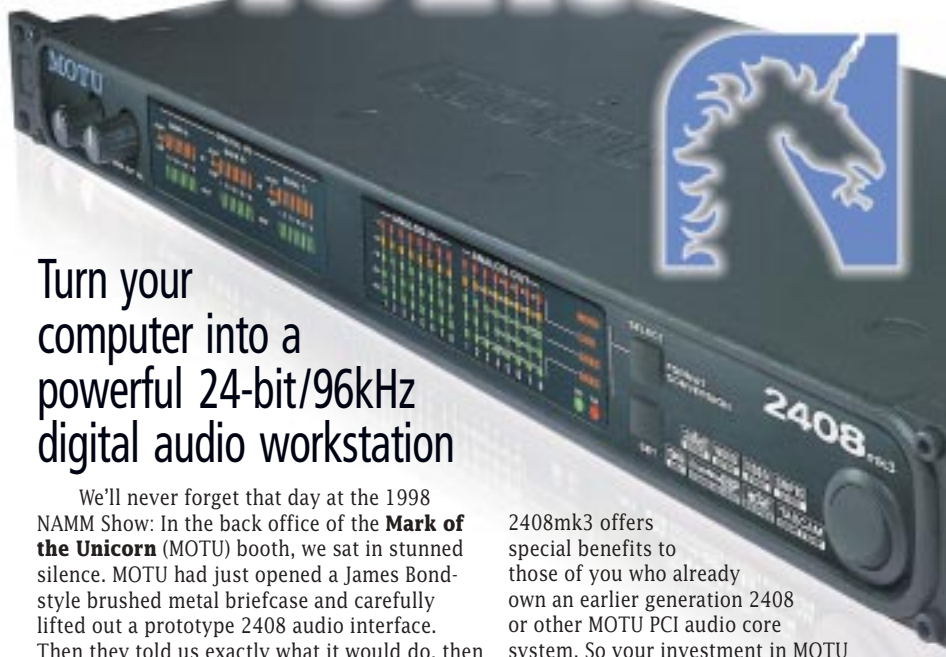# Sweetwater SWEETNOTES

music technology direct™

MOTU 2408mk3

Turn your computer into a powerful 24-bit/96kHz digital audio workstation

We'll never forget that day at the 1998 NAMM Show: In the back office of the **Mark of the Unicorn** (MOTU) booth, we sat in stunned silence. MOTU had just opened a James Bond-style brushed metal briefcase and carefully lifted out a prototype 2408 audio interface. Then they told us exactly what it would do, then told us the price. We admit, our mouths hung agape; how could MOTU possibly offer this much computer I/O at anywhere near this price?

MOTU's 2408 has since grown to become Sweetwater's most successful product. It's no surprise, really, considering its incredible value, reliability and the company that stands behind it.

But times do change, and it seems products just get better. MOTU is now shipping the **2408mk3** ($995 list for a core system), the third generation of this awesome product. Once again, MOTU gives you more features and more value at the same low price. New features include high definition 96 kHz recording, built-in synchronization, more front-panel metering, and most importantly, an entirely new PCI card that offers more expansion — up to 96 channels! — and a new built-in mixing feature called CueMix DSP.

Mac or Windows, mixer or no mixer, Digital Performer or Logic or Nuendo — regardless of what you use, the 2408mk3 is flat-out a great system you should seriously consider. And the

The new MOTU 2408mk3 CueMix DSP window

2408mk3 offers special benefits to those of you who already own an earlier generation 2408 or other MOTU PCI audio core system. So your investment in MOTU gear continues to pay dividends. To find out how, read on.

How about 96kHz recording in four different formats? Like previous models, the 2408mk3 provides 24 channels of simultaneous input and output in three 8-channel banks that can be independently configured for one of four audio formats: Analog, ADAT optical, Tascam TDIF and S/PDIF. The analog connectors are all balanced quarter-inch TRS jacks that can be switched via software (a new feature in the mk3) for either a -10dB or +4dB input reference level.

What distinguishes the 2408mk3 from many other audio interfaces is that it supports 96kHz operation in ALL formats, including the digital formats (optical, TDIF and S/PDIF), making it the ideal companion to the latest generation of 96kHz digital mixers (such as the Tascam DM-24 or Yamaha O2R96). This gives you, for example, 12 channels of 96kHz

INSIDE THIS ISSUE:

TASCAM GIGASTUDIO

Are you tired of all the restrictions and limitations your current standalone hardware sampler places on the size of your samples? If you own a PC, you can now access samples as large as 4.3 gigabytes! What's more, you can now forget about "voice stealing" by installing the super affordable **TASCAM GigaStudio** on your PC. Check it out! **— SEE PAGE 3**

KORG PXR4 MULTITRACK

Not every situation calls for 64 tracks of audio. Still, you don't want to make sacrifices in your sound quality in exchange for a super portable "do-it-all" recorder that you can take with you anywhere. You'll never lose that great song idea if you pack a **Korg PXR4**: It's as powerful as it is portable!   **— SEE PAGE 4**

GEARFEST 2002

It was part massive tent sale and part music technology symposium. It was jam packed with seminars, hands-on workshops, prize giveaways and, of course, mountains of music equipment at extraordinary prices. There was truly something for everyone at **Sweetwater's GearFest 2002**. Get the inside story on this incredible event! **— SEE PAGE 6**

PLUS: Apogee Converters, Kurzweil KME-61, TASCAM DSM7.1, Z-Systems OptiPatch, new custom audio PCs, Studio Spotlight, Roger Linn AdrenaLinn, Finale Guitar software and more!

