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MIC CHEKA

THE GREAT AMERICAN MIC HUNT

by J.J. Blair

Strange things happen on the Internet.

In a particular pro audio forum, I had posted the *EQ* cover of Jack Joseph Puig [March 2005] giving the "Blue Steel" and then the pic of Dave Navarro, from a different *EQ* issue, lying shirtless on an SSL and displaying his total recall technique. I went on to suggest

QUICK PICKS

B.L.U.E. Microphone Snowball

"What the hell am I supposed to do with this?"

A Snowball?

Come on BLUE, when are you going to run out of cute color/name combos for your spherical mics? What's next: The Meatball? The Melonball? The Eyeball? Whatever. The mics are pretty cool.

The Snowball is white (surprise, surprise). It's also the first USB-powered spherical microphone in existence. The mic is pretty new on the scene and hasn't generated a lot of press. The BLUE website doesn't have any specs listed, and the review mic came in a little Styrofoam box with a USB cable and no literature. So I will wing it.

I don't use any software where I would need, or could even use, a USB microphone. The only thing I could try was GarageBand.



I'd never really used GarageBand except that one time where I was on tour in Japan and we had to do a demo of GarageBand at the Apple store in Tokyo and none of us knew how to use it and we learned it in the cab on the way to the demo. The demo kind of sucked in a surreal way. But here was my chance to redeem myself. I spent the next

three hours getting totally into the freakiness of the software until I had the perfect track to try and record some creepy vocals into. I hooked the Snowball into the USB port on my keyboard, set the audio input preference (the driver automatically loaded) to BLUE USB thingy, and armed a new track for record and presto: there was a nice fat signal.

The Snowball is a dual-capsule microphone. One is for vocals and VO and one is for instruments. There is a three-way switch where you can choose either capsule or both at the same time. The one that is for voice is sort of low-mid enhanced to give your voice a little bit of ball (sic), and the instrument capsule delivers a more high-passed open sound. Both capsules simultaneously sound sort of extra fat and chunky. I can't sing to save my life but I know when a mic sounds good. Especially for the price and the type of market that it'll be satisfying.

I DO have a couple of problems with it though: I think the mic is just too big and bulky for the laptop/backpack brigade. Also the demo model I got had no mount — just a 5/8-inch screw hole on the bottom to attach to a straight stand. What it needs is a way to mount the mic on a little collapsible desk-mount stand you can stick by your keyboard or mouse and get to work. Or maybe they can come up with a flexible swivel mount so you can get it into position with a normal boom stand. This mic will have a very specific audience and they need to cater to that group. The sound is pretty cool, and flexible, and the price is right so maybe this Snowball has a chance in hell. (MSRP \$139) — *Monte Vallier*

Pluses: USB powered, no need for a mic pre, dual-capsule versatility, looks cool on the desktop, price to quality ratio good.

Minuses: needs portable desktop stand, since there's no pre amp — no control over input gain, bulky and a bit unwieldy, will get dirty, makes you make bad puns.

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that perhaps a certain EQ editor would rather be working at *Honcho*. Well, after a couple of weeks, my phone rang. "Hi, this is Eugene from EQ. You know, the head *Honcho*."

The upshot?

He wanted me to write an article for THE MIC ISSUE. Either that or he'd throw me a beating and buy me a lifetime subscription to *Honcho*. And it wouldn't get delivered in the brown wrapper. So here I am.

Let me start out by saying to the manufacturers who are or who have become my friends, if I say something about your product that you don't like, I'm sorry. Just remember, I'm not a technician, nor am I an egghead who understands why every circuit sounds the way it does. I'm just a guy who sets up mics, turns knobs, and gets sounds good enough that people have decided it's worth paying me to do it.

So what is an opinionated producer/engineer/musician going to write about for the Microphone Issue? Well, it starts off a long time ago, in a studio far, far away with a passel of mics prime: the **Neumann U-47**, **Neumann U-87**, **Telefunken U-47**, **AKG C12VR**, **Manley Gold Reference**, **Audio Technica 4060**, **BLUE Kiwi**, **BLUE Cactus**, **Brauner Valvet**, **Korby Convertible** with 47 head assembly, **Langevin CR2001**,

Lawson L47, **Manley Reference**, **Microtech Gefell UM70S**, **Microtech Gefell UM92.1**, **MXL V76T**, **Neumann M147**, **Soundelux E47**, **Soundelux E49**, and the **Telefunken U47M**. . . .

