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Microtech

review

I first heard about Microtech Gefell microphones from the English guitarist John Renbourn. It was just after the Berlin Wall fell; he was in St. Louis for a concert, and told me about having bought a pair for his home studio. "East German Neumanns" he called them.

That's a fair description of the company's history. In brief (for the album version, go to www.gefell-mics.com), Georg Neumann founded his microphone factory in 1928, and quickly gained a reputation for the quality of his condenser microphones. The factory was bombed during World War II, and the staff and equipment moved to the small town of Gefell, not far from Dresden. After the war, as Germany was being divided into occupation zones, Georg Neumann settled in West Berlin, which would become part of the German Federal Republic; there he founded Georg Neumann GmbH, the company we know today. Most of his staff, however, stayed in what would soon be the German Democratic Republic, creating what came to be Microtech Gefell; they would supply high-quality microphones to the socialist nations of Eastern Europe for the next forty years.

During those decades, the two companies evolved along parallel tracks—there were formal and informal contacts between the two companies, despite the barriers of the Cold War, until the Berlin Wall went up in 1961. Both factories used the classic M7 capsule (in the West German company, it most famously went into the U47 microphone); both, in the late 1960s and early 1970s, added FET-based amplifiers to their line. And both hewed to high standards.

As the Cold War came to its welcome end, recordists in the West began hearing about Gefell microphones, and they found a place in many studios, both project and Downtown. With new business, Microtech Gefell diversified its line; among its newest designs is the M930. A few months ago, I received a pair for review.

Opening the box

When I looked inside the nicely-made wooden box, I was surprised at how small the M930s are. I was raised to believe large-diaphragm side-address condenser mics were big honkers, but these are almost tiny, $1^{13}/_{16}$" diameter x 4 $^{5}/_{8}$" long, including the connector housing. But they contain full-sized 1.25" machined capsules, along with transformerless FET electronics. I couldn't figure out how to get them apart without acts of violence, so I didn't inspect the electrical guts, but I can testify that the fit and finish are superb, with the silky feel that bespeaks high-quality machining. The grille has classic contours made famous by several generations of microphones.

There are no switches; the M930 has but one pattern, cardioid, and there are no bass rolloffs or switchable pads. (Its sister mic, the M940, is hypercardioid.) The clip, a friction-fit device, is marked with angles so that it can be used for stereo recording with the SH93 or TD93 stereo bars (see the sidebar). The male XLR connector at the bottom has gold contacts to minimize oxidation.

Gefell M930

From the mists of history, a historic microphone

REVIEW BY PAUL J. STAMLER

Salt River

The mics arrived just before the Salt River Folk Festival, so I brought them along and tried them out on some performers (a few of the regulars there don't like side-address microphones, but most didn't mind.) I quickly found that the sound on instruments (acoustic guitar, resophonic guitar, banjo and mandolin) was smooth, uncolored, detailed—and superb. They worked really well on voices, too, including a baritone and a clear soprano. Unusually for a condenser mic, p-popping wasn't much of a problem—this was a stageful of mic-eaters, one and all.

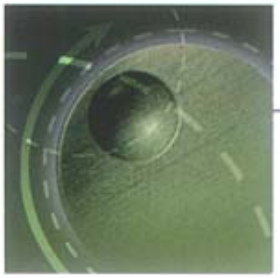
I noticed, though, that they seemed unusually shock-sensitive; as I walked across the portable stage, my footfalls were conducted up through the stands and into the microphones, producing very audible thuds in the speakers. In this case, although the M930s did not come with shock mounts, the problem was easy enough to solve; the stage had two halves, separated by a hinge, and I put the mic stands on the front half, the performers on the back. (In the photo on the next page, you can see the collection of characters on stage for the grand finale of the festival—that's me on the far right, in shorts.)

When I got home, I asked Mike Metlay at *Recording* to query Microtech Gefell about the shock sensitivity. Their reply was that this had been a deliberate design decision; lessening the shock sensitivity would have compromised bass extension. Well, that's fair enough; I asked if they could send a pair of EH93 accessory shock mounts along, and they obliged. In later field tests, I used the shock mounts, and had no problems.

