BY JOHN FISHELL

Studio Projects B1 Condenser Microphone

Economy meets solid performance in this large-diaphragm mic

Not long ago I had a demo project come through—a one-guy rock production, and the one guy was me: my song, my guitars and bass, and my one mic. It just so happened that *Recording* sent me the Studio Projects B1 microphone right at the same time. Perfect.

Okay, first things first: this mic lists for $149. Most people will probably pay less. Wow. You can buy *two* B1 mics for less than the cost of a high-end shockmount! Wow. But is it worth those paltry few dollars?

The B1 is a large-diaphragm condenser microphone with a cardioid polar response pattern. Studio Projects reports a sensitivity rating of –34 dB referenced to 1V/Pa, which is typical of such a design. SP reports a self-noise level of 12 dB (A-weighted) which is also typical of large-diaphragm condenser mics. S/N rating is listed as 82 dB and is also in the ballpark for this type of mic. The mic has a switch that allows for a –10 dB or a –20 dB pad, and another switch for two different low rolloff filters (75 Hz or 150 Hz). Studio Projects lists the B1 frequency response as 20–20000 Hz without giving a deviation, so you can't really get an idea of how "flat" the mic might be on paper.

Setup tweaks

The B1 comes with a foam windscreen (I never needed it) and a plastic mic clip that acts as a basic shockmount. I appreciated that the shockmount is not one of those "spider" types where an elastic band eventually comes off, or the metal prongs bend. SP is even kind enough to include two extra elastics in case one breaks. I also liked that they used longer-lasting metal threads instead of plastic threads. I did not like the fact that the mic easily spins around in the shockmount, and just didn't feel "locked in".

Also, the B1 shockmount requires that the little "tab" on the mic base line up with the "slot" on the mount to get the mic in and out of the clip, and I had some trouble with this. I felt like something was going to break when I had to pull on the mic using all of my super studio strength to get it out of the mount. (After all those years inside a dark control room doing mic stand presses, I can bench some body weight. Even if it is only the body weight of a Yorkie terrier). Studio Projects has a link on its website to instructions (with easy-to-follow photographs) on how to adjust tension in the mic clip; I usually go to a company's website to check for software upgrades, and it never occurred to me to check there for extra instructions on using a microphone. But now *you* know, in case you decide to try the B1 and need some help on this.

In use—acoustic guitar

Down to business. On the project, I used the B1 for everything requiring a mic—acoustic guitar, electric guitar amp, and voice. (I recorded the bass direct and programmed samples for drums.)

I used my "standard" studio signal chain—an API 7600 channel strip followed by an Apogee Rosetta 800 A/D converter prior to my Digidesign 002 rig. After constructing the drum tracks with samples (no small task) I decided to record acoustic guitar first.

The first thing I noticed was that tapping on the shockmounted mic produced a low resonance tone around 92 Hz. I also tried tapping on the mic after pulling it out of the shockmount, with the same result. To be fair, most mics have this kind of "tap tone", likely due to the shape and materials of the mic—see Scott Dorsey and Mike Metlay's article in this issue to learn more about this kind of body resonance. I just seemed to notice this mic's tone more than on other similar microphones, and wondered if it would affect the frequency response of the mic when in practice. Did it? Read on.

Now for the fun part: with headphones on, I moved the mic all around my Taylor 714 acoustic guitar and every reasonable placement sounded great. Close, far, over the hole, angled from the hole, above the body facing down—it just didn't matter other than choosing which of all the good sounds I wanted to use. Mid and low frequencies seemed quite tight and even—the "tap tone" didn't seem to

be a problem in the lows. I wouldn't call the high-frequency response "silky", but it did seem to be relatively even and somewhat grainy (in a nice way), along with the typical condenser mic "tizz" in the high-mid-frequency area. Even with a placement somewhat further away than what I normally do for my acoustic guitar, the recorded sound seemed very present. So far so good—the mic is right "in there" with the pack of much more expensive models.

Electric guitar

Next I recorded electric guitars. Just for fun I started with the B1 about an inch away from my sealed 2x12 cabinet right in front of the speaker, where you'd normally try a dynamic mic. Honestly, it sounded just as bad as any other condenser mic in that position—hollow, raspy, and completely unusable.

About three feet of distance between the speaker cabinet and the mic straightened the sound out perfectly. Suddenly, my mildly overdriven guitar sound was full and large along with a nice shine and glare on the top end. Doubling the track using the exact same position produced more of the same, but in beautiful big stereo. Next thing you know, my song started to sound like I knew what I was doing, at least as far as acoustic and electric guitars were concerned.