EPISODE ONE: ATTACK OF THE CLONES

If there were ever a microphone associated with the recording studio, it would be the **U-47**. It's been a staple of studios for over 50 years, and it'd be safe to say that most condenser mics are based on the technical principles developed for the **U-47**. It has also inspired many look alike and sound alike clones. In the past few years, I've seen articles reviewing some of these clones, but I've never seen one big shootout. In my studio, I frequently do shootouts of different pieces of gear, so I thought it would be a great idea to get a hold of some of the more popular model **U-47** clones, or **U-47**-inspired mics, take a couple vintage **U-47s** and put them all through the paces of recording instruments that a **U-47** is typically used for.

But first, a history lesson: The Neumann (or sometimes Telefunken branded) **U-47** is the grand daddy of all studio mics. Originally built by Georg Neumann in 1946, the original version of the mic uses a dual diaphragm M7 capsule and a **Telefunken VF14** tube. Later versions, and most versions you will ever come across use the **K47** capsule. The main difference in these capsules is thickness and substrate material. They both use a gold-sputtered 28mm

diaphragm. The **M7** uses an 8-10 micron thick diaphragm made of poured PVC and the **K47** uses Dupont's Mylar film in a 6-micron thickness. PVC suffers from noticeable shrinkage over time and can significantly change the sound of the capsule, and the manufacturing of these capsules is labor intensive. Mylar is a much more stable and durable polyester-based film and the **K47** is still available from Neumann today.

I realize not everybody reading this article has had the pleasure of using a **U-47**, so some of you might be wondering, "What does a **U-47** sound like?" Well, those of us who have used several **U-47s** have a general idea of what they are supposed to sound like. However, because of the variations in capsule type, or even the variations in capsule states, not to mention other important factors such as the health of the tube, the capacitors and the transformer, you are going to be hard pressed to find two vintage **U-47s** that are an exactly matched pair. Even though **U-47s** may vary in terms of overall brightness from one mic to the next, I would generally say that they share a certain 'tubby' sound with excellent low-end response and punchy mids. Also, the VF14 tube, which is an integral part of the **U-47** sound, also tends to add an authority to the midrange that you don't experience with any other tube mic.

So either you already know how great these mics are or you are sick or hearing about how great they are and you want to own one. Buying an original U-47 from a vintage dealer can cost you anywhere from \$6,000 – \$10,000. You can gamble on a mic from eBay for around \$5,500 – \$8,500, and hope that the tube and capsule are in good shape. And then you have all these other mics that look just like the **U-47**, and you don't know quite what to make of them. What should you do?

First off, here's my philosophy on the matter: If you are recording for yourself and you find a mic or any other piece of gear whose sound you like, and the price is fine with you, then by all means, buy it. But if you are a commercial studio or aspire to be one, clients generally want the real thing. This may be ignorance on the client's part, but it is just a fact of commercial studio life. The other thing you might want to take into account is whether or not a piece of gear will retain its value. This is the dilemma of vintage gear: It's a tool and it's an investment. Only time will tell if some of the new mics will be regarded well enough that in the future, they will still fetch top dollar. But on the flipside, new mics offer the convenience

of knowing that they will likely be functioning properly, or that they will still be covered under warranty if something goes wrong. So the trade off of less maintenance might be worth not having a mic appreciate in value to some.

For this shootout, aside from vintage U-47s we used some of the popular U-47

inspired mics: the Korby Convertible with

their 47 capsule, the Soundelux E47, the Lawson L47, the Telefunken North America U47M and Neumann's M147, which is the current offering from Neumann that claims a U-47 lineage.

I then put them through the paces of recording instruments in the cardioid mode that one would be likely to use a U47 on: upright bass, alto sax, male vocals, female vocals, mono piano, violin and acoustic guitar. Everything was recorded without a pop screen, through an **Inward Connections Vac Rac** tube mic pre, into an **Apogee AD16X** without the use of soft limiting at 96kHz on to **Pro Tools HD**. However, on the male vocalist, because he had one of those gruff, chainsaw crackling voices, I used a **Manley tube mic preamp**, to ease off some of the harshness caused by the rasp in his voice.

