

## Dare to be different



### VITAL STATISTICS

Enclosure type	Tapered Quarter-Wave Pipe
Drive Units cone drivers	2 x 75 mm full-range Kevlar
Bi-wiring	Yes
Sensitivity	Not specified
Power Handling	40 watts RMS

### VERDICT

Innovative, unconventional and highly musical speakers with off-board, adjustable filter unit. Exceptional detail and translucent delivery. Requires careful amplifier matching, due to limited power handling.

**PRICE** RXXXXX

**SUPPLIED BY** PHI Hi-Fi Innovation 072 927-0887

**WEBSITE** [www.phi-audio.com](http://www.phi-audio.com)

Of all the components in an audio or AV system, the basic hi-fi loudspeaker is the simplest to produce.

Source some decent drivers, calculate the ideal internal volume, design a rigid box for the drive units, experiment with baffles, bracing and damping materials, solder together a simple crossover network and, hey presto -- you have a speaker.

Whether it sounds good or not depends on numerous factors. But those prepared to experiment will eventually find a configuration that works

reasonably well, and costs significantly less to produce than an imported speaker of similar size and quality.

However, in most cases, this initial success doesn't easily translate into commercial viability. And for that very reason, I'll confess that I was wary about reviewing a highly unusual loudspeaker pair from local producer PHI Hi-Fi Innovation.

By the same token, I was intrigued by the unusual design concept of the speaker, and also felt that its local identity deserved a closer look by a South African magazine.

The Cyclops 58.40b is not just another speaker. It's actually speaker system that is supplied with a separate, adjustable electronic filter network. The loudspeakers are very tall, very narrow pieces with an almost sculptural presence.

In profile, they look like tall, narrow triangles with a slanted front baffle. Each of these tapered enclosures is mounted on a matching, spiked, concrete-reinforced base, with a cavity that can be filled with gravel or lead shot in the interests of damping and rigidity.

The Cyclops employs two, identical 75 mm Kevlar-coned drive units featuring vented neodymium magnet motors. They are arranged in a bipolar configuration that has the front drive unit firing forwards, while its twin is located on the rear panel.

The enclosure is a Tapered Quarter-Wave Pipe (TQWP), also known as a Voigt Pipe. According to Wikipedia, a TQWP combines characteristics of transmission line, ported and horn enclosure designs.

As the name implies, the TQWP uses a long, tapered tube, much like an inverted transmission line. The lower part of the tube acts like a horn, while the upper section operates as an extended compression chamber.

Because the two, identical drivers are full-range units, there is no need for a conventional crossover network, which PHI says addresses negatives such as phase distortion, while boosting immediacy and presence.

Also, two here is better than one, because it addresses the baffle step response that is an acknowledged weakness of basic TQWPs. Careful damping employing no less than five different densities allows fine-tuning of frequency response and distortion reduction, PHI claims.

An intriguing part of the Cyclops speaker system is the electronic filter unit. It's a hybrid design that fuses a passive notch filter for driver equalisation and front/rear level/frequency distribution to a MOSFET-based, adjustable active baffle step correction circuit.

Limited space prevents a full technical description of the unit, but the use of oversized polypropylene caps, audio-grade wire-wound resistors and lead-free silver solder is further proof of the thoughtful, painstaking design philosophy at PHI.

The active filter unit fits in between the amplifier and the source components. You run your bi-wire speaker wires from the filter unit to the Cyclops speakers themselves, while a proprietary, silver-plated and Kynar-clad cable feeds the output signal from the amp. to the passive section of the filter.

Enough of the technical bumph -- read more at [www.phi-audio.com](http://www.phi-audio.com). Instead, let's talk about performance. It took a while to get the speakers settled into AVSA's listening room, hooked up for the most part to Linn's Majik integrated amplifier, which was also on review at the time.

A series of other amplifiers were also tried, but none were an ideal match for the Cyclops speakers. Given their high efficiency and low power rating, they're best partnered by low-output, high-quality tube amps. Indeed, the speakers are all too easily overdriven, which doesn't do them any justice.

By the same token, the Cyclops' are uncomfortable when called on to deliver raunchy, raucous rock anthems, or to cope with the infamous cannons in Tchaikovsky's '1812 Overture'. For all their delicacy and efficiency, those little drivers just don't move enough air.

But ask them to translate a solo violin, a small string quartet, or an acoustic ensemble, and the real worth of these speakers comes to the fore. They have a particular knack for transparency, so that the finely focussed, accurately dimensioned sonic image they provide seems to hover in space, completely unconnected to their point sources.

I also enjoyed the way these speakers resolve fine details and weave them into the overall sonic picture with such natural integrity that they add vivid highlights to the overall performance. Female voices shimmer with an ethereal appeal, while harmonics and textures are given ample space and scope.

It's difficult not to be seduced by such sweet music! Ricki Lee Jones has never sounded more immediate, while an old Philips recording of the Beaux Arts Trio performing Schubert's 'Trout Quintet' overflowed with passion and pathos.

Such was the clarity and transparency of the Cyclops that Evgeny Kissin's fresh reading of the ever-clichéd 'Moonlight Sonata' (on RCA Victor) was given free rein, allowing the majesty of the piano and the mastery of its player to mesmerise the listener.

Thus: the PHI 58.40b Cyclops is a remarkable speaker in many respects. Its application is limited, and it requires careful matching of ancillary equipment. But in the right electronic company, with music suited to its particular talents, these speakers deliver a world-class performance.

**Deon Schoeman**