



Microtech Gefell Generation 4

Modular Microphone System

Drawing on their established 300-series pencil mics, Microtech Gefell have created a small but potent modular range.

SAM INGLIS

When his Berlin factory was damaged in an air raid in 1943, Georg Neumann set up a new plant in the small Thuringian town of Gefell. At the end of the Second World War, this area became part of the communist German Democratic Republic.

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PROS

- Very good specifications and subjective sound quality.
- High SPL handling without the need for a pad.
- Beautifully made and extremely compact.
- Consistent tonality across all three directional capsules.

CONS

- Full range of accessories not yet available.
- Quite a bit more expensive than the fixed-capsule 300-series mics.

SUMMARY

Microtech Gefell's miniature modular mics are a joy to use and sound consistently excellent.

Neumann himself moved back to Berlin, where the Neumann company remain to this day, while the Gefell factory became a leading supplier of audio equipment to the Soviet bloc. Since returning to private ownership after German reunification, Microtech Gefell have remained one of the most important manufacturers of studio and measurement mics in the world, with a truly vast range of products.

Despite their heritage and their undoubted quality, though, Gefell mics still seem to fly under the radar, and don't always get the attention that's accorded to names such as Neumann or Shure. In typically understated fashion, the company managed to launch an entire new range at this year's AES show in New York without many people noticing! But now that they're here, the Generation 4 series looks to offer a compelling alternative to modular mics from the likes of Schoeps, Neumann and DPA.

Mix & Match

Microtech Gefell have always offered modular microphone systems, and for many years the workhorse of their line was the MV692 body, which could accept both large- and small-diaphragm capsules.

That is long discontinued, but for the last 30 years or so, their extensive range of small-diaphragm mics has included the SMS2000 modular system, with separate capsules and preamp bodies. This modular range has coexisted peacefully with the somewhat more affordable M300, M310, M320 and M330 fixed-capsule cardioid, supercardioid, omnidirectional and subcardioid pencil mics, as well as a selection of omni mics with diaphragms made from rolled nickel, a technology that is now pretty much unique to Microtech Gefell.

The M3xx models remain current products, but the SMS2000 has been discontinued in favour of a new and much more compact modular system. At launch, the Generation 4 range comprises six core products. The MV400X and MV400L are transformerless, phantom-powered, solid-state impedance converters. The two are electrically and functionally identical, but whereas the X is equipped with a conventional XLR socket, the L has a Lemo connector. The main advantage of this is miniaturisation: the MV400L is a mere 46.5 x 21mm, and the cable itself has a very unobtrusive visual profile. Though not quite as small, the MV400X too is impressively compact, at 57 x 21mm; for reference, the

M300 is 130mm long and an SMS2000 body plus capsule 166mm. The bodies are complemented by four capsules designated the M40, 41, 42 and 43. These are, respectively, cardioid, supercardioid, omnidirectional and subcardioid or 'wide cardioid', and are screwed on in the usual way, with electrical contact made by two sprung gold contacts. All are externally polarised, small-diaphragm capsules, and they use a conventional gold-sputtered Mylar diaphragm.

As usual with Gefell, the core products are also supported by a range of accessories. These currently include three different clips, two windshields and a "weather protected case" which will hold a body and clip with capsule attached, along with up to three further capsules. At the time of writing, none of the available clips offers any shock protection, but a shockmount is currently in development. For review, I was loaned two MV400X bodies and two full sets of capsules, with a pair of MC4.01 cases to keep them all safe.

Back To Black

The Generation 4 mics are available only in matte black, which further helps to keep a low visual profile. Despite their diminutive size, there's a pleasing solidity to the construction, and the finish is absolutely flawless. The threading is precise and robust, and I had no difficulty changing capsules.

Full specifications are available on the Gefell website along with frequency response and polar pattern charts, and all are impressive. Self-noise ranges from 13dBA for the omni capsule up to 15dBA for the wide cardioid, and sensitivity likewise falls within a narrow range, from 11mV/Pa for the wide cardioid to 15mV/Pa for the omni. All of the capsules are specified for at least 145dB SPL before 0.5% THD is reached, which explains why there are no switchable or inline pads. There are also currently no options for high-pass filtering, which some SMS2000 users might miss.

