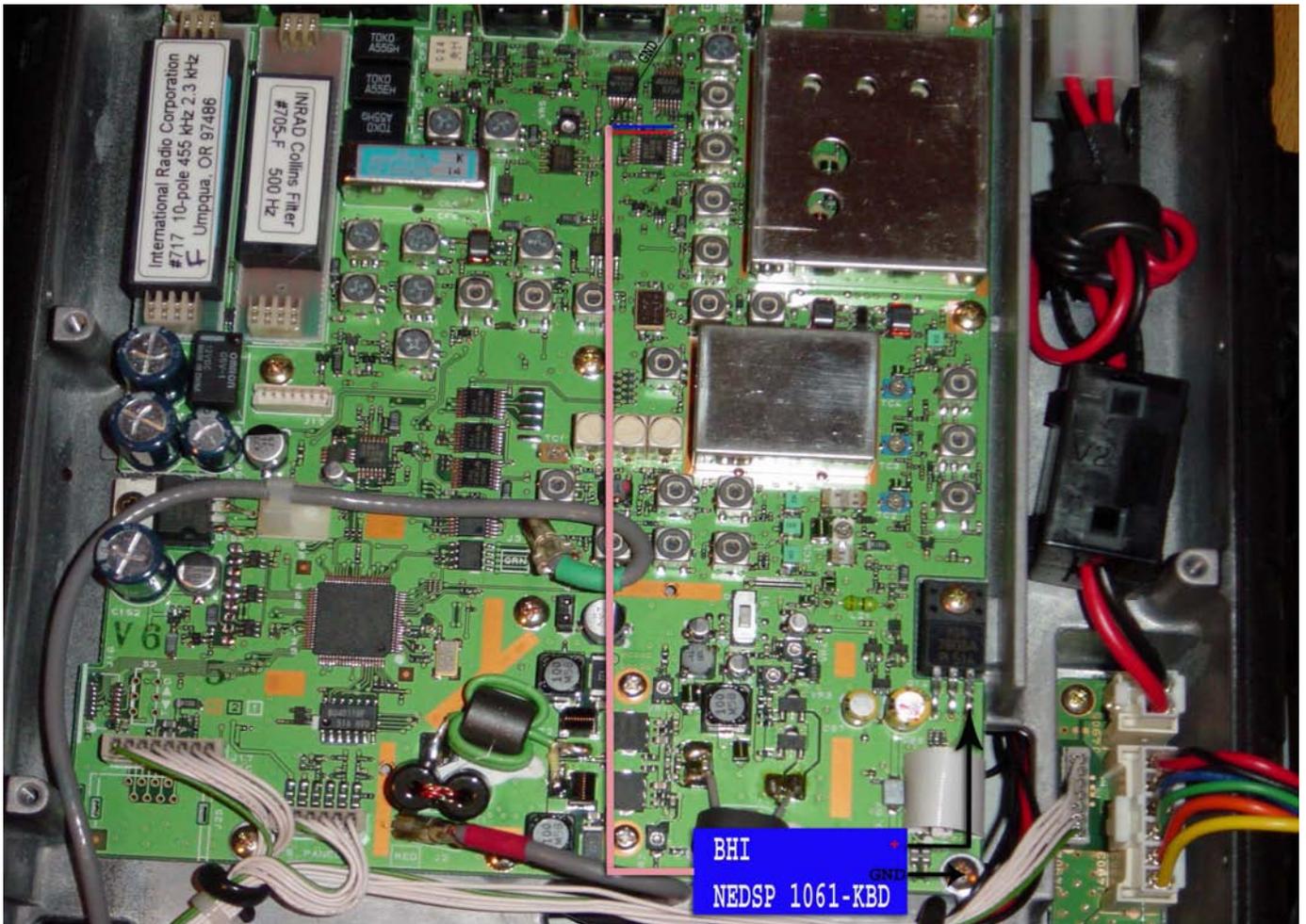
<http://www.w4wb.com/BHI/DSP-817.htm>

After the installation the audio performance of the transceiver considerably improved. The background noise is significantly reduced leaving the voice fully intelligible and lets me increase the AF gain farther than I've ever been able to before. Outstanding difference in the audio on my FT-897D!



