

Keep that noise down!

bhi's NEDSP1062-KBD Reviewed

Another way to beat noise from bhi. Kevin Nice looks at the NEDSP1062-KBD add-on that you fit into the speaker of your choice. A cost effective, quietening solution for your favourite external speaker.

If you've missed the fact that UK based bhi Ltd produce d.s.p. based noise reduction solutions, where have you been for the past two years or so? We've covered several of their offerings to date and the latest product to be produced by the Sussex based fans of quiet is the NEDSP1062-KBD.

By pure coincidence, I was looking for a speaker to go with my 4m ex-PMR transceiver for use in the car. So this review presented the ideal opportunity to try out the latest offering from bhi.



- The NEDSP1062KBD equipped SP31 sits atop the RA1792.
- A better view of the push button controls.



Two Versions

Marketing Director Graham Somerville kindly sent me both a bare unit ready to be fitted, just like you'd receive if you buy a NEDSP1062-KBD as well as a Kenwood external speaker with a NEDSP1062-KBD already fitted by bhi. This shows just how much space there is in a Kenwood SP31 external speaker and the small amount of space taken by the p.c.b. module. The NEDSP1062-KBD is based on the same d.s.p. processor as all the

other bhi noise reducing products, so my expectation of performance was high.

The p.c.b. of the unit supplied is similar to the NEDSP1061 that I installed in my Icom R8500 back in December 2003's SWM. The main functional difference is that the NEDSP1062-KBD features an audio amplifier that produces a healthy 3W into a 4Ω speaker. There are two versions of the amplified module available. One has all the connectors, switches and leads fitted and the NEDSP1062-KBD is the preferred option for one-off conversions. The other option is for a bare board version, which I guess is aimed at OEM and higher volume applications, such as a fleet of vehicle mounted radio for instance, this is called the NEDSP1062.

I was supplied with the former assembly, so only had to worry about location plus 'keyboard' and power socket holes in the case of my chosen speaker.

Installation

The kit supplied by bhi comes with an excellent *Installation and Operating Manual*, which is 40 pages thick! Needless to say, it's pretty comprehensive. There are a total of eight sections covering everything you need to know and more. All the mounting hardware required is supplied too. The installation process is not difficult if you are competent with a drill and soldering iron. Drilling templates are provided in the rear of the chunky A5 manual, as are full details of mechanical data. I'm particularly impressed by the coaxial power connector that has the mounting nut on the front of the assembly so that it can be fitted in its pre-wired state. I have to admit to not realising they were available. The nominal 13.8V power for the NEDSP1062 is provided via the supplied fused 1.8m flying lead, ideal for vehicle use or with the shack p.s.u. There is an optional 'wall wart' supply available from bhi.

In Use

Once fitted, the NEDSP1062-KBD operated in the same manner as the NEDSP1061 but it's controlled by two miniature push buttons. One of which allows the unit to be powered on and off, the other sets the mode of operation. There is also a tri-colour status l.e.d. to allow the user

to see the noise reducer's settings with a glance. Additionally, there is audio status indication provided via the provided piezo sounder.

Once set to the optimum level to suit your preference and requirements, then in my experience there is little need to use the controls again. The only likely reason, is to see how bad things can be with the unit bypassed, i.e. the audio going straight to the speaker with no

processing. The bypassing is achieved by the use of a relay in the audio path that completely switches the NEDSP1062 out of the circuit, this is invoked by using the power button.

Operation really couldn't be much simpler, but if you get into

difficulty getting to grips with the carousel style of function selection then there are no less than three flow charts to put you back on the straight and narrow. There are a further two trouble shooting charts at the rear just in case you run into problems with the install.

When picking the correct noise reduction level for your requirements, the easiest route is to use the two demonstration modes thoughtfully provided by bhi. These allow the automatic scrolling through the different levels of processing and the repeated switching on and off of the reduction processing.

The NEDSP1062 also provides the option of either eight or four levels of processing. The effectiveness of the noise reduction can be seen in the specifications - **Table 1**.

Specifications

Noise reduction levels vary from 9dB to 35dB with tone reduction ranging from 4dB to 65dB. The NEDSP1062, as with other bhi products, is designed for use with speech. They are not intended for operation with data or c.w. but may offer some improvement also they may make things worse.

The physical dimensions of the main p.c.b. are 36.5 x 49.6mm. The combined heat-sink and mounting bracket increase that to 64.4mm length. The overall height of the module is 34.2mm. As you can see it doesn't require much room. In fact the pre-installed unit in the SP31 looks rather lost.

My thanks to bhi Ltd for the loan of both the SP31 featuring the installed NEDSP1062-KBD and the bare module ready to fit into my own speaker. The NEDSP1062-KBD is available direct from bhi and most good radio dealers it is priced **£99.95 plus P&P**. You can contact bhi on: **0870 2407258** or **www.bhi-ltd.co.uk** **SWM**

Table 1: Noise Reduction Levels

4 Level	8 Level	Tone Reduction (dB)	Noise Reduction (dB)
	1	4	9
1	2	5	11
	3	6	13
2	4	8	14
	5	16	17
3	6	21	20
	7	25	24
4	8	65	35