Vocals

Vocal time. My favorite thing to do with a vocal track is... nothing. I love to be able to simply push up the vocal fader and feel like the track is ready to mix as it stands. The B1 gave me a present and somewhat raspy sound, yet never letting go of low and mid frequency information vital to a solid vocal recording. I'm a stickler about vocal recordings, especially when it is my own odd voice, and the B1 was impressive. It didn't quite have the "silk" of a vintage AKG C-12 but the B1 gave me a truly workable sound that cut through the layers of guitar quite nicely.

Again, we should remind ourselves of an important aspect of the microphone in question: this mic lists for $149.95, and was not necessarily built to compete with large-diaphragm mics like the Neumann U87 or the AKG C12. If the vocal were more exposed, such as with a quieter piano-vocal based song, I might want to go with a smoother/silky (um, more expensive) microphone, but in this circumstance, the B1 was quite appropriate.

I also recorded some background vocal stacks (Queen-style oohs and ahhs) and the B1 vocal stacks sounded great. In fact, I thought all the tracks worked really well together and I didn't feel like any particular frequency area was building up. If you stack up many tracks recorded with a Neumann U47, things can get quite present and 'peaky' in the upper mids.

What's the deal?

The 'rub' on the cheaper Chinese mics is that they may use components of lesser quality, and they may not have the manufacturing quality controls that the big (expensive) boys have. Such tolerances could affect frequency responses and performance characteristics. Honestly I just use the mics, and I have no way of verifying anything about how any company does their manufacturing quality control. It may be that the extra bit of "silk" and flat high frequency response the B1 lacks could cost you an additional $2000.

The B1 seems solidly constructed, it sounds like a contender, and could be the champion of all microphones in terms of cost vs. quality. Bottom line: if you choose this microphone, and your audio sounds less than great, chances are that the B1 is not the problem!

Price: $149

More from: Studio Projects, www.studioprojects.com. Dist. in USA by PMI Audio Group, 1845 W. 169th St., Gardena, CA 90247. 310/323-9050, www.pmiaudio.com.

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M-Audio IE-30

BY MIKE METLAY

In-Ear Monitors

Reference sound you can carry in your shirt pocket

In previous reviews of in-ear monitors, I've discussed the pluses and minuses of a recording musician making use of them. They're never going to be as frequency-accurate as a good pair of headphones, and they certainly can't replace studio monitors for critical tests of frequency response or stereo imaging. But for picking out fine details of recorded music, especially under circumstances where outside noise makes it hard to hear what you're doing (like recording a live show, for example), they can be a lifesaver; you can monitor at lower levels and save your ears, using their isolation to your advantage; and if you're someone who does a lot of mobile listening to music, a really good set of monitors can do double duty, enhancing your enjoyment of day to day music when you're off the clock.

Keeping that in mind, here are my experiences with M-Audio's new IE-30 in-ears.

Outside

The IE Series comes in three models, with the IE-30 unique for its dual-driver design. M-Audio's monitors were designed by Ultimate Ears, an established maker of quality in-ears; I had a leg up on experiencing the IE-30s because I've owned and loved the corresponding Ultimate Ears model (the Super.fi 5 Pro) for a long time. The M-Audio version is as good as the original in all respects, and in one or two ways actually beats it.

The first of those improvements is the storage case supplied with the IE-30 and all its accessories; it's a waterproof metal box with a snap-fit rubber seal and lots of open space inside, whereas the Ultimate Ears version has a complicated cord-spool assembly that wasted a lot of interior space. I can fit the IE-30s inside and still have room for three spare pairs of earpieces and my iPod Shuffle.

The IE-30 comes with a Universal Fit Kit that includes three sizes of soft silicone plugs, one set of soft rubber plugs, a special double-flanged plug for extra-secure hold (another improvement over the Ultimate Ears version), and two disposable foam inserts. Also included are a 1/4" adapter, an 1/8" inline attenuator/limiter for use on airplanes (inflight audio being scorchingly loud on most airlines), and a wire cleaning wand for gently removing earwax from the driver tubes. If the metal case is a little too bulky for your pocket, there's a smaller leather pouch included as well.

The IE-30s have a detachable/replaceable Y-cord with stiff metal wires that can be formed to hook behind the ears and hold them in place, the cord dangling behind the neck; the 46" cord ends in a conventional right-angle 1/8" TRS plug.

Inside

The IE-30s are large as in-ears go, because of their dual-driver design; they protrude from the ears a bit more than you might be used to, but not outrageously so. Because the 'business end' of the earphone is wider than single-driver designs, you may have a bit of trouble getting a comfortable fit at first; patience, persistence, and a lot of earpiece-swapping will help you find your tightest, most comfortable fit. Set aside a couple hours for your first listening session, just to experiment with the fit, and don't forget to talk, chew, and yawn to make sure the monitors don't shift around; it'll pay off later.

I found the IE-30s to be a very pleasant listening experience—there was no obvious 'mucky' area where the crossover took place between the low and high drivers, and I enjoyed fine high-end detail,