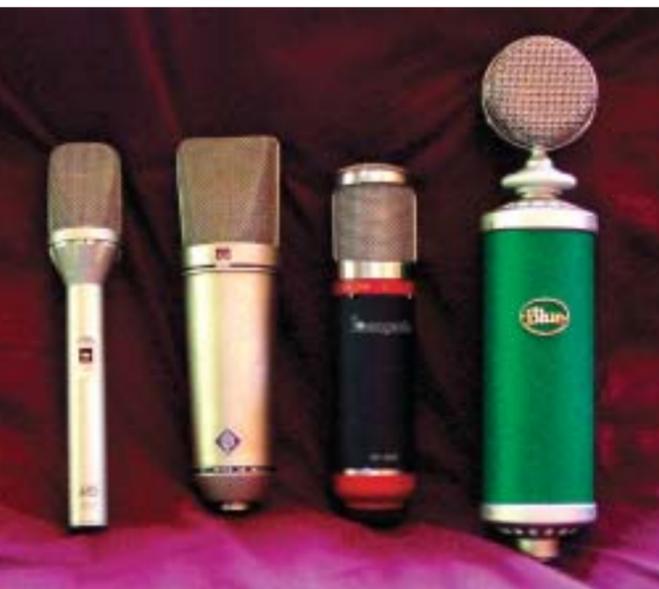
Our three vintage U47s all contained VF14 tubes, original BV8 transformers, and two of the mics used original Neumann K47s, while the third had a BLUE built K47 type, which I had chosen in place of this mic's original K47. Even with the BLUE capsule, this mic matched extremely closely with one of the K47s. One of the mics with the K47s had a clarity in the high end and an airiness to it uncharacteristic of most U47s, but the mid range and low end of the mic was definitely signature U47.

The only true clone of the group is the Telefunken North America U47M (MSRP \$7,495). It came equipped with a new old stock (NOS) VF14 tube, a very faithful reproduction of the original BV8 transformer, and what they said was an original Neumann M7 capsule that had been reskinned with a Mylar diaphragm. Now the problem with the M7 capsule is that the only people currently making M7s with the original PVC material are Microtech Gefell (which is an historical descendent of the original Georg Neumann company). However, they do not sell their capsules to outside parties unless they are replacing an original Gefell made capsule. Even though it's not the original material, the advantage to using Mylar is that the capsule should last longer and retain its characteristic. But in trying the Telefunken USA M7 capsule on the same mic body against the K47 capsules, I found it to be dark. An original M7 capsule should in fact be brighter than a K47, due to the lack of elasticity of the PVC material. However, Telefunken North America does offer K47 capsules. The conventional wisdom on K47s is that they do tend to vary in tone from one to the other, so you might want to look into the possibility of auditioning a few before you settle on the one that winds up in your mic. Since NOS VF14 tubes cost about \$1,200, they also offer a cheaper version with a NOS EF14 tube or even a NOS Nuvistor tube version for \$1,000 less. But it is my opinion that neither of these options will sound as good as a real VF14 tube.

Telefunken North America has done a remarkable job recreating this mic. *It looks just like a Telefunken U47!* They also win the prize for coolest case. The mic has its own velvet-lined wooden box, and there is a vintage-looking carrying case for the power supply, mic box, Neumann style shockmount, and cables. The mic uses the same type of Tuchel connector found on the vintage U47. In fact the only cosmetic differences between this mic and its vintage counterpart are the size and coloring of the Telefunken badge, and the fact that the capsule basket has a rounded top. The original Neumann basket curves, but is flat across most of the top. I have no idea if this changes the acoustics of the capsule housing (I doubt it), but this is one small factor in the mic not being a 100 percent copy of the original, if you care about that kind of thing. And just like the original, the mic can be used in cardioid or omni.

The mic that second most closely resembles the original is the Soundelux E47 (MSRP \$3,950/eBay price \$2,400). The E47 uses a K47 style capsule with a 6-micron Mylar diaphragm, but it employs a JAN submini tube and uses an accurate four layer recreation of the BV8 transformer. It has a grey paint job that resembles the color of the finish on a real U47, and a chrome basket for the capsule. The shape and geometry of the basket differs from the original, as does the cannon-style connector for the cable to the power supply, but overall the mic really evokes the image of a U47. It doesn't come with a carrying case for all the components, but there is a nice wooden box for the mic itself. One nice feature about the E47 is that unlike the U47, there is variable pattern selection available for the capsule.

Next on the look-alike list is the Lawson L47 (\$1,995, direct from the manufacturer). The L47 uses a 3-micron thick K47-style capsule, a 6N1P-EB tube, and a Lundahl transformer. It comes in a waterproof Pelican case, which holds



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the mic, the cable, and the power supply. There is no shockmount, but there is a standard mount that attaches to the cable connector. The L47 comes in either a matte gold or nickel finish body and matching chromed basket, and there is a cannon-type connector on the bottom for the PSU cable. The Lawson has capsules that can be interchanged with their L251 system, as well. It gives you the option of either using the capsule in fixed cardioid or in variable mode, also. It's a great looking mic, but one issue I had with it is that when you remove the capsule basket, nothing is left to hold the body housing in place. The ATC type connector that connects the capsule basket to the body is not the most elegant solution for interchangeable capsules, but these features may be part of what allows Lawson to make a mic that sells for under \$2,000.