INSTALLATION

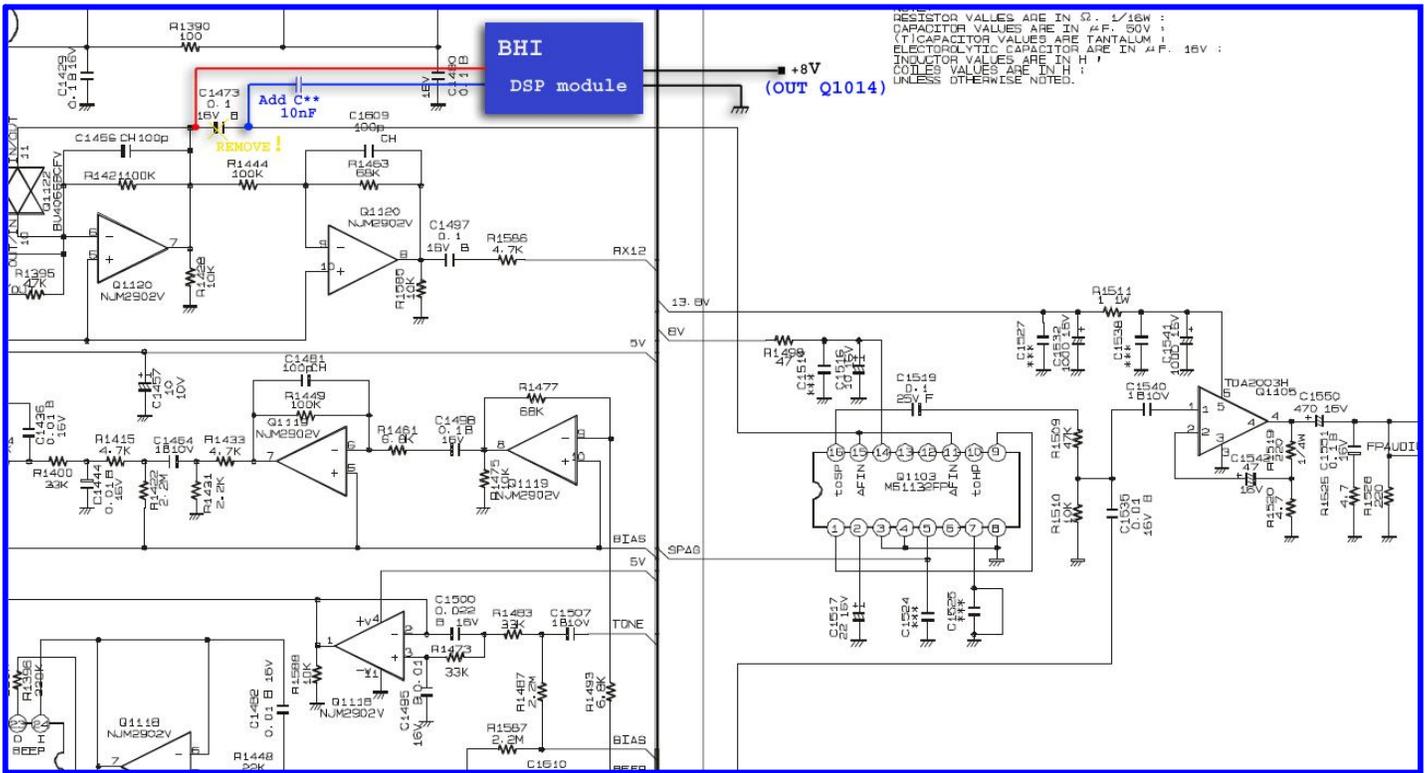
Well, the installation of the DSP module in the YAESU FT-897D is vastly simpler than for the FT-817ND, because the entire job is done on the upper side of the main PCB.

