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## Studio Projects C1 Condenser Microphone

### Hell Froze Over



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by John Borwick

Probably the hottest product to hit the audio world lately has been the Studio Projects line of condenser microphones. Discussion forums on the Internet are loud with posts to the effect that "you can't tell the difference between a C1 and a U87!" and that the Studio Projects mics are the best mics ever made. Still others call the C1 and its siblings "more crappy-sounding Chinese trash." Clearly, people are pretty opinionated about this little mic.

Studio Projects mics are built in China by Beijing 797 Audio. This is the same company which brought us mics by ADK, BPM, Marshall Electronics, Joemeek, Carvin, Nady, and others. Unlike those other distributors which seemed to hide the origins of the microphones, Studio Projects proudly proclaims the Chinese manufacturer, and in fact the 797 Audio logo is prominently displayed on the mic itself.

ProRec has been quite vocal about the overall quality of the Chinese import mics. In fact we have openly encouraged our readers to avoid them at all costs and instead buy a mic with a proven reputation. Having heard my fair share of these wanna-be mics, I figured hell would probably freeze over before the 797 Audio made a good mic. So when Studio Projects owner Alan Hyatt personally asked me to review a Studio Projects C1, my response was, "are you sure you know what you're asking for?" Alan assured me that he did, and asked me to just keep an open mind about the mic's origins and instead focus on the sonics. Having had my openmindedness challenged I decided to take the challenge and see if there was something about this mic that justified the hype.

### The Mic

The C1 uses a 1", 6-micron, center-connected gold-sputtered capsule with a transformerless FET amplifier. A-weighted self noise is reasonably low at 17 dB and sensitivity is also good at 14mV/Pa = -37 dB. Frequency response is the expected 20-20KHz. No pad or rolloff is provided, but the mic can handle SPLs up to 131 dB without overload.

*Studio Projects  
C1 Microphone*



The C1 package ships in a very flimsy flight case with cheap-looking foam inserts. A standard "binder clip" style shockmount is provided for mounting to a stand. I don't like these kinds of shockmounts, but they're better than nothing, and seem to hold the mic firmly. The flight case, however, is an example of misplaced priorities. I would have greatly preferred a pad and bass rolloff instead of a cheap lunchbox.

### The Sound

So let's get right to it. How does the C1 sound?

As I've pointed out, I have heard many of the 797 mics distributed in the US, and haven't liked any of them so far. The C1 was therefore a surprise indeed. From the get-go this was clearly a good sounding mic.

We started with the usual speech and instrument tests just to hear the mic on various sources. As a reference I used my familiar Audio Technica 4050, Crown CM700 and Groove Tubes MD2a mics. To preamplify all four mics in a similar fashion we used a Mackie 1402 mixer. This is also likely to be the preamp used by most Studio Projects customers, so I felt justified in using it for the first round of tests.

The first thing I noticed was that the C1 had a much nicer "scoop and sizzle" than its other Chinese brethren. The proximity effect was much tamer than I expected, with a quality that was more "rich and smooth" than "big and bassy." The treble, while quite boosted, was considerably less harsh than any of the other Chinese mics I've heard, resulting in a sound that had plenty of sheen but wasn't overly edgy. The midrange was not scooped out but rather sitting nicely in the frequency response.

The C1 did better than I expected on the key jangle test, with a little distortion but not totally crapping out. I would put it on par with the CM 700s on this test. The 4050s and especially the MD2a delivered cleaner, more accurate treble than the C1. But this is probably to be expected. The C1 is billed as a mic that offers usable coloration particularly on vocals. A little distortion is to be expected, especially in the high frequencies.

Vocals recorded with the C1 were very good. The mic is much cleaner sounding and better behaved than I expected. Although the C1 couldn't handle sibilants as well as either the 4050 or MD2a, it outperformed the CM 700s in this area. Vocals had a decent treble that helped them sit comfortably in a mix, and a reasonable bass content that needed neither boost nor cut. Sibilants notwithstanding, I liked the vocal sound of the C1 better than that of the 4050, which can be a little nasal-sounding. By comparison the C1 had that pretty sheen that made the vocal track stand out in the mix compared to the track cut with the 4050. While I preferred the MD2a to the C1 for vocals, at a list price of around \$1500 the MD2a is not exactly a fair comparison! In the end the vocals recorded with the C1 sounded great and required no EQ at all, which is one of the best compliments I can pay a mic.

In addition, instruments recorded with the C1 were generally well-behaved. With the mic positioned correctly we were able to get a very usable acoustic guitar sound, with just the right brilliance on the steel strings and not too much bass to muddy up the picture. I didn't have a pair of C1s available to try as drum overheads, but I suspect that they would fair rather well in this role. I would suspect also that the C1 would be a great mic on upright bass, horns, and maybe even piano.

## Second Opinion

One powerful advocate of the Studio Projects C1 has been ProRec's own Ted Perlman. Ted has been using the C1 for a while now, and here's what he had to say about it:

Last January I got a frantic call from Pete Leoni, "You've got to get over here to NAMM and hear this mic! It's only \$299.00 and it's exactly like a U87".

I was intrigued, so I made plans to meet Pete at NAMM here in Los Angeles. Just to make sure the mic was all Pete said, I brought along my wife Peggi Blu, an internationally known "diva" singer with a few major label albums to her credit. Peggi can truly "sing". When we got there Pete dragged us to PMI Audio's booth, where we met the owner of PMI, Alan Hyatt.

