

going back to the Yamahas. By '92, I was using Meyer HD-1, the first popular self-powered console-top monitor. By '94, it was the first generation KRK. And then it was onto the Genelec 1031A in '97. In 1998, I first encountered the Dynaudio BM 15A, a discovery which changed my life. Never before had I heard a speaker so dynamic, so three-dimensional and detailed, so punchy, and so versatile. I've used it for tracking, overdubbing, mixing, you name it—without getting fatigued. The bass is deep enough even to track drums and bass. I thought I'd found the perfect studio monitor, and to this day, I love that speaker. Since then, not much else has grabbed my attention... until now.

I recently became hip to the ADAM P22A, and wow, I am lovin' that monitor! And I thought I hated ADAMs! All I had heard before was the ADAM S3-A (*Tape Op* #33), which some people swear by, but which I have never been able to get a handle on. I guess they are a "Can you handle the awful truth?" kind of speaker. And at five grand a pair? Fuggedaboutit! I'll take my Dyns any day, thank you.

Then one day not too long ago, ADAM's Dave Bryce informed me that ADAM makes monitors in every size, shape, and price-range, so just because I disliked the S3-A didn't mean I should condemn all of the ADAM range. He asked me some questions about the type of speakers I like and then suggested the P22A. I'm very glad he did. Thanks, Dave.

For one thing, I'm a fan of vertically-aligned two-way monitors (like the BM 15A). So the P22A is a good match for a guy like me. (Even when I used the old NaSty-10s back in the day, I never laid them on their sides. Do people listening at home put their speakers on their sides?) I found the P22A to have tight, yet deep bass; high SPL; fast, supple mids; and highs that are sparkly but never harsh.

There are many things about the P22A I really like. First, they have a very wide and solid sweet-spot. Sometimes, traditional flat-ribbon monitors bother me because the off-axis response gets phasey and weird, and you have to lock your head into one tiny little mix position to get a clear image. This is not the case with the P22A's folded ribbons at all; they have nice dispersion. Second, you *cannot* hear the crossover. It's absolutely transparent—no odd valleys or peaks, which is a very desirable trait. Smooth from bottom to top. Even my beloved Dynaudio BM 15As get a little fussy at the crossover points. Third, the speed of the folded ribbon gives the P22A really nice dynamics, detail, and three-dimensionality. This enables fine sculpting because you can really hear your EQ, compression and effects. Fourth, they're *loud*, rating 109 dB in the SPL column. You rock and hip-hop guys can get them cranking, which again is a trait not typical of classic ribbons. Fifth, the P22A has deep bass, going down to 38 Hz, so you can feel the bottom octave; it's a tight, defined low-end—never boomy or rumbly. For many applications, this avoids the need for a subwoofer.

But what I like best is that the P22A is a very musical monitor. The silky highs, supple mids, and punchy lows make it a pleasure to work on all day long. Most importantly, they translate *amazingly!* I usually have to mix and remix a song a couple of times to get the frequency balance right. My very first mix on the P22A was perfect. One and Done! (One song on a ten-song CD was mixed on the P22A, and I liked it so much I told the mastering engineer to use that track as the model to match all the others to.)

It's a rare speaker that is both musical *and* accurate. Usually real "happy" speakers don't reference well, and super-accurate speakers are boring and no fun to work on. I can count the monitors that do both on one hand. The P22A is in that rare group. At half the price of the S3-A, it lands at the same \$2500/pair price-point as the Dynaudio BM 15A. Yep. I think the ADAM P22A just knocked my Dyns off the console. (\$1250 street each; www.adam-audio.com) —Drew Townsend

Apogee Electronics Symphony PCIe interface card w/ AD-16X & DA-16X converters

In the previous issue, I wrote in my "Gear Geeking" column about selling my Pro Tools HD 2 rig and buying a new 2.66 GHz quad-core Mac Pro, an Apogee *Symphony* PCIe audio interface card, and one each of Apogee *AD-16X* and *DA-16X* converters (A/D and D/A respectively). I already owned an Apogee Rosetta 800 AD/DA converter (*Tape Op* #40). I mounted *X-Symphony* cards into all three converter units and hung them off the *Symphony* card. I loaded the Mac Pro with 6 GB of RAM and four HDs totaling 1.75 TB, with some of that storage set up as a striped RAID-0 volume for enhanced performance. The system sounds absolutely stunning, and it's so damn powerful, I have yet to do a project on it that comes even close to maxing the CPU and HD loads. And by the way, it cost significantly less than what a "comparable" PT HD rig would cost. (Now there's a can of worms!)

What would be a comparable system in PT land? All that Apogee gear retails for \$11,380. Add a grand for Logic Pro 7, and we're at \$12,380. If we build an all-Digidesign system with 24 channels of analog I/O, we're talking two 192 I/O units, plus an extra 8-channel 192 AD card as well as an extra 192 DA card. Then at least an HD 2 Accel base system just to handle the I/O, bringing the PT total to \$21,475. Whoa, that's a \$9100 difference. Even if you argue that PT HD doesn't need a bad-ass computer because of its on-card DSPs, you're still talking at least \$6000 saved. (See my "Gear Geeking" column in this issue for more on this.) Plus, that figure doesn't account for the upgrade in sound going with Apogee converters.