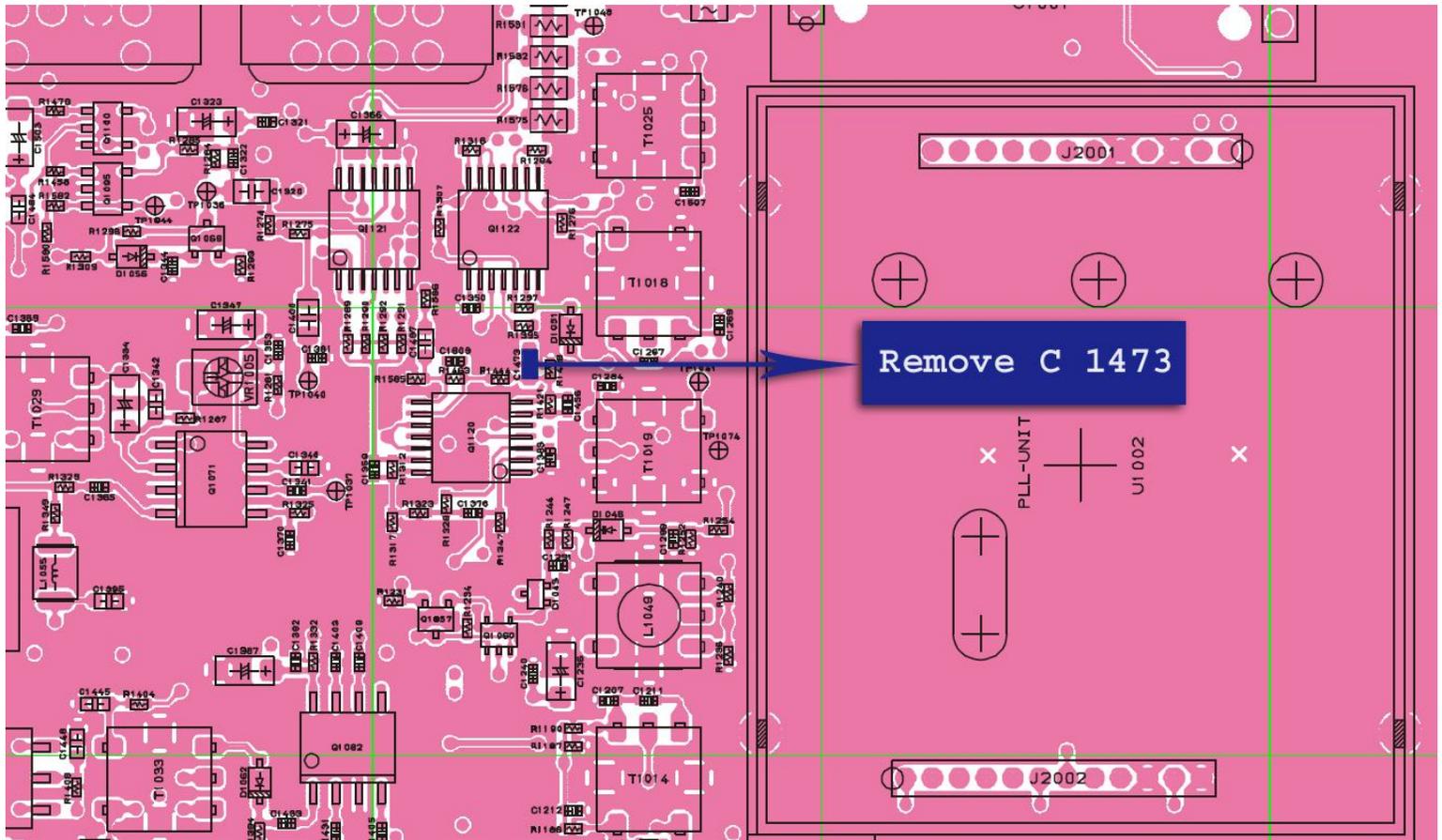


The upgrade using the DSP module involves the removal of small surface mount component, soldering of wires at the SMT level, and the drilling holes in the transceiver cover. Be certain you have the skill and all the tools required to perform it.