— Continued from Page 1

optical I/O with a digital mixer. If you need more, you can add up to four 2408mk3 expansion interfaces ($695 each list) for up to 48 channels of 96kHz digital I/O. This is a major breakthrough in high definition audio. MOTU representatives tell us that today's latest generation of Macs and PCs seem to be able to handle 48 channels of 24-bit/96kHz audio just fine.

EXPANSION

The 2408mk3 core system includes the PCI-424, an enhanced PCI card with a newly added fourth Audio Wire port that allows you to connect up to four MOTU audio interfaces. At 24 channels each, four interfaces in a fully expanded system provide 96 simultaneous input and output connections at 44.1 or 48kHz. The maximum possible number of ins and outs varies at the higher sample rates, depending on the computer. MOTU tells us that the FPGA (Field Programmable Gate Array) technology on the PCI-424 card itself is engineered to handle 96 channels of 96kHz I/O. But today's computers and PCI busses don't handle this much simultaneous data yet. So your mileage at the 2x sample rates may vary.

2408mk3

44.1 kHz, and even less at the higher sample rates! The bottom line is that CueMix DSP completely eliminates the buffer latency associated with monitoring live inputs in host-based recording systems. Now you can connect everything directly to your 2408mk3 or other MOTU PCI interface — even vintage outboard gear — and forget about a separate digital mixer. Or you can use CueMix DSP right alongside your mixer as a powerful extension for addition mixing and monitoring.

SMPTE AND VIDEO SYNC

The 2408mk3 is the first audio interface to provide on-board video and SMPTE time code synchronization features. Just hook up a SMPTE time code source to any analog input and off it goes. It even has a LOCK and TACH light right on the front panel to indicate when successful lockup has been achieved. The 2408mk3 can also resolve directly to video connected to its BNC video/word input, while at the same time resolving to time code for address. If your host audio software is Digital Performer, or any sample-accurate ASIO2 compatible host such as Nuendo, then your host application will

A GOOD INVESTMENT

The rear panel of MOTU's 2408mk3 offers every conceivable analog and digital input and output, assuring full integration with virtually all recording systems.

Already own a MOTU PCI system? Then you'll be glad to know that when you purchased your MOTU gear, you bought into a company that does its best to allow you to upgrade your system while at the same time protecting your current investment. The 2408mk3 core system lets you attach *any* legacy MOTU PCI audio interface, including PCI-324 interfaces such as the 2408, 1224, 1296, 24i and 308. They can even take full advantage of one of the PCI-424 card's coolest new features CueMix DSP.

CUEMIX DSP

Latency (delay) is that very small amount of time it takes for live audio entering a system to pass through the system to an output. Every mixer has at least *some* latency, even analog mixers. CueMix DSP provides the same near-zero latency monitoring performance as one of today's latest digital mixers. What this means is that you can connect as many live inputs as you wish to your 2408mk3 interface — keyboards, synths, drum machines, mics, guitars, effects — and then monitor them with no audible delay and no processor drain on the host computer's CPU.

CueMix DSP actually *is* a digital mixer, justwithout any EQ or effects, (which you can get in your host audio software). If a device is connected digitally to the 2408mk3 interface, the round trip, in to out, is only a matter of a few samples. For example, you could connect a PC laptop running **GigaStudio** and equipped with a **MOTU 828 FireWire** interface to your 2408mk3 via ADAT optical and then monitor 8 channels of Giga output with a monitoring latency of around 5-7 samples. That's only 0.16 milliseconds at

slave happily along with your 2408mk3 hardware. The software actually slaves to the 2408mk3 sample clock, so the sync is very tight. MOTU says that for stable time code sources such as another synchronizer (but not analog tape decks), the 2408m3's SMPTE sync is sample-accurate. But the accuracy depends on the time code source. It's the PCI-424 card that provides this capability via a DSP-driven phase-lock engine with sophisticated filtering for fast lockup times and this high degree of accuracy. It can generate SMPTE time code, too, via any analog or digital output in your system. How's that for flexibility?

ADDITIONAL NEW FEATURES

The 2408mk3 offers longer cable lengths, so you can store the interface up to 50 feet or so from the computer. Five-segment dedicated front-panel meters have been added for all analog ins and outs, and there's now a separate front-panel volume knob for both the headphone out and main analog outs. The 2408mk3's stand-alone format conversion features have been enhanced to support 96kHz transfers. As usual, the 2408mk3 ships with a complete set of drivers for Macintosh and Windows (98SE through XP), a Setup Wizard for super-easy installation, and **AudioDesk**, MOTU's Macintosh audio workstation software (core systems only).

It's no surprise that MOTU has hit yet another home run with the 2408mk3, and in the next issue of *Sweet Notes*, we'll tell you about the company's next innovation: the **24I/O.**

www.sweetwater.com/coremk3

Winter NAMM 2003

Our team is back from the Winter NAMM Show with news about all the incredibly cool new gear that was introduced! For a complete report, log onto our Web site, then watch future issues of Sweet Notes for additional information on the products you want and need!

www.sweetwater.com/winternamm

NAMM 2003

Virus on the Brain . . .