"Where's this amazing mic?" I asked, eager to finally hear the thing. There it was, next to a Neumann U87. Peggi, Pete, Alan, and myself put on the headphones and Peggi started singing into the 87. Awesome, that classic Neumann sound that is heard on probably 90% of the records ever made. She then moved over to the C1 and sang into that. EXACTLY the same, no difference. We were all amazed. Peggi looked up at me, smiled, and said "you've got to get this mic". I bought one on the spot, as did Pete, Randy Hammon (a great musician & singer), and everybody else who happened to be standing around and heard the impromptu demonstration. On the way home Peggi asked me why I didn't buy 2 of the mics. "Well, maybe it won't sound good in the mix", I answered. Hah, was I in for a big surprise.

I tried the mic the very next day. The vocalist was an 18 year old Christina Aguilera-type, big voice, wide range, and many dynamic subtleties to her vocal performances. She didn't get through a verse and chorus before she stopped singing and asked me "what kind of mic is this - I sound awesome on this". She did. I immediately called Alan Hyatt and played a little of the just finished recording into his answering machine. "This mic is unbelievable!" I screamed and hung up.

Over the next week I tried the mic on male singers, female singers, young singers, old singers, singers who could really sing, singers who couldn't sing very good – everybody. We did country, pop, rock, rap, hip-hop, R&B, everything. The mic just killed! It didn't sound like a U87 – it actually sounded better! You didn't have to eq it in the mix. The vocal performances sat in the mixes as if they had been compressed and limited and mastered already. How could a \$299.00 mic sound this good? I had to tell the world. I started writing rave ups of the C1 on beta forums I participated in, on newsgroups, everywhere. I probably sounded like I was on PMI Audio's payroll, but nothing could be further from the truth. I would have paid \$1,000.00 for this mic. My clients were all thrilled. Even friends of singers would lean over in the control room while we were recording vocals and ask me "what kind of mic is that, it sounds awesome!". And we were not even using a big deal mic pre-amp. For the first month I had the C1, we used a Presonus MP20 mic pre. The MP20 is a great sounding preamp, but definitely not "top of the line" by any means. It is just a good, clean, mid-priced unit that colours the sound very minimally. The next month I got a Joe Meek VC1Q, which sent the sound of the C1 "over the hill". This was about as close to orgasmic as the recording process gets.

Does the C1 "change the world"? Actually, I think the answer is a resounding "yes". For the first time, home studio recordists can afford to have a microphone that will give them world class sound. Obviously, the quality of the vocal performances will determine what the recordings really sound like, but they now have the same level of tools as the 'big boys'. The advent of fast PC's changed the way recordings were done, and I feel this mic is the next step in the process.

PMI also makes 2 other mic models – the C3, a multi pattern version of the C1, and the T3, an 8 pattern tube mic that sounds as close to an AKG C12 as the C1 sounds to the U87. They are all spectacular. I have used the T3 on every background session I've recorded since it came into my studio. Alan Hyatt must have filled his answering machine up with my nighttime calls raving about his mics.

Last year I got into a bit of trouble with my friends at Neumann for writing at the Cakewalk Newsgroup that I preferred a Rode NT2 over their mics in some cases. They had been kind enough to let me borrow a few of their high end mics for a few weeks, and felt "betrayed" by my endorsing the Rode. I didn't mean any disrespect to Neumann, who everybody knows are one of the best mic manufacturers ever. I again hope my writings here about the C1 don't offend them again. However, for too long, these Neumanns have been out of reach except for the wealthy and the big studio owners. Well, the C1 is here and hopefully, in the not-too-distant future, the potential purchaser will have a choice when they go into a store to purchase a new mic – the Studio Projects line, the Neumann line, or the AKG, Groove Tubes, or other mic brands. And that customer will not have to give up their

entire monthly mortgage or ½ year's worth of car payments to get it, either. They will have the option of getting a mic with a brand name that their clients will recognize immediately, or a mic that simply sounds great. And that will be a great day for all of us.

- Ted Perlman

### The Rest of the Story

I have heard from countless individuals that "you can't tell the difference between the C1 and the Neumann U87." I did not take this test. Although it's treasonous in our business to say it, I have always been less enamored with the U87 than most people, preferring either cleaner solid-state mics like the Rode NT1000 or more colorful tube mics like the Groove Tubes MD2a. So comparing a mic to a U87 doesn't immediately sell me on the mic. All that being said, however, I can believe one thing for sure: the C1 certainly is on a sonic level that far exceeds its price.

I didn't think I would be the person to say this, but I really liked the C1. I was perfectly prepared to tear it apart, but in the end I couldn't do it. Although I have been very vocal about the overall quality of Chinese import mics, the C1 does not fit that mold. I guess hell froze over after all.

At the very least the C1 is a tremendous value for the project studio, and with a street price around \$200 is certainly the best sounding \$200 studio vocal mic ever made. And it should be a real wake-up call to the German mic companies who persist in selling their mics at a premium price. The C1, like the Rode NT1000, proves that the long-standing dominance of the German mic manufacturers is finally reaching a breaking point. You simply do not need to spend \$2500 to get a professional quality vocal sound.

If you're in the market for a low-cost, high-quality studio vocal mic, be sure to check out Studio Projects. You can find them on the web at <http://www.studioprojectusa.com>. And tell 'em Rip sent you. They'll be surprised.

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