On stage

I began using the M930s on more live gigs. Debra Cowan tried one as a vocal mic when she played the Focal Point, and chose it over the Beyer M260. Both sounded excellent, and remarkably similar considering the M260 is a ribbon, but she liked the slightly greater clarity of the Gefell.

Chaskinakuy was a challenge. The two members of this wonderful Andean band play some 40 instruments, from flutes and panpipes to shakers, small stringed armadillos, and drums of all sizes. I used M930s for all of the instruments, and they acquitted themselves very well; as I took notes during the performance, I found myself writing the word "superb" over



and over. Particularly impressive was the performance on nylon-stringed guitar, which has a growl notoriously hard to reproduce accurately. The M930 made it seem easy.

I brought it to some gigs where clarinet whiz Paul Wexler was playing. He's a member of the St. Louis klezmer band Yidn, but also plays with me in a couple of bands, and with a group called Reel Women. (Since Paul and a male bass player joined, I've been telling them they should be called "Sir-reel Women.") The results were simply astonishing; for the first time, Paul (who's notoriously mic-shy) could be heard clearly, with all the warmth and detail of his playing intact. And when he switched to recorder or whistle, that came through too, in all its woody splendor.

So I split them up, moved the players as far apart as possible, and close-miked both instruments. The results, once again, were superb; I was worried about the guitar (a dreadnought) woofing out on me, but the bass frequencies were smooth and not at all boomy, providing a subtle foundation without becoming obtrusive.

Later during that session, as players began switching instruments, I compared the M930 to a KM 84 on two banjos. It was a tie; the KM 84 was slightly better on one instrument, while the M930 was slightly better on the other. You should know that the KM 84 is a classic banjo mic; coming up even with it in a comparison is like playing Venus Williams to a draw.

In all of these applications, the small size of the M930 was an asset; it was easier to position them in exactly the right place without inconveniencing the musicians, and they were a lot less obtrusive than larger condenser mics for live performances.

(Thanks to my ukis, one and all: Cathy Barton, Chaskinakuy, Debra Cowan, Judy Domeny, Leela & Ellie Grace, Dave Para, the Upstart Crows and Paul Wexler. Boy, is it fun to listen to people like you for a living!)

Lab dogs

As always, my primary reference in the lab was the Shure SM81, chosen because it's fairly common—almost everybody's used one at some point—and because it's a fairly neutral microphone. If a microphone's brighter than an SM81, it can fairly be called bright, and if it's duller than an SM81, it's dull. The SM81 is also predictable; every one I've tried sounds exactly like every other one, and has the same sensitivity. Unless otherwise indicated, the SM81's filters were switched off, and the pad was too.

The M930 was about 10.5 dB more sensitive than the SM81, which means preamp noise will seldom be an issue. I set my (Project-r) preamp to compensate for the difference.

1. The Salt River Folk Festival Grand Finale

Paul was audibly impressed; after the first gig, he said it was like this microphone was in a whole different class from everything else I'd tried on him. That spoke volumes, if you'll pardon the expression, since I'd aimed some darned good mics in his direction, including a Neumann KM 84.

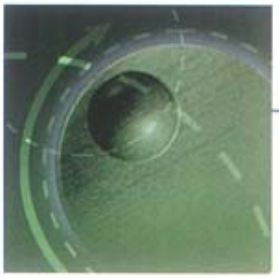
Finally, I tried the M930s in a recording session for the Upstart Crows, which I have described elsewhere. ('Fixing a Flap for the Upstart Crows,' February 2004.) My first thought was to use the stereo bar and combine the guitar and the banjo-uke on a single crossed pair; I've found that multiple crossed pairs are a useful tool in recording acoustic music. Well, it didn't work; the banjo-uke was *way* louder than the guitar, and to balance them I'd have to place it about 4' from the array, while the guitarist was right on top of it. No.