Then there is the Korby Convertible (MSRP \$4,500 in this configuration), which actually resembles an Ela M251 more than it resembles a U47, but they are not really going for a clone. The Korby Convertible is a system that actually is supposed to give you an option of four capsules that are reminiscent of four classic mics. Their

47 head assembly is in fixed cardioid mode, and they use a Groove Tubes 6201-M tube and a proprietary transformer in the body. There's an Anvil style flight case that holds

the mic's wooden box, the PSU, the shock mount, the cable, and up to three more head assemblies. The head assemblies are removable without having to undo any screws. They simply pull off, and fit rather firmly with a very solid-looking four-prong plug.

The last on the list is the Neumann M147 (MSRP \$2,899/eBay price \$1,800). It looks like a scaled-down version of the U-47 FET, with a satin nickel finish. It comes in a nice flight case with a shock mount, a regular mount, a PSU, cables, and a satin bag for the mic. Except for being smaller, the capsule basket shares the same look and geometry of the original U-47 capsule. The mic uses a 6111WA tube and is transformerless. The good folks at Coast Recording Supply were kind enough to let me demo this, because for some inexplicable reason, Neumann/Sennheiser only wanted to send me the BCM705 to test, and the manufacturer rep never returned three, count them, *three* phonecalls. Go figure. I was tempted to leave them out, but then a friend pointed out that without Neumann, we wouldn't be having this discussion in the first place. We had to invite the big dog to the shootout.

SO THE GANG'S ALL HERE, LET'S GET THIS PARTY STARTED.

First up was the upright bass, mic'd from 7" away, pointing at the 'f-hole. All the mics performed well in this situation. The M147, the Lawson, and the Korby sounded rather close to two of the vintage U47s. The exception being that the Lawson was missing some of the low end, but it had a nice presence in the low mids and the overall tone was even enough that you could have EQ'd in some of that 100Hz and lower range that it was missing. The Korby was darkish, but it had a nice round sound to it and full lows. The Soundelux and the Telefunken NA were similar in terms of darkness, and they both seemed to have a lot of resonance in the area of 650Hz. But I wasn't as crazy about the E47 on this instrument, because it seemed to be weak at translating the fundamental frequencies of the notes. I would say that the M147 and the Korby seemed the most usable of the new mics in this situation, with the vintage U47s being the favorites.

Next up was a mono piano setup, which was difficult because we were trying to capture some proximity effect while trying not to have any specific parts of the keyboard jump out more than others. One of the vintage U47s was the clear favorite. The M147 sounded rather even, but it suffered from more proximity effect and off-axis rejection than any of the other mics. It just sounded like it was in a different space and like the cardioid pattern was more tightly focused.

The Lawson seemed a little scooped out on the low mids, but was clear on the high end. The Soundelux did have some of the sub 100Hz response of the real U47s, but it seemed to have a noticeable bump in the 150Hz area that clearly differentiated it from the other mics. The Korby and the Telefunken NA were both the darkest mics, but the Korby had better low-end response and was punchy in the 1kHz region. While the U47M was lacking some of those deep lows and clear highs, it had a nice flat response to the piano that didn't make any certain frequencies stand out more than any other.

When we recorded violin, we set up the mics about three feet away pointing down toward the instrument. In this particular instance, my favorite mic was the Lawson. It didn't have the lows of the other mics and didn't have any airiness to it, but something about the combination of this mic and instrument was really happening, and had a great vintage sound that made the texture of velvet come to mind. The Korby sounded most similar to the Lawson in this application, but with some extended high end. The bright U47 did not work as well for me in this situation. It was too nasal. But the other U47s sounded very clear and full. The low frequencies really came through best in these mics and would have

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been my next pick after the Lawson. The M147 was smooth, but was missing the low end. The Soundelux lacked some of the lows of the vintage mics and seemed to have a great deal of presence in the 8kHz range. The Telefunken NA seemed rather piercing, but all in all, each mic performed well in this task and had a definite 'U47-ish' quality.

The acoustic guitar recording really spoke volumes about each mic. I recorded a **Martin D35** from about five inches pointing directly into the sound hole. The Korby and the M147 were the most similar to the vintage U47s in this instance. The Korby was maybe a tad more robust in the 400 – 500Hz range. The L47 was definitely sounding in the same family, but once again lacked the low end. **The darkness that I kept experiencing with the Telefunken NA was a factor in translating the crispness and chiming of the strings, even though the overall response was very even. It just lacked that magic at 8kHz and above.** The E47 performed very nicely, and sounded a great deal like the bright vintage U47 minus the sparkle, but with a little more thickness in the lower midrange. It lacked some of the low end, however.

