Hear Technologies Hear Back Personal Monitor Mixer System

While the idea of personalised foldback systems isn't a new one, the last couple of years have seen some new entrants to the market that exploit cheap and robust implementations of digital audio transmission, rather than the slightly more clumsy analogue implementations of old. The latest contender comes from US based company Hear Technologies, and, in JON THORTNON'S view, raises the game.

FIRST IMPRESSIONS ARE good from the moment you see the Hear Back box, which although quite large comes complete with carrying handle. Inside, neatly packed, are further boxes containing everything — and I mean everything — you need to get going. This is truly a complete system and includes the Hear Back hub unit, four personal mix stations and all necessary cabling.

The hub itself is a fairly deep 19-inch rackmounting unit. The back panel allows the input of up to eight audio signals in either analogue or digital format. Analogue inputs are via a 25-pin D-Sub connector following the standard DA88 convention (a breakout cable is included in the box), whereas digital inputs are via an ADAT lightpipe input or Hear Technologies' proprietary HearBus format — more of which later. A small slide switch on the front panel selects which of these three options is the audio source for the hub.

Eight RJ45 sockets cater for connection to the personal mixer stations, which are connected via a standard CAT5E cable — again a 50-foot cable for each of the personal mixers is included. This CAT5E cable carries all 8 audio channels as multiplexed digital audio as well as power for the personal mixers. As far as I'm concerned, this is where the Hear Back system scores over a similar system from Aviom — no fiddly AC adapters for each mixer. Of course, the disadvantage of this is that you can't 'daisy-chain' the mixers together — the hub is effectively the centre of a star network. Some people might gulp at the prospect of sending +/-18 volts down a CAT5 cable, but each output from the hub features automatic solid-state fuse protection should a cable short occur, ensuring that power is maintained to all other mixers.

The front panel of the hub shows signal metering for each of the eight input channels with three LEDs — green for signal presence and red for signal clip. The middle, blue LED operates at two brightness levels — dim for -10dBu and bright for +4dBu, and is surprisingly easy to use. The system makes the assumption that the first two input signals will be a stereo pair, with the remainder of the signals either mono sources or stereo sources — and this is reflected when looking at the mixer stations themselves.

Controls on these are extremely straightforward and offer a total of nine pots. Audio channels 1 and 2 are treated as a stereo pair with a single level control, the remaining six channels each have their own level control. A link button between logical pairs allows them to function as stereo sources, with the left hand level control becoming the master for the pair. While there is no facility for altering the balance of a stereo signal other than at source, in practice this is not too limiting, and the directness of a simple pot is better for many artists rather than the select switch/encoder operation of Aviom's system.

A master level control governs overall level to two (paralleled) headphone sockets, and to a stereo/mono line output available on two 1/4-inch TRS jack sockets. A 3.5mm stereo jack input also allows an additional audio source to be directly injected into a specific mixer. In this increasingly health and safety conscious era, Hear Technologies has also very thoughtfully provided a built in DSP-based brickwall limiter with an adjustable threshold setting — useful for dealing with any unexpected audio events.

There are some other thoughtful touches to the mixer stations. In the base of each is a microphone stand thread, which immediately solves the problem of how to mount them. The units themselves are also light enough for this to never be a problem, even when mounted right at the end of a boom. Built-in strain relief channels for the RJ45 cables in the underside are also going to prevent problems at the weak point of the connector in the rough and tumble of a session. Perhaps the only thing lacking in this area is the lack of scribble strips next to the channel level controls. It's nothing that a bit of tape wouldn't solve but this is inevitably going to lead to the usual sticky mess on the units.

In use, any reservations I had about the performance of the headphone amplifiers was put to rest immediately. Capable of driving into loads of between 8 and 600ohms, there was always plenty of level on tap, and reasonably distortion free unless really cranked. The sound was perhaps a little 'thin' sounding in comparison to more conventional headphone amplifiers, but certainly nothing to complain about. Latency is also not really an issue — the specs quote less than 1.5mS total system delay, and nothing I experienced would seem to contradict this.

If eight headphone mixers aren't enough, Hear Technologies has also designed the system to be eminently scalable. The HearBus output on the back of the hub unit allows the audio fed into that hub to be passed to another hub's HearBus input via a single CAT5 lead, and if necessary daisy-chained on to yet another hub. Each additional hub can then feed up to eight more headphone mixers. Up to 31 units can be connected in this fashion, and each HearBus cable is good for runs of up to 500 feet. An ADAT optical format to HearBus convertor box is also available — useful for taking signals from a digital FOH mixer to a hub located on stage, for example.

There's an awful lot to like about this system because it's flexible, easy to use and rugged. If you're in the market for this kind of thing, it's going to take a lot of beating. ∎

PROS	Intuitive, direct user interface; scalability; no external PSU required for mixers.
CONS	Star network topology only; scribble strips would have been the icing on the cake.
EXTRAS	Also from Hear Technologies is the self-explanatorily titled Talk Back 600

MV. Designed for situations when a conventional console is not in use, this 19-inch rackmount allows monitor level control and switching between two pairs of monitors, and the insertion of a talkback feed across up to six analogue audio signals in conjunction with monitor dimming. Optional wired or infrared remotes are also available for both talkback and monitor switching.

Contact