I began realizing that the M930 was a most unusual mic; it combined the incisiveness and "reach" of a good large-diaphragm condenser with the lack of off-axis coloration of a smaller-diaphragm mic. That made feedback in live situations and leakage in studio gigs much less of a problem.

I also found that the M930 made the task of achieving the right blend a lot easier. In mixing multiple mics and instruments, there's always a dialectic between hearing each element clearly as an individual sound and achieving a cohesive blend. That's a fine line to walk, and ideally one ends with a synthesis wherein all the instruments fit together into a single mix without losing their individual character. The M930s, which added little coloration but preserved a wealth of subtle detail, helped a lot.

Testing shock sensitivity, with both the M930 and the SM81 in their factory-standard clips, I found that the M930's sensitivity to higher-frequency shocks (fingernail tapping the shaft of the boom) was about 3 dB better than the SM81's, which is okay but not great performance. Lower-frequency shock sensitivity (soft part of finger on the shaft) was poorer. The M930 was 1–2 dB worse than the SM81, and the SM81 is no great shakes in that department, if you pardon the expression; I always use it with a shock mount.

I tried the M930 in its shock mount, and the results were much better, about 10 dB better than the SM81. That went along with my experience in live gigs and studio sessions: with the shock mounts, the M930's thud sensitivity is no longer a problem. Just for grins (and because the Gefell shock mounts are pricey) I tried using my good ol'

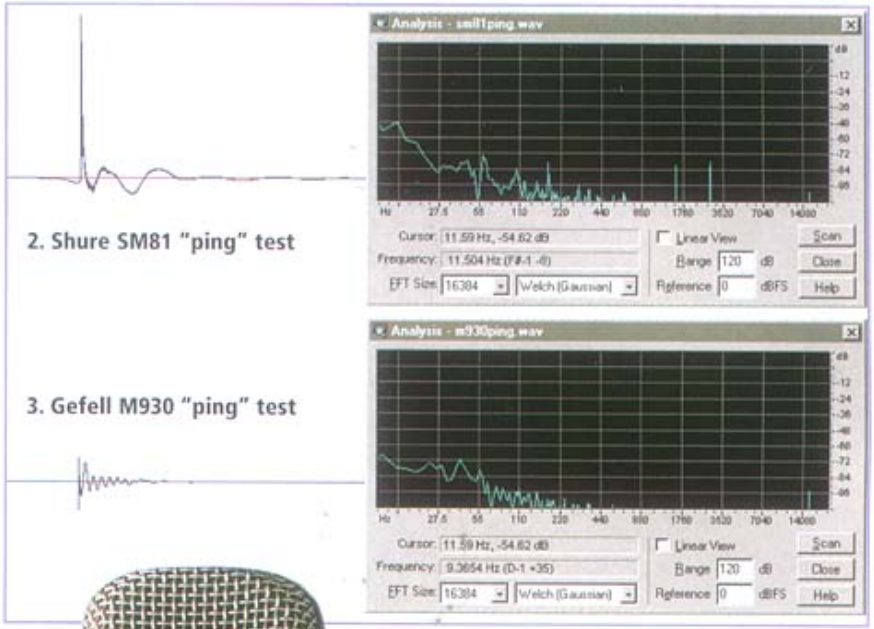


Electro-Voice 313A shock mounts, and discovered that the M930s will fit in them as long as the cable plugged into the bottom has a Switchcraft or similarly sized XLR connector for the E-V's rubber bands to grab. (Neutrik plugs are too short.) It worked fine, and I found that the lower-frequency shock sensitivity was now at least 20 dB better than the SM81's, which is excellent performance. (With either shock mount, higher-frequency shock sensitivity was nil.)

I checked the pair matching; the two M930s were within a pointer-width or so of a perfect match, close enough that I couldn't really tell. That translates to a match closer than 0.5 dB, probably a lot closer, and they sounded (to my ears) exactly the same in tonality. I'd have few hesitations in using these for stereo-pair recording on the grounds of matching.

