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Telegrapher Gorilla

Active Monitors



Telegrapher may be a young company, but their flagship three-way monitors are up there with the very best...

PHIL WARD

Telegrapher Loudspeakers are a three-year-old professional monitor manufacturer based in Istanbul, Turkey, and their first products comprise the Fox compact two-way active monitor, the Elephant active subwoofer, and the Gorilla and Gorilla-S: both three-way, active midfield monitors. The subject of this review is the Gorilla, which features a single woofer compared to the two woofers of the Gorilla-S.

Telegrapher have made a significant splash in the pro audio media and forums over the last six months or so, perhaps partly thanks to their bold enclosure colours and the large hemispherical decoupling feet they are sometimes photographed standing on. There is of course more to the Telegrapher Gorilla than striking colours and generous feet. I'll start with a general description.

Going Ape

At 32 x 45 x 30 cm, the Gorilla sits in that slightly awkward size range where it's perhaps slightly too big to fit comfortably in some studio locations, particularly because it's primarily designed to be used in landscape orientation so is relatively wide. I found myself having to move things around to get the Gorillas on my monitor shelf, so should you find them intriguing by the end of this review, their size is something to bear in mind. As is their weight. A Gorilla is heavy (you don't say!), weighing in at 21kg, and I found lifting them onto the aforementioned monitor shelf to be a somewhat risky challenge — especially considering their bar of soap corners (there's nothing to grab hold of) and their decoupling feet.

The Gorilla's weight results from the combination of a very thick-walled and dense birch plywood enclosure, and heavily engineered drivers that incorporate generous magnets. The enclosure feels quite literally as if it's carved from a solid block and I don't think there's much risk of the Gorilla suffering from enclosure panel resonance. Along with the weight, a further witness to the enclosure wall thickness is that its corners

feature generous radii that soften the overall aesthetic and will undoubtedly help with the suppression of acoustic edge diffraction. And if that weren't enough wall thickness indication, despite the external dimensions of the Gorilla multiplying up to a volume of 43 litres, the internal volume is only 14 litres.

Interestingly, Telegrapher's CEO, Erce Kaslioglu, has a parallel career in a business that provides high-end trims and finishes for specialist automotive companies (mataauto.com), and this shows in the very high-quality finish of the Gorilla. Indeed, Telegrapher products are assembled at one of Mata Automotive's facilities. The Gorilla is finished in a stylish, finely textured paint (as are its hugely impressive delivery packing cases), but I found the finish to mark relatively easily. The life of a review product is hard as it gets manhandled and moved from one location to the next, and the finish on the Gorilla began to show evidence of that. Of course this would likely not be an issue for a pair of monitors carefully installed and never again moved, but even so, I'd try to avoid putting a mug of coffee down on a Gorilla (pretty reasonable advice for life generally I'd argue). And if the textured paint is not to your liking, even in the 'Jaipur Orange' that many of the Telegrapher press photos have illustrated (I was mildly disappointed to find my review pair were grey), a wide range of colours and finishes is available from Telegrapher.

Amped Up

Around the back is a heatsink and connection panel that's home to a mains connector and power switch, a balanced analogue XLR input and an unbalanced RCA phono input. There's also a couple of push buttons to select between the inputs and enable/disable auto-standby. Telegrapher say their monitor philosophy is very much 'plug and play', so the lack of any extensive configuration facilities is part of the proposition. They believe that if the fundamental electro-acoustics are right, there should be no need for complex setup and room optimisation procedures. This philosophy also ties in with their Amphion-like reluctance to embrace DSP: everything is analogue within the Gorilla and Telegrapher promote the fully analogue nature of their monitors as a positive benefit. While DSP is not fundamentally a bad thing, they argue, if the analogue

electro-acoustics are on point there ought to be no need for the complexity of DSP and its inherent potential to introduce performance issues.

Behind the Gorilla heatsink and connection panel are electronic modules that handle crossover and amplification. The active crossover is an in-house design, whereas the amplification comprises Class-D modules from Dutch specialists Hypex. The crossover frequencies are at 280Hz and 1.8kHz and the amplification is rated at 500 Watts each for the bass and midrange drivers, and 100 Watts for the tweeter. The difference in power ratings between the tweeter and the other drivers simply reflects that tweeters tend to be inherently much more sensitive than bass/midrange drivers so require less power to reach the same volume level.