Several of you pointed out that in our last issue, we mistakenly referred to the Virus as a Waldorf product, rather than as a product made by those virtual analog virtuosos, Access Music. Though Waldorf does make some amazingly juicy synths in their own right, the Virus is not one of them. You can check out all of the Waldorf gear that we offer at www.sweetwater.com/waldorf, and the Access line of synths at www.sweetwater.com/access.

"The staff there were awesome throughout (my) purchase. Very helpful, patient and knowledgeable choosing the appropriate package so all of my needs were met at a discount price." — *Preston Watkins*

"Your service and prices are outstanding. I look forward to doing business with Sweetwater in the future." — *Rich Germaine*

SWEETWATER PRODUCT PROFILE

TASCAM GigaStudio
160-voice, 64 MIDI channel sampling workstation

Computers have changed virtually every aspect of music production, and the world of sampling is no exception. Many people who for years have sworn by their racks of dedicated hardware have made the switch to the **TASCAM GigaStudio 160** ($699 list), relegating those old samplers to their B rooms! And who could blame them? GigaStudio is a complete sample playback system that uses the power of your Windows PC to create fully-realized audio productions, complete with mixing and effects.

GigaStudio is based on the power of TASCAM's famous GigaSampler and its Endless Wave technology, a patented system which allows samples to be streamed directly off the hard drive, instead of from RAM (like those, ahem, less advanced samplers). Instead of relatively small sample sizes that need to be looped, the Giga platform lets you work with HUGE sample sizes — up to 4.3 gigabytes! The resulting detail and realism is a quantum leap in acoustic instrument emulation. Plus, these enormous samples may be triggered with extremely low latency on all voices using approved GSIF interfaces, allowing for tight performances with truly musical feel.

GigaStudio 160 delivers 64 MIDI channels over four unique ports, as well as dedicated MIDI input for real-time effects and mixer automation, allowing the creation of massive performances with dynamically controllable effects. Plus, GigaStudio is the *first and only* sampler to provide up to 160 disk-based, streaming voices of polyphony in real-time. In combination with your MIDI sequencer, you can create anything from your basic pop tune to an advanced, fully-orchestrated film score, with sound quality that's virtually indistinguishable from recordings of performed instruments.

High-quality, 32-bit effects are also available for GigaStudio. The NFX real-time signal processing series includes the NFX1 Reverb/Multi-Effects, the NFX2 Chorus/Flanger, the NFX3 Tap Delay/Auto Pan and the NFX4 EQ. Also, unlike most plug-in effects, the NFX series operates with true zero-latency performance with GigaStudio.

While dozens of sample libraries have already been specifically developed for the Giga platform (and more are popping up almost every day), GigaStudio introduces enhanced compatibility with various CD-ROM libraries, as well as .WAV format samples. GigaStudio's DSP Station Mixing Console includes Volume, Pan, Effect Sends and Insert points that enable professional quality mixing with-

out the need for additional plug-ins or hardware. All parameters can be automated via MIDI and employ a 32-bit signal path to maintain pristine digital clarity.

For busy professional musicians, sound designers and recording facilities, GigaStudio's unique QuickSound technology enables instant location and previewing of samples, waves, and instruments in real-time via an intuitive, database-assisted technology for cataloging instruments and sound samples using plain language. Just type in the type of sound you need and QuickSound will pull up all the samples that fit the description. Plus, Giga-compatible instruments don't have to be resident on the client hard drive. Users of 100-baseT or faster networks can access mapped drives in real-time, allowing instant access to Giga-compatible systems and instruments via standard LAN connectivity. Whew, don't try that with your old rackmount sampler!

With additional professional features like capture-to-wave (which records entire performances, including effects, faders, pan, and MIDI automation directly to disk), support for 24bit/96kHz hardware, embedded help tools, and an advanced instrument editor (with cutting edge synthesis tools like multi-mode resonant filters, multiple envelopes, drag and drop sample assignment, and up to 32 samples per key), this is a must-have tool for any serious composer or sound designer. The catch? You need a Windows PC to run it. Mac owners are (for now anyway) out of luck. Sorry.

If you're ready to move out of Stone Age sampling, grab the phone and call your Sweetwater Sales Engineer for additional information or to order a GigaStudio setup for *your* PC at a great Sweetwater price. Don't have a PC, but want to take advantage of all the great GigaStudio features? No problem! Sweetwater can put together a complete turnkey system centered around a rackmount CPU custom configured from the ground up for Giga applications.

sweetwater.com/gigast160

Introducing The Wonder Trumpet

There's only one word to describe what **Wonder Instruments** accomplished with their new **Wonder Trumpet** for the Giga format ($499 list), and that word is "Wow!" There has simply never been such painstaking attention to detail in *any* format. This is clearly a labor of love. Every playing style and technique, every subtle nuance will convince listeners that they are hearing a real, live dynamic trumpet performance — it's that good! The disc also includes a dynamite brass section. Check out the MP3 on our Web site and we promise you *will* be a believer!
www.sweetwater.com/wondertpt

KORG PXR4: The ultimate "take-it-anywhere" multitrack

When you think about all the latest advances in recording technology, almost everything else seems to be overshadowed by the quantum leap we've made to 24-bit/96kHz and beyond. But to me, the coolest developments are those that allow us to produce CD-quality recording in a unit about the size of a paperback book.