Hum rejection was very good; waving the Wall Wart from Hell around the microphones, it was impossible to get enough hum to measure accurately. The hum rejection was at least 20 dB better than the SM81s, which is plenty good enough to use even on the raunchiest old combo amp in the room. You could probably even use it in a home studio with the electrical substation next door, like the one my dulcimer-playing friend Paul Goelz used to have...

Finally, I tried tapping the microphone cases to excite stray resonances—my "ping" test. The SM81 had distinct rings at about 182, 1260 and 2820 Hz, as well as a strong subsonic resonance; the M930's main resonance was smaller and much better damped. (See Figures 2 & 3 above.)



2. Shure SM81 "ping" test

3. Gefell M930 "ping" test

Specs appeal

The data sheet specifies a self-noise level of 7 dB-A weighted. That's astonishingly low; I had no way to verify it, but can testify that I never heard a lick of noise when using the microphones. Maximum SPL for 0.5% THD is specified at 142 dBA; I prudently decided not to test it. The sheet notes that, at this level, the M930 will put out something like +18 dBu, depending on loading; with a loud source and an external phantom supply, you could easily run the mic straight into a balanced line input, bypassing the preamp completely!

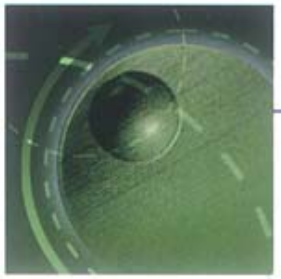
The mic consumed 3.6 mA of phantom power, about average for a transformerless preamp. The factory says it should only be used with 48 V phantom supplies, but in fact I used it on a board with 24 V, and it sounded fine. [*According to Dirk Rowehl of Microtech Gefell, "If it worked on 24V it is kind of a miracle. P48 is specified as 48V DC ±4V, i. e. between 44 and 52V, and only between these two limits will the M930 perform according to specs."*—Ed.]

Figure 4 on page 22 is a graph of the factory-measured frequency and polar responses (courtesy of Gefell). I'll have more to say about them later on.

Listen hard

Having done the lab tests, I settled in for some comparative listening, again using a Project-r preamp as the front end and (unless otherwise indicated) an SM81 for reference. For many of the tests, I used my Martin 00-18, a guitar whose sound I know well, and one which I have heard through a wide variety of microphones.

I began with both microphones about 9" from the guitar, placed over the fingerboard at about the 16th fret, always a good starting position for an acoustic guitar. I found that the two microphones had very similar tonal quality: neutral, even, relatively uncolored. If pressed, I'd say the M930 was a *tad* brighter on top, but the difference was quite subtle. It also had slightly more pick and fret noise, but not objectionably so. The bass was tighter than the SM81's, with better pitch definition.



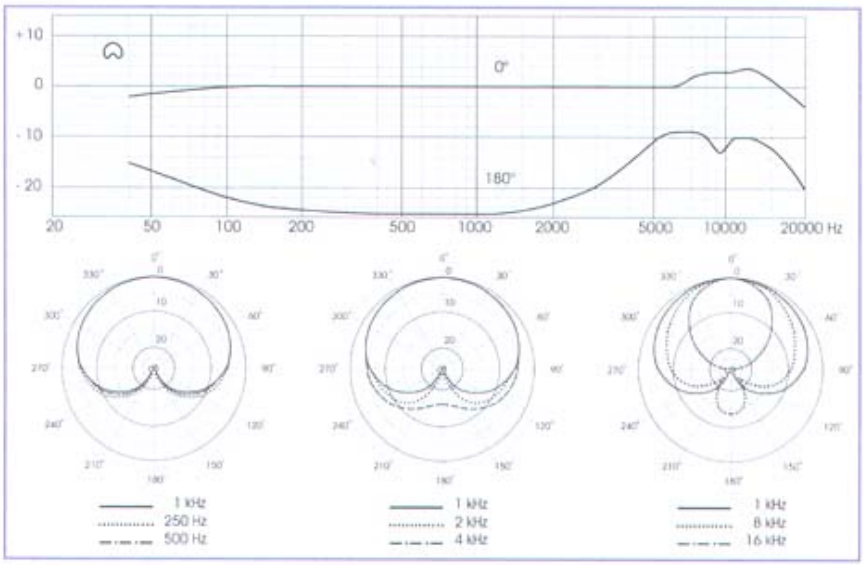
Listening over a long stretch, I found that the M930 had better delineation of notes and attacks, and more sense of a real guitar body in real space, rather than a point source in no-space. (This was, remember, a mono recording.) To borrow a phrase, with the Gefell there was more *there* there.