No Mean Feet

I mentioned the Gorilla's feet earlier, and the entire concept of decoupling loudspeakers from their mounting is a subject that provokes much heated debate. The hi-fi sector in particular gets decidedly lathered about it. My take, for what it's worth, is this: loudspeaker enclosures typically are constructed of panels with finite stiffness and non-zero mass, and that means they will display mechanical resonance when excited by a source of vibration such as a bass or bass/mid driver. Enclosure panels also

Telegrapher Gorilla

£9400

PROS

- Fabulous bass.
- Incredible detail resolution throughout the entire audio band.
- Midrange to die for.

CONS

- Gorillas are heavy.

SUMMARY

The world probably doesn't need another high-end monitor, but when it sounds as good as the Gorilla I'll make an exception.

typically add up to a total radiating area that's perhaps an order of magnitude greater than the actual drivers, so they don't have to move much in order to contribute a significant output. Similarly, the structures and surfaces on which monitors are supported will have their own resonant profile and tendency to radiate acoustic energy when vibrated by the monitor. This all means that in one scenario, with a particular pair of monitors and support structure, it might be beneficial to decouple the monitors mechanically from their support, and in another scenario with different monitors or a different support structure, direct coupling might be the best option. This is probably the cause of all the excited argument; the issue is about as far from 'one size fits all' as it is possible to get. »



With no DSP or EQ options to speak of, the rear panel is a spartan affair.

» Having said all that, Telegrapher say their preference is for the decoupling feet to be used, so that's what I did when listening.

The Drivers

Time was, if you wanted to specify the best possible off-the-shelf drivers for a hi-fi speaker or pro audio monitor, you'd without hesitation turn to the Scan-Speak website (or, back then, the catalogue). Denmark, where Scan-Speak are based, and Scandinavia generally, has been home to probably the highest concentration of driver design and manufacturing expertise since the early 1970s, and while Scan-Speak now have significant competition from numerous specialist high-performance driver manufacturers all over the world, their drivers are still up there with the best, and the Gorilla employs three of them.

The Gorilla bass driver is a nominally 22cm-diameter device that features an

anodised aluminium diaphragm, natural rubber roll-surround, 50mm-diameter voice coil and a very large magnet. The motor system provides ±9mm linear diaphragm excursion, which is unusually generous. Everything about the Gorilla bass driver says high volume levels, extended low-frequency bandwidth and low distortion. One of the defining features of Scan-Speak driver technology, from pretty much the beginning of the company, has been an

“The bass is almost overwhelming in terms of its dynamic ability, detail and pitch security. It leaves absolutely no doubt about the inherent character and quality of low-frequency mix elements, and that’s a tremendous foundation for the rest of the audio band...”

emphasis on magnet and motor systems designed to minimise the distortion mechanisms that arise inherently when a voice coil moves through a magnetic field. To that end the Gorilla bass driver

incorporates the Scan-Speak-patented (although I believe the patent has now lapsed) SD1 ‘Symmetric Drive’ system of Faraday rings (also known as demodulation rings) placed at specific locations around the motor system pole piece. The action of Faraday rings is to suppress the modulation of the magnetic field by the movement of the voice coil and so significantly reduce distortion. Such Faraday rings are now relatively common in high-performance drivers but Scan-Speak were one of the first companies to employ and refine the technique.

The midrange driver is also a Scan-Speak device. It's nominally 12cm in diameter and features a lightweight paper diaphragm and the kind of compact roll surround appropriate to a dedicated midrange unit. Perhaps the most interesting aspect of the driver is its magnet system, which, as with the bass unit, is designed to minimise distortion (and is also subject to a patent). »