My second engineer dusted off his alto sax for the next test. The mic that immediately grabbed me on this task was the Telefunken NA. It just had a terrific texture and presence in the mids that really complemented the fundamentals. One of the vintage U47s had the best bottom and a really smooth, sexy tone. The other vintage U47 matched up pretty closely with the Soundelux and the M147. The Korby was a little thick in the low mids for me, but had a definite U47 texture. The Lawson once again had an exciting top end and sizzle, and had the least amount of bottom.

The next victim was a female singer who had a very Karen Carpenter-esque voice that was smooth and smoky. The Lawson and the bright U47 really captured the air in her voice the best. But when she was singing quietly and low, the Soundelux really excelled. On the contrary, the Korby sounded extremely grainy, if not too much so, when she sang quietly, even though it handled the louder dynamics nicely. The M147 was perhaps too present in the 1–2kHz region, and did not complement her voice, but the Telefunken NA delivered a nice even recording, in spite of the darkness. There was nothing magical about it, but it was pleasant.

Last but not least, the voice that a U47 was made for: A soulful male with a great deal of rasp. The Lawson really delivered the most amount of airiness and sizzle, but once again lacked the low end. The vintage U47s were quite wonderful and full, and the Soundelux really sounded the closest to them. The M147 was too grainy and brought out all the wrong elements of the vocal texture, making it harsh sounding. In this instance, the Korby came off sounding a bit boxy. This is the situation where the Telefunken NA mic really seemed most comfortable. The darkness was not a liability, and the midrange presence translated in all of the right areas.

SO WHAT DID I LEARN FROM ALL OF THIS?

Well, first of all, there aren't any of these mics that I wish I had instead of my Neumann U47. I mean, if I were to buy a second U47, I would likely look for a vintage one. However, each manufacturer did a really good job of making each mic sound in that U47 ballpark. If I were on a budget, I would absolutely pick the Lawson. I know

they wanted to get some of the high frequency response that a 3-micron diaphragm achieves, but if you are looking for the booming lows that you can achieve with a U47, this might not be the mic for you.

While not sounding exactly like a U47, the Soundelux is a fair approximation. It's a solidly built mic, and the brand is garnering enough respect that even in a commercial studio, it might help attract clients. Even though it had all the essential elements of a U47, there was an "X" factor missing, that probably was the reason I never picked it as my favorite in any of the applications, even though it did them all very well.

The Korby is a terrific mic, but I don't know that I would use it in lieu of a real U47. However, if you are interested in the system, I can attest to the fact that their 47 head-assembly definitely sounds like a mic in the U47 family.

This particular Telefunken NA U47M didn't totally WOW me, but it sure sounds like a real U47. I would personally choose a K47 capsule if this capsule they sent me is indicative of the reskinned M7 capsules available. The U47M body didn't completely sonically match up with the vintage U47s, but that could be because of aging capacitors or factors with the vintage transformers or tubes. However, it did sound more like the real U47s than any of the other mics. It will put a dent in your wallet more like a real U47, as well. But if you wanted a brand new mic, and money was no object, I couldn't find fault with choosing the U47M.

The big surprise for me however was the M147. I was prepared to hate this mic, based on my experience with new Neumanns. However, for a street price of under \$2,000, it definitely has a U47-ishness to it. It definitely suffers from off-axis rejection and doesn't have the magic or flexibility on some applications that the similarly priced Lawson L47 has, but this mic has earned some of my respect.

EPISODE DEUX: ELECTRIC BOOGALOO

The most recognizable mic in the world, as well as the most ubiquitous has to be the Neumann U87 (MSRP \$3,179/eBay \$1,300 – \$2,000). As the U47 is the grand daddy of all condenser mics, the U87 is the godfather of all solid-state large diaphragm condensers. **For some reason, everybody feels they need a U87 if somebody is going to take them seriously. I'm personally not a huge fan of the mic. I find that they tend to be a little too harsh in the high mids, and then they have that high frequency filter that Neumann tends to do when developing mics for German broadcast standards.** But you feel you need to have a solid-state mic that kicks ass? What are your options? Well, there are three mics that were sent to me that I preferred to the U87: **The BLUE Kiwi** (MSRP \$2,399/eBay \$1,899), the **Microtech Gefell UM70S** (MSRP \$1,750/street price \$1,450) and the **Langevin CR2001** (MSRP \$800/street price \$700). I compared these all against a vintage U87 that had recently been factory refurbished and recapsuled by Neumann.

The BLUE Kiwi looks like the green half-sized version of the BLUE Bottle. I thought I saw a commercial recently with Bo Bryson singing into one, but then I realized it was Chewbacca recording cellular phone ring tones.

Thank you very much.

