

MT REVIEW

GAP "Hear It" DSP Speaker

By Bob Grove W8JHD

A number of digital signal processors (DSP) have been introduced to the market, some with speakers and some without. Quality of the delivered sound when used with receivers and scanners varies from harsh and distorted to silky clean. The new "Hear It" external speaker, manufactured in England for GAP Antenna Products, is a welcome addition to the latter category.

A tiny accessory, the "Hear It" measures a mere 4-1/3"W x 2-1/2" H x 2-1/2"D, and weighs only 7 ounces. It is designed to be used in compact mobile installations; a mounting bracket, 8-foot input cord with 1/8-inch (3.5 mm.) mini plug, and fused DC power cord are included along with an instruction booklet. The unit's 2.1 mm. power jack will accept 12-28 VDC at approximately 500 mA, making it more universally applicable to fixed, mobile, and even aeronautical configurations.

Typical applications include amateur radio, scanner monitoring, maritime mobile, CB, mobile shortwave listening, and other uses where a variety of interference affects clarity of received signals.

The small internal speaker is ideally suited to voice frequencies, but for more demanding sound requirements, an external speaker or headphones may be plugged into the 1/8" jack provided.

A simple on/off switch selects DSP ("Noise Cancellation") or normal (unfiltered) mode. A front-panel, two-color LED indicates two settings: one color when power is applied and normal audio is being passed, and the second color when the DSP is switched on. A rear-panel DIP switch allows any of 8 noise cancellation levels to be selected by the user. A volume control shaft is also accessible for setting audio levels to suit the listening environment.

The input circuitry will tolerate up to 5 watts of audio; output from the unit's own amplifier is 2.5 watts maximum.

◆ How well does it work?

We decided to put the new "Hear It" through its paces on the shortwave bands where the racket is truly raucous! I left the DSP selector at maximum, the way it came from the factory, because that's where distortion would show up – if it had any. The specs indicate that noise can be attenuated by as much as 20 dB, typically. That's a sizable reduction.

Canada's time signal at 7335 kHz seemed like a good bet; it was weak, fluttery, and filled with background hiss. Switching on the noise reduction switch provided an astounding elimination of the hiss and resultant flutter, and the tones were crisp and clean. The voice announcement was as if the announcer were in the room.

Just to be sure conditions hadn't changed, I switched the DSP circuit off; sure enough, the noisy hiss and flutter were back, and the voices harder to understand. Quite a demonstration! Similar improvement was noted on 5 MHz WWV as well as virtually any AM international broadcaster accompanied by hiss or other noise.

On other modes as well, such as CW and SSB, the little signal scrubber polished signals clean as a whistle. It doesn't remove heterodyne tones since it has no notch function, and it won't remove other audio signals which share the same pass band of the desired signal; this is the job the receiver's IF filters are supposed to perform.

◆ Critique

It's hard to fault a product that works so well, but I'd like to have seen a more accessible method than a DIP switch to select the DSP depth; it's tiny, and a fine tool must be used to move the contacts. Its rear-panel location makes it inaccessible to change when it's mobile-bracket mounted.

The volume control can only be turned by a screwdriver



or fingernail, and it's counter-intuitive to operate, becoming quieter when turned clockwise. But you get used to it; after all, if the sound gets lower, you reverse what you're doing!

Admittedly, the accessory is designed for set-and-go applications where constant adjustment is not anticipated.

◆ The bottom line

The performance of the "Hear It" is impressive, indeed. No squirrely artifacts from the processor dancing in the background, yet virtually total elimination of annoying hiss without annoying distortion of the processed audio. What more can you ask of a DSP speaker?

The GAP Hear It Speaker is available for \$158.95 from Grove Enterprises (7540 Hwy 64 West, Brasstown, NC 28902; 1-800-438-8155; <http://www.grove-ent.com>)