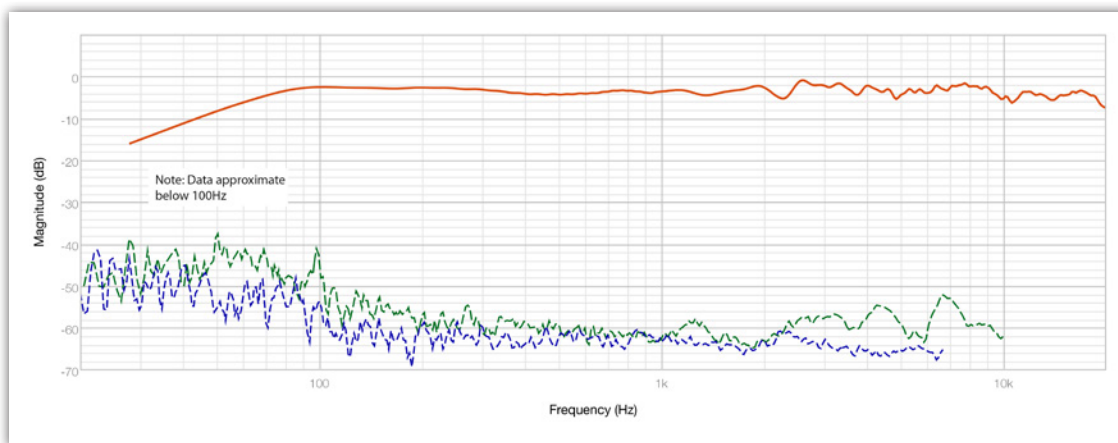


Diagram 1: The Gorilla's on-axis frequency response, measured at 80dB SPL at 1m (red trace), and second and third harmonics (green and blue traces, respectively).

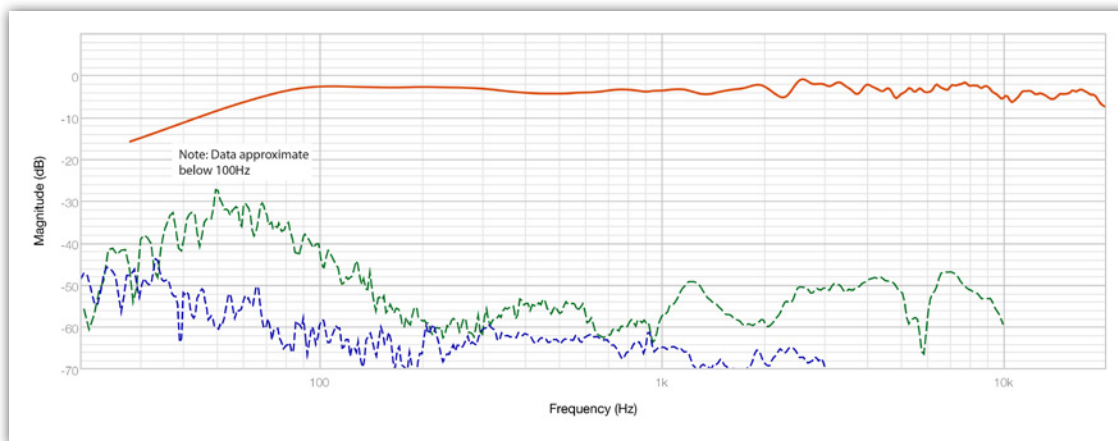


Diagram 2: As Diagram 1, but measured at 90dB SPL at 1m. The distortion levels rise with higher SPLs, as you'd expect, but the axial frequency response remains remarkably consistent.

» In the case of the midrange driver, the distortion management comes from employing an under-hung motor system architecture, where the voice coil is shorter than the magnetic gap (rather than longer as is much more typically the case). Under-hung voice coils are more practical in midrange drivers than in bass drivers because the diaphragm and voice-coil excursion required is typically much reduced. And the under-hung architecture offers reduced distortion because no part of the voice coil ever extends beyond the magnetic field in the magnet gap.

The Scan-Speak tweeter of the Gorilla is a 26mm-diameter, soft-textile dome unit with a neodymium-iron-boron magnet and, like the bass and midrange driver, it incorporates within its motor system features designed to minimise modulation distortion effects — specifically, a copper cap on the pole piece. Despite its 26mm nominal diameter, the Gorilla tweeter has an unusually large dome surround that actually contributes significantly to the driver's total radiating area. The large surround also helps lower the driver's

fundamental resonance, which in turn allows for the Gorilla's relatively low 1.8kHz MF/HF crossover frequency.

Loading...

Before I move on to acoustic measurements, I'll return briefly to the Gorilla's bass driver — or rather, its bass driver and enclosure. The Gorilla is a closed-box system with the bass driver working in a 14-litre enclosure. The relatively small enclosure pushes the system resonance (below which output will naturally roll off) up to around 62Hz, with a Q of 0.8. This in turn results in a -3dB low-frequency cutoff of 61.5Hz, and that might seem a somewhat modest low-frequency extension for a large and expensive monitor.