Just to be sure, I flipped the mics so that the one on top was now on the bottom; no change in the comparative sounds. Then I moved in close, with the mics about 4" above the same spot. Both sounded better, but the close placement also exaggerated the differences between them. The Gefell was clean, detailed and warm; the SM81 had a boomier bass, and a slightly etched quality by comparison. It wasn't bad, mind you, but the Gefell was better.

useful in XY and ORTF stereo recording, applications in which most large-diaphragm microphones do poorly because their off-axis response gets flaky. Judging by these tests, the M930 might be the exception. The results were also encouraging for busy sessions where several sources might be sounding at once; I'd be less concerned about leakage and coloration with the M930 than I would with a typical large-diaphragm microphone.

Speaking of off-axis, I kept up a continuous patter of talk as I did the tests; this sounded remarkably uncolored through the microphone, which was down in position for the guitar. I'd have no hesitation about using this mic for recording a guitarist who was also singing—not something I'd say about every microphone.

Just for grins, I put up my Groove Tubes 6tm, a smooth-sounding, slightly bright tubed microphone that has done good work for me in the past. Well, the M930 was smoother, and slightly less bright.



4. M930 frequency response at 0° and 180°, polar patterns vs. frequency

I moved 90° off axis, and was surprised to hear very little change in the tone. Unusually for a large-diaphragm microphone, there was little coloration; in fact, the midrange sounded slightly less boxy than the SM81's—it may have been slightly scooped. At 180°, the response became saddle-shaped, with rises at top and bottom, typical of a large-diaphragm microphone, but to my ears less so than usual. (Yes, I know the chart shows a more severe rise. Charts simply don't tell the whole story.)

This was good information; Microtech Gefell advertises this microphone as

How much difference did the preamp make? Many mics change their frequency responses quite radically when plugged into different preamps, as the preamps' input sections load down the microphones' output sections differently. I tried two transformer-coupled preamps (the project-r and my homebrew tubed preamp) and one transformerless (a homebrew prototype from years ago that I still use when noise isn't an issue). I heard no huge differences, and what I heard could as well have been the inherent differences between the preamps themselves. The difference in

loading (about 1.5k for the two transformer-coupled preamps, about 7.2k for the transformerless) had little or no apparent effect on the microphone's output response.

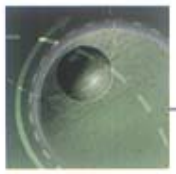
Nationalism and Plinks

I tried the Gefell on a National Tricone guitar. Listening against the SM81, the contrast was fascinating; both were good, but the SM81 sounded like one of the more-metallic-sounding reissue instruments now being produced, while the M930 sounded woodier, more like my actual instrument.

On mandolin, always a tough test, the Gefell had a less hashy top, and better string definition (you could always tell the strings were paired, whereas they often blended into a single sound through the SM81). In comparison, the SM81 sounded slightly metallic. This is a particularly tough mandolin to record; it's sound is plinky and bright, even with Dr. Thomastik's magical strings from the Black Forest, rather than sweet and smooth like a vintage Gibson. The M930 gave an honest recording, plinks and all, without exaggerating.