The **Korg PXR4** ($500 list) packs some serious recording power into a compact, ultra-portable package. We're talking high-quality digital recording and playback, comprehensive editing including high end features like time compression and expansion, tons of great sounding digital effects and even a built-in mic for those times inspiration hits but you don't happen to have an AKG or Neumann tucked in your back pocket.

At the heart of the PXR4 is a 4-track digital recorder, which records directly to inexpensive (and getting cheaper by the day) SmartMedia cards. Three recording modes — standard, high-quality and economy — afford maximum flexibility by enabling you to select the one that's right for the task at hand depending on the recording quality and time you need. Standard mode provides good recording resolution and offers an excellent balance between recording quality and memory use, while high-quality mode captures your performance with superb clarity. As you'd expect, economy mode delivers maximum recording time. SmartMedia cards from 8 to 128 MB can be used (a 16MB card is included) and, via its built-in USB port, the PXR4 can also transfer song data to and from your computer in stereo MPEG format.

The PXR4 is loaded with user-friendly features, like eight "virtual tracks" per track which allow you to record multiple takes of the same part (a lead vocal, for example) and then select your favorite one. It's also the world's first pocket-sized multi-track recorder to deliver full editing capabilities. With easy-to-use punch in/out, bounce, copy and delete functions, the PXR4 is equipped with everything you'd expect from a digital recorder many times larger. It even offers time compression/expansion making it possible to speed up or slow down phrases without altering their pitch. Impressive!

Despite its compact size, the PXR4 is very easy to use. Its front panel consists of five faders, one per track, plus one master fader, as well as controls for all the unit's key features. Selecting parameters and editing is easy. The PXR4's clear, backlit display uses an intuitive icon-based user interface. For inputs, there's a 1/4-inch jack with a hi/low impedance switch

plus a stereo line/mic input. For outputs you get a 1/8-inch stereo out jack, a stereo headphone output and a USB port.

Somehow, the Korg engineers also managed to pack in a full complement of 77 built-in effects. The unit's equipped with 100 factory multi-effects programs (with up to five effects used at once!) and enough room for an additional 100 user programs. The PXR4 relies on Korg's proprietary REMS technology to deliver studio-quality effects that range from ultra-realistic models of the most popular guitar amps and pedals to some of the world's great microphones. Of course it also includes studio essentials like reverbs, delays, various modulation effects and more.

But Korg didn't stop at effects. In their quest to make the new PXR4 the ultimate mobile recording tool, they added 55 different rhythm patterns (and 32 metronome patterns) that use high-quality PCM sounds. The patterns range from simple to complex and include Rock, Funk, Big Beat, House, Reggae, Hip-Hop, R & B, Disco, Dance, Jazz and more. You can use a rhythm pattern as a recording guide, or to create the actual rhythm track for your song (yes, the onboard sounds are that good)!

At 4.8" wide, 4.25" high and 1.33" deep, the PXR4 offers a compact, yet powerful package. And, since it runs on either AA batteries (we recommend rechargeables to help protect the environment) or an AC adapter, it can travel with you anywhere, always ready to capture your musical ideas at a moment's notice. Now in my mind, that's putting cutting edge technology to good use. The Korg PXR4 is at the top of my "gotta have one" list. — *B. Hoover*

sweetwater.com/pxr4

Dramatically reduce noise in your studio with the IsoRaxx

Recently, during one of our monster thunderstorms, the power went out while I was working in my studio. I couldn't believe how utterly quiet the room was once my dual-processor Mac G4, various hard drives and CD burner shut down. After working constantly with all the noise, I didn't really notice it any more. But you can bet that if I ever tried to record acoustic instruments in here with all that gear plugged in, I'd be dealing with an unacceptable amount of noise that even the best processing couldn't remove. Thankfully, **Raxxess** now offers the **IsoRaxx** as a solution to mechanical noise problems in any studio, yours included.

The IsoRaxx has all of the features you need to keep your equipment safe and quiet, reducing fan and hard drive noise by an average of 21dB without sacrificing any of the cooling systems that keep your machine and hard drives running smoothly. Features like Raxxess' electrostatic filter intake (which keeps the dust bunnies out of your hard drives), two or four variable-speed fans and separate passages for signal, AC, and computer cables (virtually eliminating cable noise) are just some of the thoughtful touches that are included in the IsoRaxx.

All of your super-cool equipment is easily visible through the clear Lexan panel in the front door. The rear door is mounted on removable hinges to ease equipment installation and maintenance and is key-lockable for security.

The IsoRaxx is available in 14 rack ($1,399.95 list) or 20 rack ($1,599.95 list) spaces. Both sizes are available in 30" depths, while the 14-space version is also available in 24" depth ($1,299 list). IsoRaxx is constructed of 3/4" thermally fused melamine, and available in either ebony fleck or maple finishes. Casters are included and the best part is that the unit ships fully assembled.

Check out the IsoRaxx and see if you miss what you've been hearing. Call your Sweetwater Sales Engineer immediately for your special low pricing. — *J.M.*

Welcome to 2003! It seems like just a few months ago that everyone sweated out the Y2K issues, yet here we are three years later; our computers didn't freeze up, our banks didn't lose our money. The only thing right now we have to face is remembering to write "2003" on our checks.