MODULE CONNECTIONS

1. Carefully remove coupling capacitor C 1473, taking care to not damage the PCB pads.





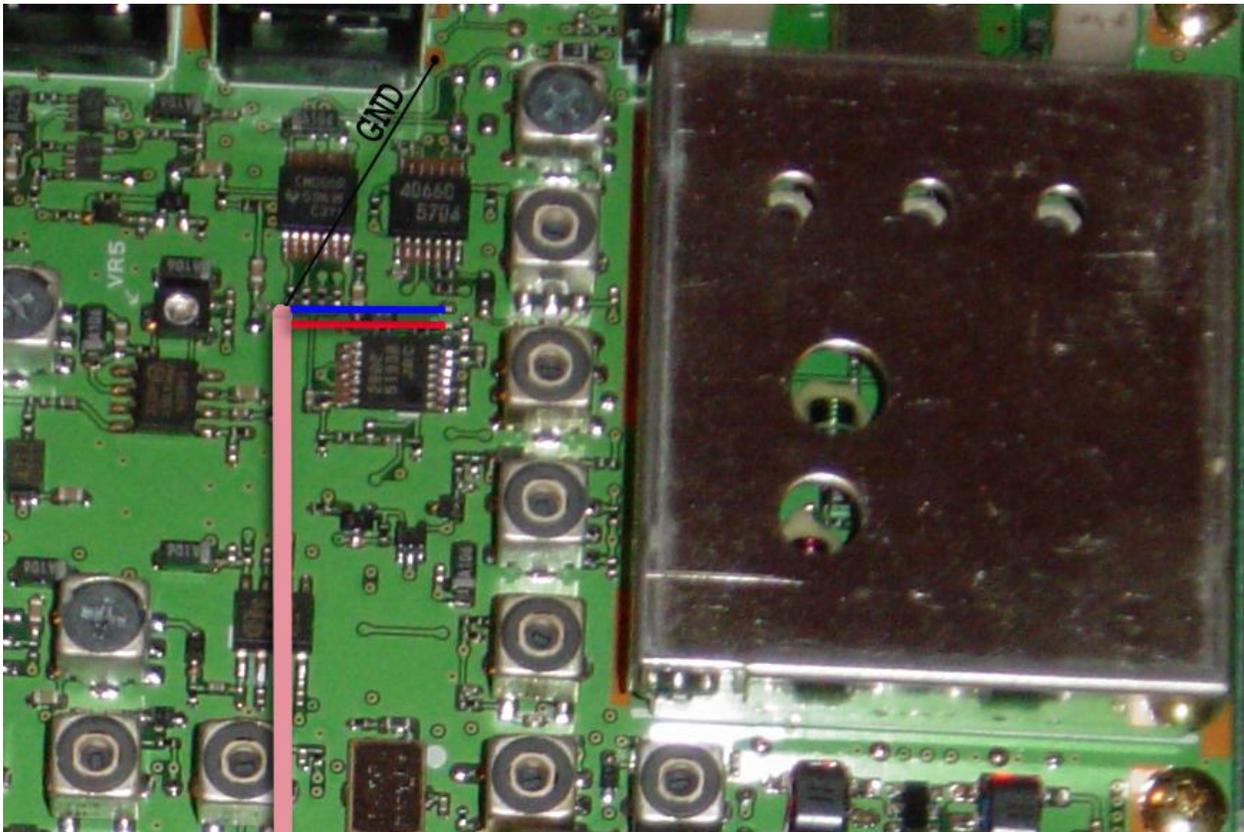
2. **Add a capacitor at the output of DSP module!** (10-100 nF). Why to add a capacitor? To isolate the DC voltage found at the input of the M51132FP IC from almost grounded DSP module output). I used a 10nF capacitor found in my stash.



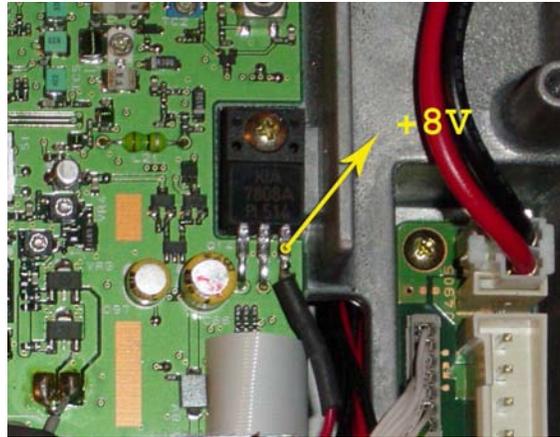
3. **Connect M3 ring tag** (0V leads) using the right front screw.

