

AKG IVM-1

Trevor Cronin adds DSP technology to his AKG IEM experience.

Austrian audio manufacturer, AKG, has for many years enjoyed a great reputation for producing high-end studio and live microphones, headphones and many other high quality products. More recently they have also produced some of the finest radio microphones available. So a radio transmitter in-ear monitoring system is a natural progression for AKG.

AKG's IVM-1 system is composed of two main parts. The first is the radio transmitter. The front panel has a headphone output 6.5mm jack connector and associated volume pot, used for monitoring the mix going to the receiver. There is input level LEDs, output volume control, while a LCD screen and menu selection buttons help scroll through the various setup parameters. The rear panel features a single BNC antenna connector to which the small standard antenna is attached – although a larger multi-unit setup will be connected to a larger remote unit. For audio input there are two female XLR connectors (mono operation is selected by using only the left input). Power to the unit comes from an external supply, which can be used on either 110V or 240V. There is a rackmount bracket available for the transmitter with a variation that mounts the antenna on the front.

The second part is the radio receiver. It's a small belt-pack receiver with a removable aerial on top, a volume control pot, and a mini jack socket for connecting the earpieces. The front of the unit has LEDs to indicate carrier frequency status, a power-on switch with an accompanying LED and a peak (protection) LED. The 16-way channel selector is adjusted using a small screwdriver. Both chassis are made of steel, and look as though they would handle the mechanical abuse of

life on the road without a problem.

The IP-1 in-ear phones are robust looking units with quite a long cable and come with 'one size fits all' earpieces. If you're serious about in-ear monitoring it's highly recommended that you kit yourself out with custom moulds, this will significantly improve comfort and sound quality.

What's unique about this IEM system is AKG's IVA (Individual Virtual Acoustics) technology, which is a stereo DSP effect which cleverly removes the claustrophobic, closed-in feeling you often get when using earpieces (or earplugs). There is a number of presets which can be selected with variations on this effect, some with added ambience, from small to large environments.

The production people at London's Millennium Dome have given this product the big thumbs up as they are using 10 channels of the system with 100 receivers! Here in Melbourne I maybe be half a world away from the Dome, but I was able to test the system on singer, Danielle Jenkins, who is from the new teen pop band Aussie Youth [coming to a Westfield near you! – CH]. This was the first time the 15 year-old singer had used in-ear monitors and she instantly loved the system. Being able to hear herself clearly for the first time when performing live really helped her pitch (no more singing with a finger stuck in one ear hole!). We tested the IVA technology in the rehearsal room for a couple of days before performing a showcase for BMG Records. She said it made her "a load more comfortable on stage". At first she started singing far more quietly, but after a judicious downward tweak of the volume control on the belt pack, her vocal was back to the normal level.

Personally, I had a little trouble keeping the earpieces in place – they popped out a couple of times. Danielle didn't have this problem and said they felt really comfortable in her ears. I think the lesson here, again, is to have custom mould fitted to be assured of a comfortable, reliably snug fit.

Being a petite young thing, the tiny belt pack receiver fitted nicely in her costume – it's much smaller compared to other units I have used.

The system worked really well for us, providing plenty of volume and with the IVA 'Open Natural' setting used, sounded just like a good room. I think she'll be looking to use this system again.



In a direct comparison with units that don't feature in-built DSP processing the AKG system seemed to have a little more self noise. I guess this is to be expected with this type of technology, and certainly wasn't an issue in use. Battery life, from the three AA cells in the belt-pack is rated at more than eight hours when used at close to full volume.

In my previous article on the Shure PSM IEM system, I discussed in detail the advantages of using IEM systems over conventional monitoring [AudioTechnology Issue 10]. The reduction in spill into microphone from a loud monitoring system greatly improves the vocal sound combined with the general improvement in pitching due to the accuracy of this monitoring environment, really improves the performance. I think, over time, the use of IEM will be an encouragement for engineers to specify a higher level of associated equipment such as mic pres, microphones and compressors, as the performer can now probably hear their

sound better than the person mixing it!

IEM systems have come down in price considerably over the last few years and is certainly no longer the preserve of West End theatre shows and Madonna. If you're a live performer of any kind it's well worth adding an IEM system to your armory. AKG's effort is solid and performs well, while the IVA technology is certainly another inducement to look very carefully at the IVM-1.



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Price

• \$4,899

How IVA works

Natural hearing: Each ear perceives the same sound differently due to the position of our ears on our head and the shape of the outer ear. The resulting amplitude and phase shifts allow us to position a sound source.

Headphone listening: Headphones defeat these amplitude and phase shifts, thus sounds are

localised inside the head.

Listening with the Individual Virtual Monitor: With one of the Individual Virtual Acoustics (IVA) settings activated, audio signals are shaped so sounds appear to come from their original source location. This makes the user feel a lot less 'closed in'. You can also store your own custom

edited 'earcurve' parameters to suit your own ears and listening preferences.

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