Here at Sweetwater, the last part of 2002 was a tremendously busy time. Our **Pro Gear Directory** is shipping (hopefully you will have received yours by now) and it's far and away the best directory the marketing department has produced to date — nice work, everyone; all those late nights were worth the effort. I know each of you will be blown away by just how much valuable

INSIDE SWEETWATER
Chuck Surack
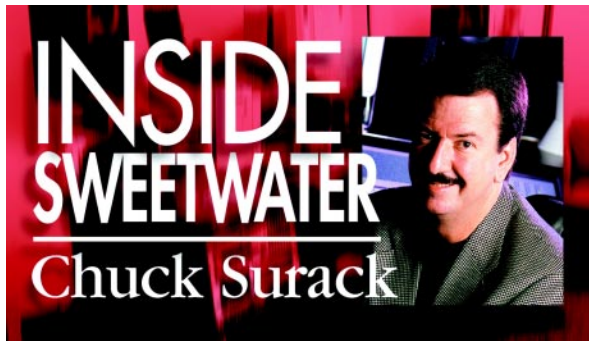
information there is in this year's issue. I personally keep a copy of the directory right on top of my desk since I'm usually using it as a reference throughout the day. It's terrific to have all that information in one place, right at my fingertips.

Looking back at 2002, we once again grew by leaps and bounds, experiencing what has been our best year ever! It makes me wonder, when I keep hearing all these financial analysts predicting doom and gloom, where they get their inside information from? Considering our sales and reports from all the manufacturers whose products we carry, 2002 was a solid year and everyone expects next year to be even better, particularly since the cost of many products have dropped tremendously.

Naturally, we couldn't have had such a stellar year without three things: The most loyal customers on the planet; a sales staff that is without a doubt the best in this (or any other) industry and a group of manufacturers that just keep on developing better and more affordable products!

Surveys continue to show that putting together a home or project studio is still high on the list of things people are looking to do with their leisure time and discretionary income, so there's no doubt that our industry will continue its phenomenal growth well into the future. And that growth means that we will continue to be looking to hire the best, most qualified sales people available.

If you've been considering a positive career move and you have some experience in the music technology field, we definitely want to hear from you. If you're tired of just scraping by each month on your current salary, you should know that the income opportunities here at Sweetwater are virtually unlimited.

Please contact our Human Resources Department at (800) 222-4700 or send e-mail to "*careers@sweetwater.com*". You can also log onto our Web site at "*www.sweetwater.com/careers/*" and check out some QuickTime movies of our employees and what they have to say about working at Sweetwater.

Things have started off with a bang! Here's hoping that 2003 is the *best year ever* for all our customers! See you back here next issue.

"Incredible knowledge as well as helpful tech support." — Fran Sampier

"I'm amazed! I am able to find what I need, without spending great gobs of time to do it." — Jack Jacobsen

"Whenever someone asks me where to buy gear, I always say Sweetwater." — Vic Peppler

"My salesman is always helpful, always professional, always patient, and always insightful." — Dale Bischof

"It's fun to deal with a dealer who has the products and knows what's up." — Richard Ford

"The word excellence is not enough to qualify you. People like you make the difference." — Antonio Gonzalez

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Q&A

Q: What is the difference between all the different DVD formats, DVD-R, DVD+R, DVD-RAM, and so forth? I'm confused.

A: DVD is a high capacity optical disc technology used for a wide variety of storage and delivery purposes. The main DVD application variations are as follows:

DVD-Video — the most common application, used for delivering movies to consumers.

DVD-R and DVD+R — both of these formats allow data to be written to a DVD in a single pass; the disc cannot be erased or overwritten. These two formats essentially do the same thing, and are basically in competition with one another. Fortunately, both formats can be played in most consumer DVD players.

DVD-RW and DVD+RW — Same as above, however these discs can be overwritten, typically about 1,000 times.

DVD-RAM — Designed as a data storage medium for use with computers, DVD-RAM discs can be overwritten up to 100,000 times and are designed to last a minimum of 30 years (though with care, the life expectancy should be even higher). DVD-RAM is an excellent data backup medium due to it's defect management system. However, this system prevents DVD-RAM media from being read in most DVD players, unlike DVD-R/RW and DVD+R/RW discs.

Q: I'm reading a lot about DVD audio in the various audio magazines. Is this the same as a DVD video disc or a whole different format? Will a DVD audio disc play in my existing DVD player? What's the deal with this?

A: DVD-Audio discs are an entirely different format than DVD Video. Most importantly, these discs provide much higher fidelity than traditional 16-bit/44.1kHz CDs, with 24-bit formatting and a sample rate of up to 192kHz. What's more, DVD-A content is often presented in 5.1 surround. However, it's important to note that unless your DVD player meets the DVD-Audio specification, you will not enjoy the ultra-high fidelity audio that the format delivers.

Fortunately, you can play these discs in your existing DVD player. DVD-A discs will typically include Dolby Digital and/or DTS audio tracks, which *are* readable by virtually all current DVD video players. With that in mind, you can buy DVD-A discs now, play them in your current player, then upgrade to a DVD-Audio compatible machine in the future. Even now, prices on DVD-Audio compatible players have dropped significantly, and there's no reason they shouldn't drop even lower as more material becomes available and consumer demand increases. Check out our next issue for further discussion on this topic.