Anyway, this mic has variable pattern selection unlike the U87, which only offers cardioid, omni and figure eight. The mic uses a lollipop-style capsule that can be removed and replaced with other BLUE capsules. This is a much brighter mic, and more exciting sounding. It really sounded fantastic on acoustic guitar and male vocals. It's very airy,



QUICK PICKS

CAD M177 + CAD M179

CAD is an American company making mics in a factory in Ohio. They came to prominence in the 90s with the Equitek series of mics that started the trend toward high-quality-for-less-money project studio type mics. This new range — the M series — will compete handily with the influx of inexpensive mics coming from the Far East. These mics use high-speed, low-noise op amps instead of discrete FET designs. These are quiet, flat, well-made mics. They are sturdily built and feel substantial in your hand. The -20dB pad and 100Hz low cut switches are quality and easy to operate without having to get a pen or something sharp to jab into them. They come with a nice stand mount, but it would be nice if they had a shockmount. They tended to pick up quite a bit of rumble from the stand/floor since they are almost flat down to 10Hz. Although the



100Hz roll off switch can do wonders.

I tested each of these on some acoustic guitar and vocals. In comparing them to the other mics I have that fit into this category of mic type and price they did very well. I recorded the same piece of music with the two CAD mics (in cardioid), an Audio-Technica 4033, a Rode NT2, a Neumann TLM 103, and a B.L.U.E. Bluebird. The signal path and gain structure was the same for all of them: Millennia HV3D mic pre through a Summit DCL 200 compressor into Pro Tools.

OK. Let's go: The CAD mics are really quiet. Compared to the 4033 and the Rode these were absolutely clean. They exhibited damned good musicality and good detail with a neutrality and naturalness. They sounded better to my ears than both the 4033 and the Rode NT2. The AT 4033 is a bit bulky and mid rangy and the NT2 a little bit thinner — not so much body. The TLM 103 and the Bluebird did sound fuller with a 3D depth that the CADs didn't have. But for the price, which is significantly lower than even the Rode and the AT 4033 these mics shine.

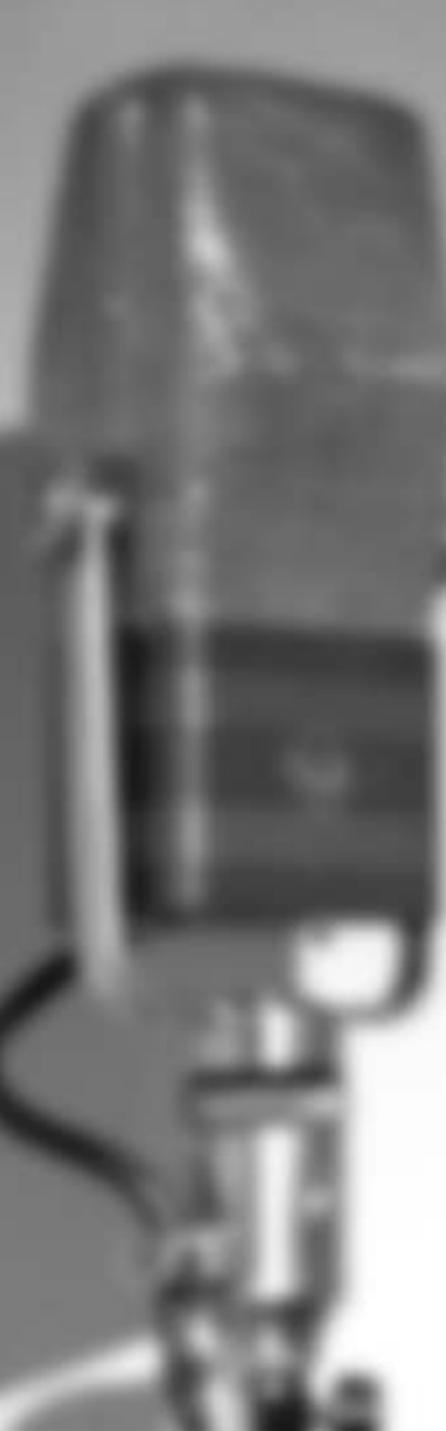
The CAD M 179 continuously variable pattern feature is amazing at this price point. I can't think of any others in this price range. The M 179 has a wheel that you turn to access the various capsule patterns. These include hypercardioid, cardioid, wide cardioid, omni, and figure eight. All these patterns have a detent in the wheel but you can smoothly turn the wheel and get in between patterns to customize the sound that you are looking for.

From their low noise and sweet sound performance to rugged construction and tight design and quality to price ratio these mics are well worth checking out. The only drawback so far has been the lack of a shockmount and I'm sure the folks at CAD have one in the works. (CAD M177, CAD M179 = \$169, \$199 street, respectively) — *Monte Vallier*

Pluses: Rugged construction, neutral clean sound, versatile (multi-pattern M179 especially), low noise, affordable.