What about electric guitar? For this, I tried a three-way comparison, A/B'ing against an Electro-Voice RE200 in addition to the SM81. I did this because I don't normally use the SM81 on guitar amps, while the RE200 has become my favorite of the mics I own for recording electric guitar. (It has a big spike in the frequency response up around 8 kHz, right where the speaker is beginning to roll off, and this sounds just right on a lot of amps I've recorded. I'd liken it to an SM57, but without the grind and compression.) In all cases I placed the mics about ¼" in front of the Kalamazoo's grille cloth (don't laugh, that little tubed Kalamazoo is a wonderful amp), well off the speaker's axis to catch the breakup modes. Most of the time my ASAT's pickup switch was set to the middle notch, because that's how I play.

During clean chicken-picking, the Gefell was a bit truer to the sound of the amp than the SM81, simultaneously sweeter and less boring (don't ask me for an intellectual explanation of that last word; I just tell you what I hear), but I still preferred the spikier top from the RE200. When I dirtied it up, the SM81 got squawky (I suspect its preamp was brushing the edge of overload or transformer saturation, as I wasn't using the pad). The Gefell and RE200 sounded clean. Both sounded good; I still preferred the RE200, but could live with either.



Then I got really dirty, cranking the level on the neck pickup. The SM81 went into overload and was out of the running. Now the M930 and RE200 drew even; I liked the extra bite of the RE200, but I also liked the extra three-dimensionality of the Gefell. So...I turned them both on. Ah—I liked that best of all, either panning the two signals together for punch or hard left and right for a big sound.

For grins, I tried a couple of torture tests. First, I rattled my keyring in front of the M930 and the SM81; next, I whacked on a "jingle-stick," a small piece of hardwood with a single tambourine jingle mounted on a pin. Surprisingly, the keyring test didn't show much; the M930 was slightly more natural, but neither was particularly unpleasant or hashy. On the jingle-stick, though, the M930 was the clear winner; I got a palpable sense of the jingle rattling against the stick that is notoriously hard to achieve with most microphones. The SM81 picked up more of the "whack" the stick made against my palm (was it, perhaps, responding to subsonic frequencies to which the Gefell is less sensitive?)

Perhaps now is the time to talk about that frequency response graph. It has a rise beginning at about 5 kHz and maxing out at 4 dB, but it doesn't sound particularly bright to my ears. Why should this be? I suspect that a broad, well-damped resonance is much less obtrusive than the narrow, sharp peaks typical of inexpensive condenser mics. Another factor is probably the electronics; cheap circuits tend to exaggerate the shrieky quality of cheap capsules. Whatever the cause, the fact is that this microphone did not sound shrill, harsh or hashy in any of my tests; it came across as essentially neutral, with perhaps a bit of extra detail.

Open wide and sing

For my vocal tests, I compared the M930 against an Electro-Voice RE15, an exceptionally neutral microphone that has always been among the first choices for recording my voice. At normal distances (4–10"), there's no question: the Gefell needs a pantyhose-and-embroidery-hoop pop filter or the commercial equivalent. The extended bass response that makes it shock-sensitive also picks up popping "p"s powerfully. (I was glad to find, though, that the p-pops didn't send the mic's internal amplifier into overload.) Interestingly, I hadn't noticed a lot of p-popping at the Salt River festival, but as I mentioned, we were all a bunch of mic eaters up there—and the M930 is quite pop-resistant when you're kissing the grill.

The RE15 and M930 both sounded excellent on my voice, and they inhabited the same sonic world; their midrange responses were very similar. The M930 was brighter up top and had a good deal more extension in the treble, but there wasn't a sign of the relentless, metallic sibilance that plagues many mics, including some very expensive ones. Compared to the RE15, I felt like the M930 had a more relaxed and effortless sound, a sound that could cut through a dense mix, but without spittiness or shrillness. It blended, but still stood out—there's that dialectic again.

I tried the same test with the 6tm, a microphone that's been one of my favorites for years. I found the M930 more "organic" sounding than the 6tm, which can sometimes be a little raspy up top. And, as with the Martin, there was better definition of the vocal sounds in real space, more sense of a real head singing rather than a point source.