The frequency response plots for the three directional capsules illustrate minor variations on a theme. All are flat through the midrange up to about 4kHz, with a gentle high-frequency emphasis culminating in peaks at 7kHz and 12kHz. The relative strength of these two peaks varies slightly, and the M41 supercardioid capsule exhibits a steeper roll-off at either end of the spectrum compared with the M40 cardioid and M43 subcardioid. The M42 omni capsule, meanwhile, is equalised for diffuse-field use, with a ruler-flat response through the bass and midrange complemented by a broad 8dB lift centred around 9kHz.

It was the M42/MV400X combo that I tried first, as an A-B pair on a choral recording. My usual first choice for this role is a pair of MBHO 603A preamps with KA100DK omni capsules. These have always delivered excellent results, but I have to say the Generation 4 mics were even better. The two review samples seemed perfectly matched, and although the sound of the two systems was broadly similar, the Gefells provided better definition and a slightly more present upper midrange, without ever sounding harsh or strained.

Returning to the studio and swapping to the cardioid capsules, I turned to my trusty Neumann KM84 as a point of reference. In this sort of test, you can sometimes hear that another mic is theoretically superior — perhaps with a more extended frequency response, lower noise, or greater headroom — yet nevertheless prefer the subjective sound of the KM84. There's something fundamentally 'right' about »

» the sound of the Neumann classic that explains why it's still so sought-after today, and other pencil mics tend either to sound sharp and edgy in comparison, or neutral but boring. Not so the M40/MV400X combination. It's audibly cleaner than the KM84, without the slight coloration that is presumably introduced by the latter's transformer. It's also a touch brighter. But it is, for want of a better word, equally musical. The additional clarity doesn't come across as sterile or cold, and harmonically rich sources such as cymbals never sound harsh or over-prominent. In fact, the most obvious difference compared with my KM84 was that the Gefell combo had much greater low-frequency extension, to the point where I think you could probably get away without a dedicated bass drum mic on a minimal kit recording.

I didn't run into any real-world situations during the review period where the supercardioid or subcardioid capsules were useful, but I ran numerous comparisons between them and the cardioid. What impressed me most about the results was the consistency of subjective on-axis tonality. If you do find yourself in that situation where you've put up cardioid mics but decide that a narrower or broader pickup is called for, you could swap these out without really affecting the core tone of whatever it is that you're capturing. The subcardioid pattern in particular is one that I'm not sure I would ever use enough to justify buying, but the beauty of a modular system is that you only need to pay for the bits you're going to use!

That said, this particular modular system is still new, and is not yet as comprehensive as equivalents from other manufacturers. At the other extreme, Schoeps' long-established Colette range now encompasses more than 10 different capsules, half a dozen bodies and a broad range of accessories. If you want figure-8, shotgun or free-field omni capsules, for example, the Generation 4 range currently cannot satisfy you.

Three Or Four?

One key comparison I wasn't able to make during the review period was with other Gefell microphones such as the preceding SMS2000 models, or indeed the still-current 300 series. Although these are older designs, they nevertheless offer very good specifications, and in terms of directionality, there's a 300-series mic to match every MV400X-plus-capsule combination from the Generation 4 series. As with the 300 series,



■ The MC4.01 case houses a fully assembled mic plus three additional capsules.

there's a stereo bar available, but not all of the other planned accessories have yet been announced. And if you do choose to go down the modular route, you'll currently pay quite a large premium compared with the 300 series. In the UK, for example, the cardioid M300 retails for around 60 percent of the joint cost of the MV400X body and M40 capsule.

Now it's true that for all I know the two might sound completely different, but in practice I'd be surprised if this was the case. Assuming it's not, then for music recording applications where visual impact is not an issue and flexibility of patterns is not required, the 300 series may offer more bang for the buck. But the Generation 4 fully exploits the technological possibilities of 2024, and its extremely compact dimensions aren't only important in terms of visibility: they serve to make these some of the most lightweight and easily portable mics around, which will be an important factor for anyone travelling to inaccessible locations, using them on boom arms or

flying them over an orchestra. A fully kitted out MC4.01 case weighs next to nothing, fits in a large pocket and houses the means to make state-of-the-art recordings. It took a good deal of self-restraint to send the review units back! ■■■

Pricing

The full price list for the Generation 4 mics takes up a side of closely spaced A4 paper, since every single element is sold separately and there are also several bundled options. Pricing for the core items, however, is relatively straightforward. The MV400X and 400L bodies each retail at £717.60, whilst the capsules are all £778.80 each. So, without clips or cases, a complete Generation 4 mic comes in at just under £1500. Prices include VAT.

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