Minuses: Susceptible to low-end stand/floor noise coupling, lack of shockmount.

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unlike the Neumann. It's more cumbersome than a U87, but it's really an elegant looking and sounding mic. BLUE has established itself as a studio staple, thanks to the Bottle mic and great marketing on the company's part. This is a mic that clients would take seriously.

Another excellent option to the U87 is the brand new Brauner Phantom AE (Anniversary Edition: MSRP \$1,500, street price \$1,275). This cardioid-only mic had a very sexy and open top end, and was what I could call the most elegant sounding of this group. Brauners are starting to turn up in some of the top pro studios, as their reputation becomes firmly established. You should have no problem getting a respectful reception from your clients with this choice.

The Microtech Gefell UM70S uses their PVC-based M7 capsule, which descends from the original U47. It's a really solidly built mic with the same pattern selection, -10db pad, and roll-off as a U87. It has a very similar frequency response, but the mic range is so much creamier. That harsh midrange that I object to with the U87 is not there at all. Gefell, whose history I'll touch on in the next section, is considered by many to be the "real Neumann" by many, and has established a great reputation in top studios. However, people outside the pro audio loop are not that aware of it and it would take some explaining to make a client understand why they want to use this instead of a Neumann-labeled mic. In this respect, its slim profile and small appearance betray the image that should be associated with the sound of this mic. But make no mistake, this mic is a U87 killer. The MTG UM70 has a cult following and I am confident that it will one day achieve its well-deserved classic mic status. If you like the sound of a U87, I bet you will like this better.

The last option is the **Langevin CR2001**, made by Manley Labs. This is the same mic as their CR3A, but in a new styled and much more solid body. Gone is the familiar shape of the U87, in favor of a body that resembles a very slightly scaled down Ela M251. This is a cardioid only mic, featuring a high-pass filter and a -10db pad switch. It uses the same capsule as the Manley Reference mic, but with an FET design and a Manley transformer. This thing just sounds great. Anything I put this mic on against the U87 sounded better on this mic. It has nice crisp highs and a smooth, punchy mid range. I must say that I own several of the predecessors to the CR3A, and I have literally used them on everything, with excellent results. *This is a very versatile mic and is well built. It will definitely stand the test of time. It's not going to get you the respect that the U87 or Kiwi will on appearance or name recognition, but I consider this a must own utility mic.* And for this price, you can own a few of them. And I guarantee you that in 10 years time (which is how long I have had my CR3As), they will be working and sounding as good as they do today, which is something I can't attest to for the glut of cheaper priced FET condensers that are pouring out of China. Yeah, I do have a bias toward these things, but any engineer who's come into my studio and used the Langevin has left a believer.

EPISODE THREE: THE REAL MIC WORLD

This is the true story of nine microphones, picked to be used in a studio and have their signal recorded. Find out what happens when instruments stop being polite and start getting real, yo.

Of the piles of mics I received for reviewing, I had to cull the herd to a manageable group, so to make it fair, I just picked anything that was sent to me that used tubes. This is totally random, and there is no theme to this group. We have the **AKG C12VR**, the **Audio-Technica 4060**, the **BLUE Cactus**, the **Brauner Velvet**, the **Manley Reference**, the **Manley Gold Reference**, the **Microtech Gefell UM 92.1**, the **MXL V76T**, and the **Soundelux E49**. Each one of these was used to record the same male and female vocalist as the U47 mics, as well as the acoustic guitar and the piano in the similar fashion.

The **AKG C12VR (retail \$4,999/eBay \$2,800)** was hyped as the revival of the venerable C12, but the only thing these mics share in common is probably the shape and the 6072 tube. AKG abandoned the original CK12 capsule decades ago because of the difficulty and expense involved with manufacturing these gorgeous-sounding capsules. The modern CK12, which confusingly shares the same name as its predecessor, uses the same mechanical principle, but shares none of the sonic majesty that has given legendary status to mics employing the original, such as the Telefunken Ela M251.

The C12VR is a dark-sounding mic. I wouldn't say that it's woolly, but it definitely has no sparkle. What it does have however, is a nice even tone and a velvety warmth. It really sounded good on everything we recorded with it, but it did leave me wanting to EQ in some high end. It really translated the full range very evenly, which would lend itself to EQ'ing, in my experience. It's a solid workhorse that was really good in each instance, but that price is pretty damn steep. If for some reason you've gotta have this mic, get it on eBay or something.