No shipping costs

It's time for the summary, and what can I say? This microphone is wonderful. So is it worth the money to you?

Bars and drums

The SH93 stereo bar that came with my review pair of M930s is intended for XY recording—microphones mounted above one another, angled outwards, usually at 110°. (Also available: the TD93 bar for ORTF recording, which spaces the microphones 7" apart.)

The SH93 stereo bar is a well-made chunk of aluminum, with the same excellent fit and finish that characterizes the microphones. It also seems quite non-resonant, an important quality too often neglected in microphone accessories.

Setting up the stereo bar

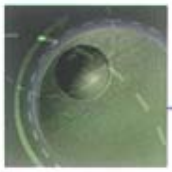
In use, I found the SH93 somewhat fiddly. First, while the female connector that attaches to the stand or boom is the standard American thread, the male connectors that hold the mic clips are the smaller European thread. To use the mic clips, then, you insert small threaded adapters which are a minor pain in the neck to put in and a major pain to get out. (Never leave home without a dime in your pocket, to catch the slots in the adapters. Better still, pack a couple in the mic case.)

The second fiddle comes from the need to use shock mounts. As I discuss in the main article, shock mounts are mandatory for the M930s; using the standard clips leads to exaggerated sensitivity to footfalls and other studio noises (read "drums and bass") being conducted up the stand and into the mics.

Unfortunately, to use the SH93 stereo bar you *must* use Microtech Gefell's own shock mounts. While the Electro-Voice 313A works fine on a single microphone, it's too big to use with the bar—you can't fit both mics. Once you get the mics mounted, the floppiness of the Gefell shocks makes them a little hard to align. However, persevere further, and with a little tweaking you can get a good XY setup.

I found that for drums, mounting the SH93 on the end of a boom worked fine, and the included clips were very helpful in keeping cables out of trouble. For acoustic guitars and such, however, getting the assembly in position was more problematic, especially when the players were seated.

If I'd had a very short stand I'd have been okay, but I didn't have one, and eventually settled on a good old-fashioned 12" gooseneck. This much-undervalued piece of gear has saved *my* neck enough times that I always carry one, and I found that mounting the gooseneck on a plain, boomless stand, then bending it in a 180° arc so that the XY assembly hung down



review
Microtech Gefell M930

Look, we need to establish a few things. There really is a difference between most of the equipment used in Downtown studios and most of what we use in project studios, and it's not only a difference in price. Some of the difference is reliability; a piece of truly professional equipment has to work the first time, 24/7, and keep on doing that for years on end.

But some of the difference is in sound. There have been great strides made in less-expensive and semi-pro equipment, and we chronicle them in this magazine all the time. You really can get an awful lot more for $400 these days than you could 30 or even 10 years ago (although the stuff usually won't be as bulletproof as the higher-priced spreads).

All that being said, there's a level of professional performance attained on a regular basis by some manufacturers that is head-and-shoulders above the less-expensive competition. The differences are the subtleties I've talked about in this review; that feeling of a guitar body in real space rather than a point source in no-space, for example. Among the manufacturers that attain this level you'll find names like Neumann, Soundelux, and Schoeps (there are plenty more; those were just the first three that came to mind). These manufacturers and their comrades constitute the fully-professional echelon of mic makers.

And that's where this microphone belongs.

Where in that echelon? There are plenty of microphones out there, both in the fully-pro sphere and the semi-pro and project world, that are one-trick ponies; great on baritone vocals, say, but horrible on tenors. These mics aren't to be sneered at; after all, I bought that RE200 because it sounded so good on guitar amps. (It's also nice on bodhrans; okay, that's two tricks.)

Much rarer in the microphone world is the mic that sounds excellent on a broad variety of sources—a Swiss Army Mic, if you will. Usually mics like that have relatively uncolored sound, corresponding to a flat frequency response; if there is a brightness rise, it's very broad and gentle, rather than sharp and edgy. That's what the M930 is about, and it's a rare critter. The closest analogy I can think of is the Neumann TLM 193, another sleeper of a mic that gets overlooked in the shadow of its more colorful cousins.