While it would have been straightforward to incorporate EQ within the Gorilla's active electronics to extend its low-frequency bandwidth, the designer, Emre Telci, chose not to, preferring instead to retain the system's inherent time- and frequency-domain characteristics. But there's two things to bear in mind before assuming that this will all result in the Gorilla being

compromised at low frequencies. Firstly, the inherent low-frequency roll-off of a closed-box system is a gentle 12dB/octave (a reflex system naturally rolls-off at 24dB/octave), and secondly the Gorilla displays exceptional low-frequency time-domain performance. Maximum group delay, for example, is under 5ms and the system displays minimal ringing in its step response. Compared to a typical reflex loaded monitor, it's a very different kettle of fish.

Measuring Up

And that brings me to the promised acoustic measurements. Diagrams 1 and 2 illustrate the Gorilla's axial frequency response (captured at 2m using a ground-plane measurement technique) and harmonic distortion at 80dB and 90dB SPL (at 1m) respectively. The frequency response is nicely flat (with a hint of emphasis in the presence band) and the distortion performance is impressive. Distortion rises in the 90dB SPL measurement as expected, but it's still typically between 50dB and 60dB below the fundamental above 200Hz. It's hard to see from the two diagrams,

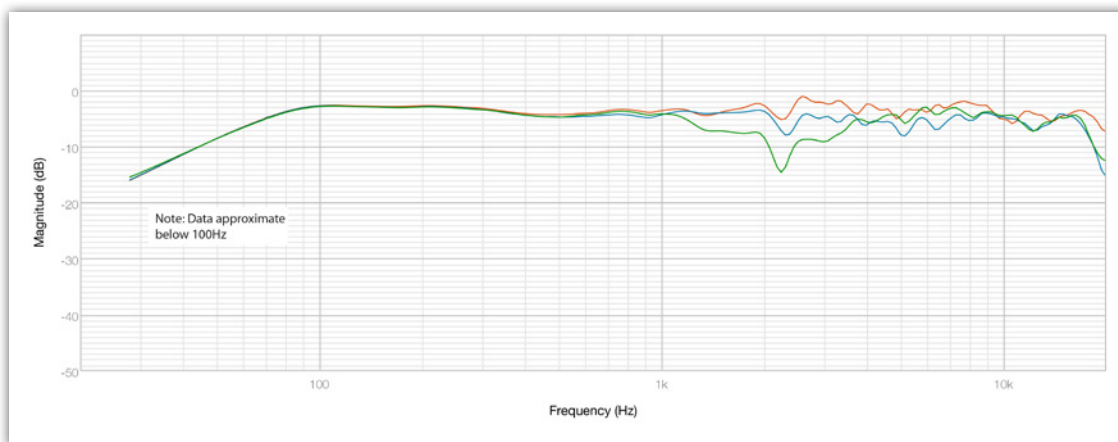


Diagram 3: Comparing the on-axis frequency response (red trace) with measurements taken 20 degrees above and below axis (blue and green traces, respectively).

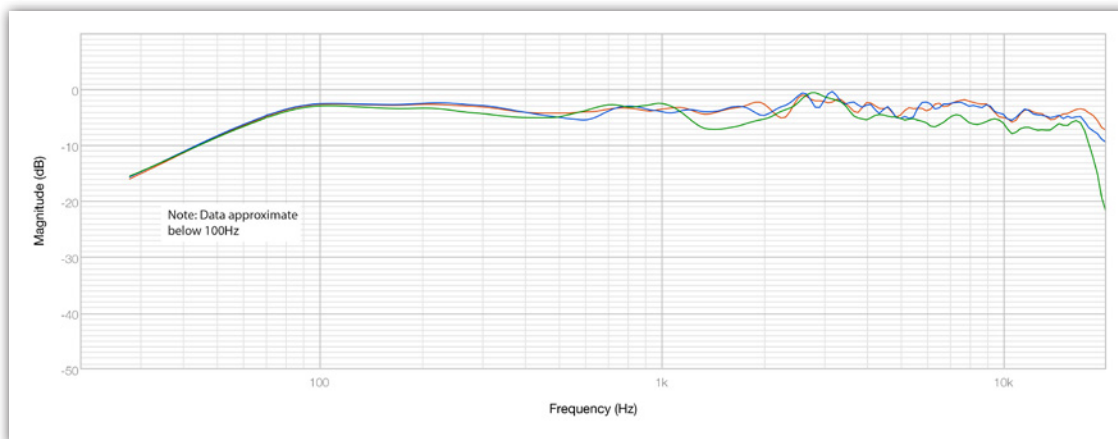


Diagram 4: Axial response (red trace) versus measurements taken 20 degrees to the tweeter side (blue) and 20 degrees to the woofer side (green).