The **AT4060 (MSRP \$1,499/street price \$1,099)** was a surprise. It had some grainy high mids that really stuck out and gave some of the vocals some presence. It was a bit brittle on acoustic, but was very pleasant on piano. It definitely is

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not a mic that translates low end, and the hype in the high mids can betray some situations, but it had a cool texture to it. However, the mic that I was using had a pretty atrocious noise floor. I would hope that this is an aberration, because otherwise with product standards like that, A-T will never shed its “prosumer” image.

The **BLUE Cactus (MSRP \$3,299/street price \$2,499)** was an enigma to me. BLUE has the philosophy of having each of their mics have a really colored sound. Well, this one is colored really dark. I mean, woolly, even. It had a really fantastic low-end response, but this is not a mic to use if you want presence. With a peak at around 5kHz and a steady rolloff from there, this would be a great mic for horns or any application you might prefer a ribbon mic on. It worked OK on the male vocalist, but was not happening on the female. It was way too dark for my taste on acoustic, as I like to have some bump somewhere between 8 and 12kHz in that application. Forget about the piano. It is really cool looking and comes with a bad-ass BLUE anvil case. It also uses the lollipop system, so you could try other capsules on it.

The **Brauner Valvet (MSRP \$3,200/street price \$2,400)** was nothing short of awesome. It sounded great on everything. This is their more moderately priced tube mic, and it really had a sparkle on each voice or instrument, combined with a terrific grain and the perfect amount of sizzle. I could definitely find myself using this mic a lot. In fact, I would really like to start seeing Brauners become as ubiquitous as some of the more stalwart brands, like AKG and Neumann. This mic is definitely a new classic, in my opinion. They also win the prize for coolest new design in a shockmount.

Now the **Manley Reference (MSRP \$3,000/street price \$2,700)** is a very nice mic with a lot of character. Even though this mic has a fixed-cardioid pattern, it really has a great grain and presence on each voice and instrument. It really made the acoustic and the vocals cut and sizzle. Its big brother, Manley's flagship mic, the **Gold Reference (MSRP \$5,500/street price \$4,950)** has a different capsule — designed by David Josephson — and a fully sweepable pattern. This is one of the most open sounding mics I've ever heard, without having any hype in one area or another. In a situation where you want to capture a breathy performance, but you might get too much sibilance or harshness from the boosted highs of a C12 or a Ela M251, this would be the perfect alternative. Not as grainy as the black Reference mic, it still has a terrific presence on acoustic and piano, with a flat response that seems to extend well beyond where most mics start to shelve around the 12kHz region.

The **Microtech Gefell** owes its lineage to the legendary Neumann UM57. MTG, which is essentially modern day Neumann Gefell, uses the PVC based M7 capsules that I spoke about when discussing the U47. I found this mic to have all the same warmth and fullness of the UM57, but it was surprisingly dark. My understanding is that this is because of RF filters that the manufacturer has added to the preamp, and that there is a mod that can be done to bypass the filter and open up the top end. However, as is, it is much like the C12VR. It responded great to each voice and instrument, but I really wanted to add some high end to it to get it to pop more. This is another well-respected mic that is likely to attain classic status, but to anybody who buys it, I suggest doing an Internet search to find out how to bypass that filter.

Now the **MXL V76T (MSRP \$299/street price \$199)** is the least expensive of all the mics I've tested. It's actually pretty musical-sounding and has a cool grainy tube-condenser vibe to it. It's definitely hyped in the high mids and adds character to the vocals, but its mid-range presence seemed tinny on the acoustic. And the mic just did not translate the low end effectively at all on the piano. My concern with this brand, as with many of the OEM Chinese brands, is that consistency is not terrific from one mic to the next. As well, just as Eastern Bloc mics suffered from problems over time because of substandard materials, we have yet to see how these mics will hold up in five or 10 years time. Most of these brands are using all the same parts from a handful of manufacturers, and from everything I have read from people who have visited the plants, the tolerances don't exactly meet the same standards of most Western manufacturers. But at prices this cheap, you might not care if it lasts.

And last, we have the **Soundelux E49 (MSRP \$3,750/street price \$3,325)**. This is based on the Neumann M49, and uses the same K47 style capsule as the Soundelux E47. This was a terrific sounding mic, although it lacked some of that airiness and sizzle of mics like the Manley or the Brauner. It had a very neutral but warm sound. It was one of the most even-sounding mics on the piano. And while it didn't have that ring or brightness to it, it gave a great representation of the acoustic. It had a nice fullness on the male vocal, but I didn't care for it on the female. I wanted to hear some of her breathiness and it made her sound a little boxy. This would make a great utility tube mic, but there was nothing magical about it for me.

Thus ends the hunt. Now go forth and rock.

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