Sweetwater *GearFest* 2002

Another Sweetwater first took place on Saturday, September 21, with Sweetwater's **GearFest 2002 Music & Recording Expo and SuperSale**. Held at Sweetwater's facilities in Fort Wayne, Indiana, GearFest 2002 was part massive "tent sale," and part music technology symposium, jam packed with seminars, hands-on workshops, prize giveaways and, of course, mountains of music equipment. GearFest 2002 also featured charity games and other family activities. Hundreds of musicians from all over the Midwest — and some from as far away as Pennsylvania — visited Sweetwater for the day-long event. It was a great opportunity to finally meet a lot of our customers and put a face to these names and voices we've built relationships with over the years.

BUILDING A HOMETOWN FANBASE AND DISPELLING MYTHS

One of the main ideas behind Sweetwater's GearFest 2002 was to show musicians from Fort Wayne and the surrounding areas what Sweetwater has to offer. Though we have a couple of well-stocked showrooms at Sweetwater, and a couple salesmen who work almost exclusively with local customers, the majority of Sweetwater's business is done over the phone. We saw GearFest 2002 as a chance to change our image a little bit.

"There's this perception of us that we only deal with clients on a national level," says Chuck Surack, president and founder of Sweetwater. "The truth is, we've always been involved in Fort Wayne's music community, and we've always welcomed local artists. I think with GearFest, we

The breathtaking "wall of guitars" in the Sweetwater warehouse.

showed a lot of local musicians who otherwise wouldn't have come to Sweetwater what the company is all about."

This extends far beyond the boundaries of Fort Wayne and surrounding areas. "There are a lot of people out there who won't buy music equipment over the phone or via the internet," says Chuck. "They like to see the gear, they like to get their hands on it and hear it in action. GearFest was our way of letting

Musicians were able to sell their unwanted gear at the unique "Musician's Flea Market"

people know that you can do that at Sweetwater, too. Plus, when they get to know us and see what kind of company we are, maybe they won't be so nervous about buying music gear by non-traditional means."

GearFest was also an excellent opportunity to dispel a couple of other myths about Sweetwater: (1) That the company only specializes in high-end studio equipment, the "fiddly," techie things that only someone with an audio engineering degree knows how to use; and (2) That the only instruments we're interested in are synthesizers and electric keyboards. And sure, as always, we had plenty of keyboards on display, everything from the most basic Yamaha PSR to the latest TRITON monster, but GearFest allowed us to show off the other side of our musical personality with the awesome Guitar Gallery. With row after row of axes from Fender, Gibson, PRS, Martin and many others reaching nearly to the ceiling of our enormous warehouse (see photo above), the Guitar Gallery was possibly the

biggest display of top guitars and basses ever seen in Fort Wayne (or anywhere else for that matter). Indiana's top Luthier, Greg Reszel was also on hand, performing free guitar set-ups for all interested attendees.

MUSIC TECHNOLOGY AT WORK

Of course, a big tent sale is nothing new, but Sweetwater's expertise in the many different aspects of music technology allowed us to bring something extra to the event. Many visitors came to GearFest 2002 for the host of hour-long seminars and hands-on workshops that ran throughout the day. A range of national and local audio pros, including some of Sweetwater's own Sales Engineers, hosted and ran the workshops. Topics covered everything from studio techniques (held in our enormous Studio A) to seminars in guitar effects processors (with exciting demos of Line 6's POD and Gibson's EchoPlex) to a workshop detailing the features and capabilities of the several multitrack recording workstations Sweetwater carries, with an emphasis on the fledgling musician or songwriter.

"We have a huge selection of the industry's best instruments and professional audio gear for every need and budget," says Chuck. "But what really makes Sweetwater unique is the level of expertise we're able to offer our customers. We don't just sell the gear; we know this stuff inside and out, and provide outstanding consultation, service, and support. GearFest lets us show every aspect of what we do."

Other demos included the Midwest premier of Digidesign's Digi 002 interface/control surface. Besides giving many visitors the first glimpse of one the year's hottest new releases, the Digi 002 also serves as an excellent example of the kind of music technology that Sweetwater knows very well. It's very innovative, utilizing some of the latest computer-based audio production tools like Pro Tools, yet it's very simple to use. "Sweetwater has always been a great company for the project studio owner," says Chuck. "These days, it's possible to do pro-quality work on a relatively small budget, in a production center you can set up on any desk top. A product like the Digi 002 is an excellent bridge between the musician who might come to

Super buys on hundreds of bestselling items were to be found under the huge outdoor tent.

GearFest looking for a good deal on equipment and the audio pro who wants to learn about the newest gear."

GearFest 2002 was the first time Sweetwater had put on an event of this magnitude, and we were thrilled with the positive response. We made a lot of new friends, cemented some already existing relationships, and changed some people's perception of the company. Of course, the kind of service and selection visitors saw at GearFest isn't just a one-off deal — it's the way we do business here at Sweetwater. Our warehouse is still stocked to the rafters with cool gear, and we still have the hottest guitars, synths, amps and more on display in our showrooms. If you're ever in the area, drop by and visit us. We always like meeting our clients face-to-face!