4. **Solder the screened lead** from the NEDSP 1061-KBD as follows:

- Screen to the ground pad
- Blue lead to R1444,1428,1421 side of C 1473
- Red lead to the other side of C 1473

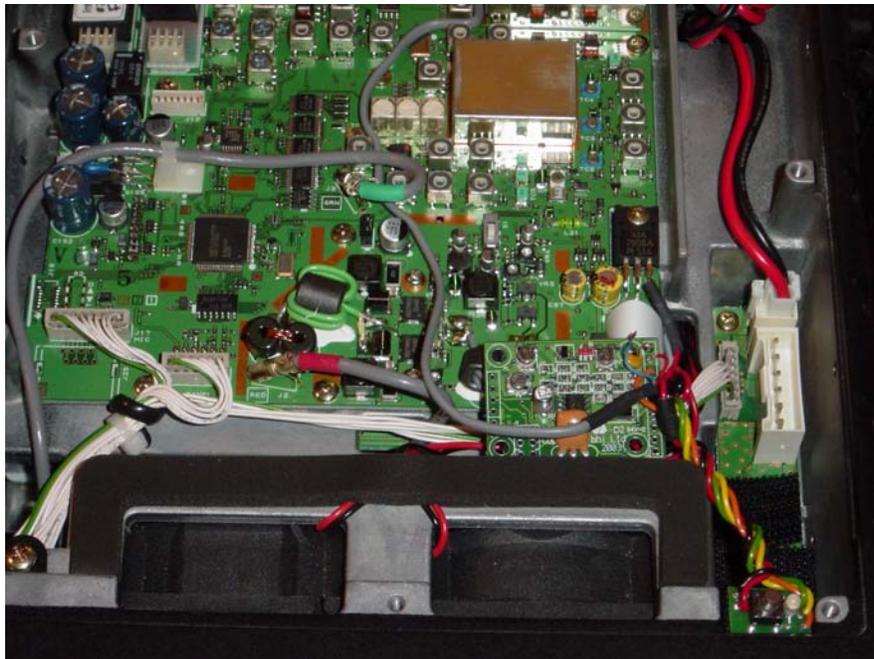


5. Solder the red (power) lead to the drain of Q 1014

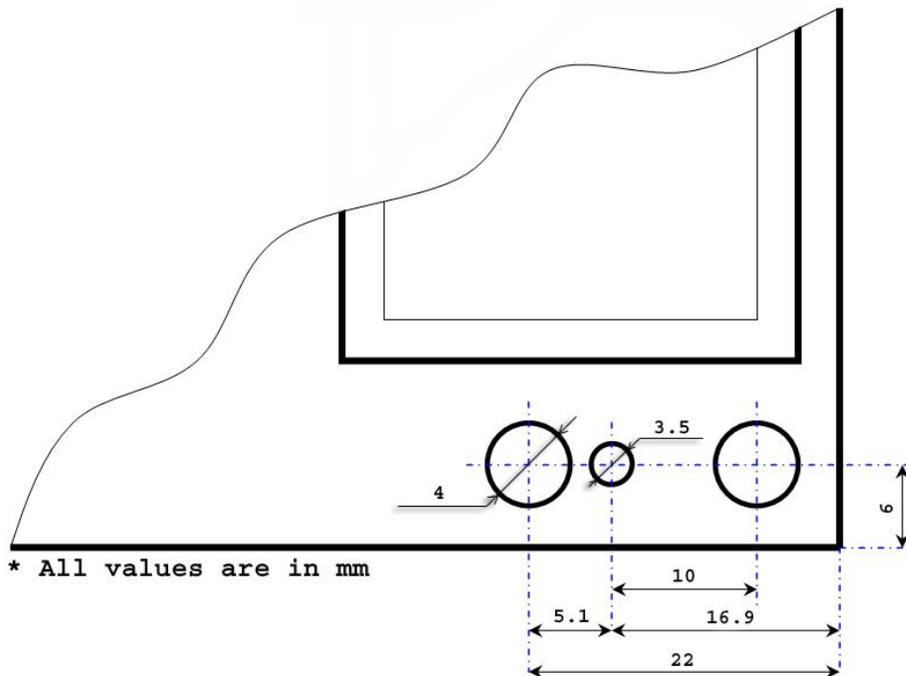


MODULE MOUNTING

The DSP module has four mounting holes that can be used to retain the unit inside the equipment. I used two metallic 'Z' home-made brackets (for both, DSP module and keyboard) and two pieces of self adhesive pads to hold them in a convenient position.



6. **Drill the top cover** as detailed below:



CONCLUSION

I do not represent or have any affiliation with BHI, and I decided that I would try to install the unit myself as a personal challenge. I am impressed enough with their product to give a whole hearted recommendation.

Anyway, for someone who feels they have enough skill and experience to take on this install, this is a rewarding project.

For any questions concerning this upgrade please do not hesitate to contact me.

73,
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