

## Electronic Musician, August 1997 BlueMAX



By Brian Knave

The personal-studio revolution put exquisite audio tools into the hands of the masses, but it did not manage to wipe out the inequity of the Haves and Have-Nots. Large commercial studios can still afford the sexy, high-end gear that home recordists can only dream about ("Same as it ever was," to borrow a line from David Byrne.) But how much improvement in audio quality are those rich acquisition budgets buying the pampered pros? For example, does the sound of a \$ 4,000 signal processor outstrip the sound of a \$400 unit by such a huge margin that the expensive model automatically elevates source signals to a pinnacle of undeniable brilliance?

Well, we just have to know how much audio magic lies within those costly toys. In June of 1997 EM ("Rich Man Poor Man"), we pitted high-end microphone preamps against inexpensive models to see exactly what the pricey boxes delivered in relation to preamps we could all afford. Now, we're sliding six solid state, stereo compressors under our microscope for a similar price versus performance comparison.

For the inexpensive category, we looked at three models costing less than \$ 300 each: the Aphex 108, the dbx266A, and the PreSonus BlueMAX. The opulent units chosen were the Avalon AD2044 (\$4,200), the dbx160S (\$2,495), and the Focusrite Red (\$3,995). Is there even a prayer that the affordable boxes can sound decent compared to the tonal sophistication of such moneyed majesty? Should you simply toss your masters into the nearest trash bin until you can afford to spend four grand on a real compressor? Sit tight, gang: all will be revealed as we toss the diamonds in with the cubic zirconia, shake things up, and see which sparklers really shine.

### THE ARENA

To test the units, I focused on five instruments: electric fretless bass, acoustic guitar, vocals, kick drum, and snare drum. I recorded each instrument flat (without EQ) through a Mackie 8-Bus console to one track on an ADAT XT and cloned the performances to tracks three through eight. For vocals and acoustic guitar, I used a

Neumann U 87; for kick drum an AKG D 112; and for the snare drum, an Earthworks, TC-40K for brush work and a Shure SM57 for sticks. I recorded the bass guitar direct via a Countryman DI box. I set up the tests so I could patch each compressor into a separate channel insert and hear the units side by side, in real time, processing the same signal. Of course, I also made use of each compressor's bypass switch to compare processed and unprocessed signals. In addition, I listened to each compressor with some tracks--primarily fiddle, funky Stratocaster, and fretted bass--from a sample disc provided by PreSonus.

For these monaural instrument tests, I tried a number of settings with each unit, including mild, moderate, and extreme compression ratios; different attack and release times; and varying thresholds. Naturally, I had to spend a good bit of time fiddling around with each compressor to find the best-sounding setting for each instrument. It was rarely a matter of simply applying the same setting to each unit. It was also important to hear how each compressor performed in the stereo-link mode while processing a complete mix. For this application, I dug up a few DATs that featured full band mixes as well as a few simpler mixes consisting only of guitar and vocal. For this part of the tests, I kept compression ratios low, between 1.5:1 and 2:1 (which is where they'd likely be in a typical mastering application) and sought to find the most transparent settings. Of course, I was curious to see how well the limiting worked on the units that offered it.

### MEET THE AFFORDABLES

You know these babies. You've met them in home studios and seen them on the shelves of your local music store. Perhaps you even own one. At under \$300, these units are attainable wonder boxes that can improve the sound of your tracks. But can they make a pro engineer proud, or are the marginal sounding opiates for the personal studio masses? Let's look now at these value priced compressors from Aphex, dbx, and PreSonus and assess each unit's strengths and weaknesses...

#### PreSonus BlueMAX

Unlike the other test units, all of which are dual-mono compressors with two sets of independent controls, the PreSonus BlueMAX "Smart Compressor" provides only one set of controls for both channels. This keeps the unit small (less than one-half rack space) but means that the two channels cannot be set independently.