GearFest attendees got a hands-on chance to play the newest, hottest keyboards in our demo room.
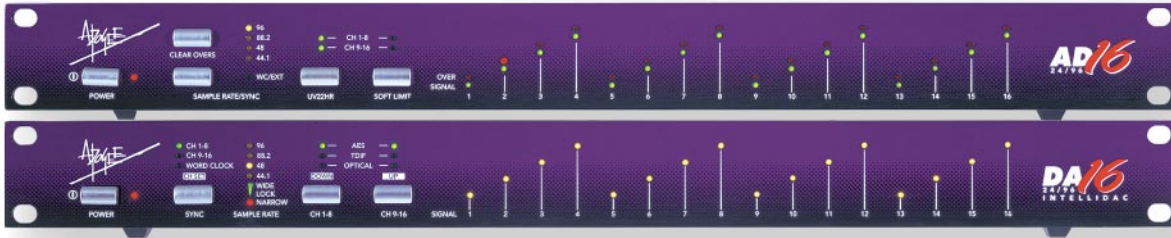
Apogee Converters win 2002 TEC Award at AES

So you're putting together a high end digital studio. You've invested in all the best gear: Recorders, mics, preamps, monitors — the whole thing first class. Or is it? If you're like me, you've probably never given much thought to your A/D and D/A converters, yet when you do think about it, these are *critical links between the analog and digital worlds.* These days it's easy to design a reasonable quality converter, but only one company has dedicated itself exclusively to building the world's *finest* converters.

Apogee Electronics was established almost two decades ago for one purpose: To deliver the highest possible audio quality to digital recording systems. When digital multitracks began to appear in state-of-the-art studios in the '80s, critics of the format dismissed digital recordings as "sterile" and "brittle." The founders of Apogee recognized that these problems were largely the result of poorly designed digital filters, and set about designing filters that dramatically improved the sound of the digital machines of the day, and are still in use in many high end digital recording studios all over the world.

Fast forward to 2002 – Apogee is still the leader in high quality digital audio, but you no longer need a $250,000 digital tape machine to take advantage of their technological prowess. Take, for instance, their new **AD-16** and **DA-16** converters, which walked away with a 2002 TEC Award at this year's AES Convention!

The **AD-16** ($2995 list) is a 16-channel 24-bit A/D converter, operating at sample rates up to 96 kHz and offering ADAT optical output for compatibility with a wide range of digital audio systems. It can sync to word clock (using the same "IntelliDAC" reclocking system used in the DA-16), or its own internal high-stability clock. Word Clock output is also provided.

For the first time in any Apogee conversion system, the AD-16 supports the Sonorus S/MUX specification for sample-splitting of high sample rate audio data into multiple ADAT-style optical interfaces. Additional light-pipe outputs are provided to deliver up to 96 kHz digital audio from all 16 channels in this mode. A special port is also provided for future expansion.

An LED indicates signal status on each channel, with the intensity modulated by the signal level to give an analog-like display. A second LED per channel indicates critical "overs." The balanced analog inputs are configured in two groups of eight channels on standard 25-pin D connectors.

The AD-16 includes Apogee's industry-standard word-length reduction system, UV22HR, for reducing the word length from the native 24-bit to 16 for CD mastering, Internet audio and other applications, and SoftLimit to maximize digital output level without overs. The AD-16 features an elegant and effective user interface, including a power switch, sample rate/sync selector, clear 'overs' button, and two buttons for Soft Limit and UV22HR respectively, and closely matches the companion DA-16 16-channel D/A in appearance.

Designed for the latest hard-disk recording systems, the **DA-16** ($2995 list) "IntelliDAC" offers 16 channels of Apogee quality at an exceptionally affordable price, handling 24-bit D/A conversion at sample rates up to 96 kHz. The converters can source their digital input from either AES/EBU, ADAT optical or TDIF sources, and the unit can sync to word clock or a specified input. ADAT and TDIF inputs are organized into two groups of eight, and channels 1-8 and 9-16 can have different sources. In addition, the light-pipe inputs accept the Sonorus S/MUX protocol for sample-splitting high-resolution signals into optical interfaces, allowing access to all 16 channels.

The input sample rate is detected automatically, and a two-level "Lock" indicator shows "wide" (up to +/-150 degrees) and "narrow" (5 degrees) lock. LEDs indicate signal status on each channel, with the LED intensity modulated by the signal level resulting in an "analog-like" display. The balanced analog outputs are supplied in groups of eight channels on 25-pin D connectors, just as they are on the AD-16.

"IntelliDAC" relates to the converter's unique "intelligent" two-stage re-clocking system. Apogee converters have traditionally excelled at removing jitter from the incoming clock signal, but for extremely jittery input sources, more control is needed. The DA-16 solves this problem by utilizing two clocks, so errors up to plus or minus 150 degrees can be corrected, substantially reducing the chances of glitching, and enabling the DAC to offer superior performance even when the input signal is extremely unstable.

Apogee offers a variety of systems centered around the AD16/DA16 combination. Fans of Steinberg's Nuendo system can wrap Apogee conversion around their software of choice in a system called NativeTools. ProTools users can buy a special "HD Pack", designed for use with Digidesign's latest high definition systems. No matter what your recording platform of choice, if it's digital, it deserves Apogee.

www.sweetwater.com/ad16

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Longtime Sweetwater customers know there's a lot more to the company than just great prices and friendly, knowledgeable sales staff. Sure, those are important, but today's customers need — and deserve — first rate support after the sale. And that's exactly what **SweetCare™** is all about.