The *AD-16X* and *DA-16X* utilize the same C777 technology that makes Apogee's Big Ben master clock (*Tape Op* #51) tick. That, in conjunction with top-shelf conversion and well-designed analog circuitry, makes these converters sound significantly clearer to me than the Digidesign 192 I/O (at all sample rates). Also, there's a certain immediacy to the midrange sitting forward in Apogee's soundstage that I like—something I hear in both my Rosetta and my *AD/DA-16X* pair. It's as if the most important aspects of the image are color-corrected and better-defined. Is it splitting hairs to compare sound quality at this level? If you're spending that much money, you better be splitting hairs!

Well, all that great sound wouldn't matter if you couldn't get it on and off your HD efficiently, especially if you're concerned about latency while tracking. And here's where *Symphony* kicks butt, despite it being a "native" system. *Symphony*'s high-performance driver allows Logic to run with a Core Audio buffer size of 32 samples on my Mac Pro without dropouts. (Even while playing back 32 tracks and recording an additional 24!) In advertisements, Apogee claims a full analog-to-analog roundtrip (*AD-16X*, *Symphony*, Logic, *Symphony*, *DA-16X*) takes 1.6 ms at 96 kHz. To verify, I pulled out my Tektronix digital scope and measured timing in and out of a record-enabled track in Logic. At 96 kHz, a 32-sample buffer yielded 1.5 ms of round-trip latency; 64-sample, 2.16 ms; 128-sample, 3.5 ms. At 44.1 kHz, the numbers were 3.36 ms, 4.8 ms, and 7.72 ms respectively. Again, that's full roundtrip. Keep in mind that sound travels through air at approximately 1 ft per ms. So if a guitarist is standing with her ear 5 ft from her close-mic'ed amp, with a 3.36 ms roundtrip delay at 44.1 kHz, she'll hear the amp in her headphones coming back from Logic *before* she hears the actual soundwaves in

the room. Which means with Logic and *Symphony*, latency is a non-issue. What if you're using an application that's not as efficient as Logic? With Cubase, the lowest I could go for I/O buffer size without experiencing dropouts was 128 samples, which I measured as 7.72 ms roundtrip latency at 44.1 kHz. If that's too high for you, then all you have to do is open up the mixer window in Maestro. *Symphony*'s control panel software for *Symphony*. *Symphony*'s on-card mixer allows you to bypass the host application and create cue mixes with almost-zero latency. With Maestro, you can also route audio between multiple, concurrently-running Core Audio applications through *Symphony*'s virtual channels.

I should mention here that in general, *Symphony* and Maestro play well with everything. But if you change your master clock's rate between boot-ups, *Symphony*'s driver complains about misconfiguration on the *X-Symphony* bus while powering up. When you open up Maestro, the first thing you have to do is reset the clocking, but for reasons that I can't explain, every now and then, the spinning color wheel of death appears. I've had to Force Quit out of Maestro numerous times, with multiple attempts at resetting the clock and reboots when Maestro freezes. This can be a real session killer, and the only advice I can give you is, don't change clocking if you're in the middle of a multi-day Logic session. New software from Apogee that addresses this problem is in Beta right now.

What about the usability of the hardware? Well, I've said this before. When it comes to Apogee gear, I write down my "cheats" and tape them to the front panel. Using Apogee gear is like trying to pat your head and rub your stomach at the same time; insufficiently labeled, multi-function button fields require you to push one button while holding down another.

On the *16Xs*, one of my favorite pat-head-rub-stomach tricks is to hold down the up-arrow button while powering up. This puts the interface into Advanced Option Routing mode, whereby the *AD-16X* talks to *Symphony* with 16 channels of analog input and 16 channels of digital output (standard or single/double-wire AES/EBU or S/MUX 4-capable ADAT), and likewise, the *DA-16X* appears with 16 analog outs and 16 digital ins. Together, the pair appear as 16 channels of analog I/O and 16 channels of digital I/O—a total of 32 channels. Unfortunately, the analog and digital I/Os are staggered (e.g. Ins 1-16 analog and Outs 1-16 digital; Ins 17-24 digital and Outs 17-24 analog). Good thing Logic (unlike Pro Tools) allows external inserts on different I/O pairs (e.g. send on 17, return on 1). Other features worth mentioning include Apogee's UV22HR dithering on outputs, Soft Limit on inputs, and "universal connectivity" via optional X-Bus cards for Pro Tools HD, PT Mix, and FireWire. (Although I wouldn't recommend using an *AD/DA-16X* pair for Pro Tools due to the staggered I/Os in Advanced Option Routing mode.)

What do I think of Logic Pro 7? Well, if a new version doesn't come out soon (and I think a new version is sorely needed), I might write up a review of the current version in an upcoming issue. But my one sentence take on Logic is this; its audio performance is stupid-awesome, but its user-interface is stupid-complex. (*AD-16X* \$3495 MSRP; *DA-16X* \$3495; *Symphony* PCIe or PCI-X card \$795; *X-Symphony* card \$200; www.apogeedigital.com) —AH

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