A newcomer on the market, the BlueMAX is unique in offering fifteen preset compressor settings: three each for vocals, keyboards, and fretted instruments and two each for percussion, effects and stereo programs. Used with the presets, this unit is a no-brainer. There's also a manual setting, which activates the control knobs for input, ratio, attack, release, and output. The input knob ranges from -20 to +40 dB and the output from -20 to +20 dB. Ratio is variable from 1:1 to 20:1, attack from 0.01 to 100 ms, and release from 10 to 500 ms. Two 8-segment LEDs provide metering for gain reduction and input/output (switchable). A Process in/out switch

provides bypass. The BlueMAX is an easy to grok unit with a bright blue faceplate and clearly marked controls. Considering its small size, its feature set is fairly comprehensive, with the only obvious omission being a threshold control. For manual operation, the threshold is fixed at -10 dB (a good place for it!) whereas threshold settings vary on the presets. The unit's rear panel has unbalanced 1/4-inch inputs and outputs, a single 1/4-inch sidechain connector, an operating-level switch (+4 dBu or -10dBv ), and an on/off switch. The power supply is internal and the power cord detachable.

**Bang for the Buck.** This little box has a surprisingly big sound. Of the three low-end units, it was the one that handled bass guitar signals most gracefully, providing both smooth compression and a warm, reasonably fat sound. Accordingly, it proved excellent for kick drum, too, tightening the sound without adding boom, and accentuating just the right part of the thud. I also liked on vocals, where it provided a good natural tonality with plenty of presence. The only complaint here is that , on sudden vocal peaks, it would clench up a bit and sound somewhat edgy. Possibly, though, were there a dedicated threshold control, I would have been able to dial up a setting that better accommodated those peaks.

The BlueMAX was also the most natural sounding of the low-end compressors on acoustic guitar; in fact, in terms of naturalness, it gave the high-end units a run for their money. It also sounded very natural on the fiddle: not as warm and thick as the Aphex and not so bright as the dbx 266A. On electric rhythm guitar, where naturalness of tone isn't necessarily the point, the BlueMAX provided a bit less body than the Aphex unit. Still, though, it sounded quite good. Snare drum was the only instrument I tested that didn't seem a perfect compliment for the BlueMAX. To my ear, the BlueMAX overly stressed the thud factor in the backbeats, accentuating the stick hit and de-emphasizing the "wetness" that I like so much in a snare sound. On the brush beats, the sound was slightly muffled.

I also tried many of the presets on the BlueMAX and found that, in many instances, they offered compression characteristics I wasn't able to duplicate with the manual controls-- probably due to built-in variations in threshold, attack, and release settings. (the manual lists all the preset parameters, which is helpful) At any rate the BlueMAX's presets are definitely "value added" and not mere marketing hype: for each instrument I tested, at least one preset was nicely suited to the application (which, of course, is the idea). However, most of the time, I still preferred the sounds I got from dialing up my own parameters.

The BlueMAX also did a fine job in stereo applications. The sound was slightly darker than the other two units and possibly punchier in the low mids, but these are hairline distinctions.

## **SHOW ME THE MONEY**

Bottom-line time: does spending ten times as much money buy ten times as much compressor? Put that way, of course, the answer is no. Then again, if the equation were that simple, people would never buy a Mercedes rather than a Nissan, or Dom Perignon rather than Cooks. So let's look more closely. So what do you get for spending ten times as much money? Well, generally, you can rest assured that no corners were cut in terms of components, design, and assembly. That engenders some major peace of mind in terms of reliability, durability, and user confidence. Sonically, the high-end units are almost always more transparent and pleasant sounding as well as cleaner and quieter. With the exception of the dbx 160S, they are more forgiving, as well. In addition, the high-end units were able to produce decent audio at extreme settings. This was not the case with the less expensive boxes, which were more likely to crash and burn at the far fringes of processing. The inexpensive compressors also charted less-than-audiophile results on vocals and bass. The distinctions were subtle, but to my ear, the low-end units imparted more of an electronic sound to the vocal tracks. As for bass guitar, evidently all that low-end energy is often simply too much for the cheaper boxes to handle well.

However, the expensive compressors were not clearly superior at handling all source sounds and applications. Certain instances arose where a low-end box performed as well as a high-end one. For example, the Aphex 108 was almost as transparent sounding as the dbx 160S, as well: the BlueMAX on kick drum and the 266A on snare. These are "feel good" victories for the affordables. So unlimited headroom on a Gold Card can certainly buy gorgeous audio for many applications--especially those timbre-critical tweaks for vocals. But you don't have to feel like subpar audio is a fact of life if you are restricted to budget boxes. Just use your imagination, your ears, and the technical knowledge you gain in these very pages, and even those affordable compressors can produce delightful sounds. And if you do make a transcendent recording with inexpensive gear, the bragging rights go on for about 25 years.

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