— The Gorilla, in 'Jaipur Orange' finish and with decoupling feet attached.

but the axial response curves at 80dB and 90dB overlay perfectly — there's no evidence of any compression effects.

Diagrams 3 and 4 illustrate the Gorilla's 20-degree off-axis frequency responses compared to its axial response, and the results here are impressive too. Telegrapher label a mirror-image pair of Gorillas with Left and Right legends such that the midrange and tweeter drivers are positioned innermost in use, and based on the horizontal off-axis responses, that makes perfect sense. The off-axis response on the midrange and tweeter side is more linear than the response on the bass driver side. Similarly, the Gorilla's response above axis is better controlled than it is below axis, and that too is probably sensible — they'll sound more balanced if you're standing up than if you're lying on the floor.

Listening In

My measurements revealed the Gorilla to be a very competently designed monitor, but while measurements can provide some hints about likely subjective performance, listening is the final arbiter. I installed the Gorillas on my monitor shelf and began to go through my usual playlist of test tracks. First impressions were of a slightly bright tonal balance with perhaps a mild lack of warmth in voices — this was marginal though and not really an issue (easy enough to EQ or learn if needed). Second impressions

were of the incredibly satisfying and informative bass, and of midrange and high-frequency clarity to die for.

First the bass. If you've ever heard a closed-box-speaker evangelist (me, for example) talk about the benefits of close-box loading and the time-domain characteristics it displays, and wondered what it is we're on about... The Gorilla has it absolutely nailed on. Although its low-frequency spec might look underwhelming, subjectively it's about as far from underwhelming as monitor bass will ever get. The bass is almost overwhelming in terms of its dynamic ability, detail and pitch security. It leaves absolutely no doubt about the inherent character and quality of low-frequency mix elements, and that's a tremendous foundation for the rest of the audio band — whatever the volume level, right up to really quite loud. The Gorilla reminds me somewhat of the Amphion One25A in this respect, and in fact, the Gorilla and the One25A are generally not too far apart in terms of fundamental design philosophies.

Moving on up, the Scan-Speak midrange driver employed in the Gorilla is one I've always admired, and its installation, in just about the least resonant enclosure you're ever likely to find, really allows it to shine. It has a fabulously natural and uncoloured quality with an apparently bottomless noise floor, and it integrates seamlessly with the equally detailed and natural-sounding tweeter.

ALTERNATIVES

There's no shortage of very high-performance monitors in the Gorilla's price band, and if you're fortunate enough to be considering one of them, your list of possibles probably ought to include the **Amphion One25A**, **Ex Machina Pulsar**, **ATC SCM25A**, **Dutch & Dutch 8C Studio**, **Genelec 8361A**, **PMC 6-2**, **PSI A23M** and **Geithain RL930**.

It might seem a little odd talking about a noise floor in a monitor, but the various distortions, driver diaphragm or enclosure panel resonances that typically afflict all speakers are really just noise. The Gorilla displays very few of those resonance or distortion effects, so its noise floor is vanishingly low. This perhaps is going to sound a little too close to hi-fi review territory, but there's a sense with the Gorilla of deep silence between the notes. It's as if you can hear further into the material — and that's incredibly useful for a mix monitor. The Gorilla lays reverberant tails, vocal quirks and compression effects completely bare, and places every mix element unambiguously within an expansive stereo landscape. As is the way with unusually talented monitors such as the Gorilla, my listening for appraisal quickly turned into listening for geeky pleasure, playing familiar old pieces to see if I could hear previously unnoticed details, or just gain new insights into how the pieces were recorded or their mixes put together. I had a lot of fun.

Summing Up

In one respect, the fact that the Gorilla is such an impressive monitor is perhaps not a great surprise. Take three of the highest-performance drivers available, put them in an ultra-rigid and acoustically benign closed box and drive them with very high-quality amplification via a well-designed active crossover module, and you ought to expect great results. But I think that way of thinking is doing Telegrapher and the Gorilla a disservice, partly because designing a monitor is only a small part of the job of launching a new monitor brand, and partly because, to my ears, the Gorilla reaches a level of performance that's rather more than the sum of its parts. It's a very, very fine monitor. **■■■**

£ £9400 per pair including VAT.
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