The M930 suits the way I work. A lot of folks record with mics with distinct, even obtrusive personalities; my style, though, tends toward a more naturalistic approach. The M930 gives me lovely, unblemished signals that are easy to mix and require little or no eq (although I always have the option of adding coloration with a few twists of the dial). And it gives me those signals with a level of detail, clarity and lack of harshness that marks fully professional-caliber gear, on a wider variety of sound sources than most mics can handle.

In short: a superb professional microphone, among the best I've used, and it fits my style like a glove.

After the M930s arrived and I'd used them for a few weeks, I told Mike Metlay at the magazine that I didn't think they'd need to arrange return shipping after the review. Three months in, I'm sure of it. Hang the expense—I'll spring for them, and these mics will earn their keep.

Price: $1150 each; sold as boxed pair with SH93 XY stereo bar (as reviewed), $2550; EH93 shock mounts $250 each

More from: Microtech Gefell, www.gefell-mics.com. Distributed by C-Tec, info@cabletek.ca or 604/942-1001.

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towards the floor gave me just the right height and all the maneuverability I needed. (Make sure, if you follow this suggestion, that the gooseneck you use is tight and hard to bend; a floppy one will just sag out on you and be useless.)

Drums in mono

After the main body of the review was written I got the chance to go down to Red Pill Studio's nice new digs in the loft district of St. Louis (check them out at www.redpillonline.com) to try the M930s as overheads on a drumkit. Chris Hughes and I began in mono, since they often record drums that way (old-line rock'n'roll).

He likes an Audio-Technica AT4047 in this position, so we placed one next to the M930 (both shock-mounted), ran them through a Sytek preamp into Pro-Tools, and Chris drummed while I rolled. The M930 was a bit brighter on cymbals, but the biggest difference was in the toms; there was more beef and thunk to them, more immediacy, and definitely more sense of a moving skin. I liked the A-T a lot (I hadn't heard one before), but the more in-your-face sound of the Gefell is how I usually like to hear drums.

Next we compared the M930 as a mono overhead to one of my Oktava MC012s, a microphone whose sound I know well on a drumkit. The difference was more marked; the MC012 seemed to have more room sound and was a bit more distant, while the M930 came in closer and unified the kit into a single instrument. Again, it was a bit brighter. Both sounded remarkably good. (MC012s get a bum rap, mostly because of the many sold without quality control. A good one is quite a decent microphone, and I use mine a lot.)

Drums in stereo

We re-rigged for stereo, using the SH93 bar for the Gefells and a Shure A27M for a pair of Oktavas. (I'd have tried some Neumann KM 84s, which I really like for overheads, but they'd been lent out.)

Frankly, there was no contest. With the Oktavas you heard pinpoint imaging across a recorded soundstage (with a little bit of splash on the cymbals). But with the M930s you were in the room and you heard DRUMS. Nothing exaggerated, nothing phony; *drums*. The sounds of the sticks on the cymbals sounded like wood on metal, not something processed and electronic. And once again, the toms made the air shiver a little.

And just for grins...

Finally, just for grins, we tried something exotic: unplugging the M930s from the Sytek preamp and hooking them to an external phantom power supply with transformer coupling. The output was much lower, of course, but the M930s are hot enough mics to drive a 24-bit converter to a reasonable level.

What a difference a transformer makes. Instead of the uncanny sense of a window open and drums right in front of you, the sound was instead one Chris and Jacob described as "meaty;" lots of emphasis in the lower midrange, less clarity on top. To me it was like being transported to 1965—and I was listening to Motown records again. A fun sound, if somewhat specialized. But the sound through the Sytek was superb.

My deep thanks to Chris Hughes of Red Pill for being engineer and uki all at once, and to Jacob Detering for lending his ears and ideas. Chris, you can play on my album any time.