If you have a question about any aspect of your gear, you'll likely find the answer in our easy-to-search **Knowledge Base**. Our exclusive **SweetTrack** service makes tracking your orders faster and easier than ever — and you don't even have to know the tracking number. Then there's the **TechTip of the Day** with answers to the most commonly asked questions in pro audio and our exclusive **Tech Library**, which is all manner of archived materials, featuring Live Media, in-depth articles, Tech Notes columns, Question & Answer, Live Events and more.

Our **Expert Forums** are the ideal place to discuss ideas, insights and issues with the top minds in pro audio. You can also check out the **inSync Summits**, which are in-depth articles on real-world challenges facing today's studio engineers. You might also want to access our **Word of the Day** Library, which includes definitions of 1000+ technical and musical terms commonly used in the music industry.

Finally, if your gear is misbehaving, you can submit your repair request online. One of our technicians will contact you to complete the process and issue you a Repair Authorization number. Often your unit won't need to be repaired; our techs may be able to walk you through minor issues, saving you time and money.

Don't see the answer to your question in our online resources? No problem. Send an e-mail to *service@sweetwater.com*. Naturally you can call the **SweetCare Center** toll-free at 800-222-4700, Monday to Friday (9:00 AM–7:00 PM) and Saturday (11:00 AM to 3:00 PM).

KURZWEIL KME-61: The "Stealth Bomber" of keyboards?

My assignment for this issue was to do an article on a new keyboard that **Kurzweil** was introducing. Naturally, when you hear the word Kurzweil, you think of the company's solid reputation for building great sounding instruments. You also think about their

reliability and rugged construction that will hold up under the toughest stage or studio conditions year after year. If there was a down side to Kurzweils, it was only that such lofty quality usually comes with a price tag to match.

Still, the assignment seemed simple enough, but I kid you not, getting the information I needed about this instrument was a task that may have reduced Agent 007 himself to tears. Suddenly, it was as if I was living a Tom Clancy novel: Did this keyboard actually exist and if so, who knew about it? Was it perhaps information that would prove to be dangerous in the wrong hands? Would I finally have a chance to dress all in black and somehow slip unnoticed into the top secret stronghold that is the Kurzweil Music Systems R&D department?

Boy, was I bummed when it turned out that the person who knew the most about this new Kurweil secret weapon just happened to be on vacation when I stormed the offices. I eased myself up from my fighting crouch when it became apparent that I had perhaps misread the situation. A charming young lady handed me some preliminary information, then asked if I would like to take this new keyboard on a personal test drive. She was also kind enough not to laugh at me, considering I was all decked out in my ninja outfit and all.

So I took the instrument home with me and after several hours, here's what I learned: This great-looking 61-note keyboard, whose code name is the **Kurzweil KME-61**, carries a list price of just $849. Hmm, Kurzweil quality at such an affordable price is definitely hot news! Continuing on, I uncovered the fact that the lightweight (22 pounds) KME-61 ships with 256 presets using samples from the critically-acclaimed Kurzweil PC-2 Series, including the Stereo Triple Strike Acoustic Grand Piano along with electric pianos (both smooth tine and bell-like FM-style), strings, basses, acoustic and electric guitars, those great "Take 6" vocals, brass, drums and assorted percussion. Hey, this

is getting better and better!

As I delved deeper, I found that the KME-61 also includes nine premium quality preset effects that can be used to create 30 different effect combinations, offering a wide range of possibilities to customize a sound. The 61-note keyboard features a fast synth action with aftertouch and there are both pitch and modulation wheels. 32 Multi-Timbral Setups are available with up to three zones and the instrument features 32-voice polyphony. As you might expect, there are MIDI ports for in, out and through, stereo audio outs plus a headphone jack for late night jam sessions.

That all seemed pretty straight forward, but how did I know that there wasn't something more to this instrument? I mean sure, it had a great list price (and naturally, your Sweetwater price will be even lower), carried the prestigious Kurzweil name, and had all the features musicians would expect in a keyboard of this pedigree. So why did I still have the feeling there was more to this than meets the eye?

Suddenly it came to me. This would be a terrific keyboard to use on stage, since its superb grand piano presets are super expressive, and you get all sorts of other instruments to use by themselves or layered with each other. I particularly found both of the electric pianos exceptionally musical.

This would also be a nice keyboard to have on hand in a project studio when you want to lay down some great piano parts, then sweeten those up with guitars, basses, brass and strings. And the "Take 6" vocals still blow me away. I don't know how the Kurzweil people managed to get those samples, but I'm glad they did.

So there you have it. I felt bad about not really being able to foil some insidious plan to take over the world, but I guess discovering a good looking, great sounding, affordable keyboard with a prestigious lineage makes up for it. So put on your own ninja outfit, then call your Sales Engineer for a great Sweetwater price on the Kurzweil KME-61. — *B. Hoover*

www.sweetwater.com/kme61

Audio Ease Altiverb = Every verb

Altiverb for the Mac G4, is a sampled acoustics plug-in for MAS, HTDM, RTAS and VST that offers stunningly realistic sampled acoustics of real halls, cathedrals, bathrooms and virtually any real acoustic environment in mono, stereo or even four channels. Included with the software are dozens of real acoustic samples ranging from the famed Amsterdam Concertgebouw to real rooms and right down to tiny closets.

What's more, **Altiverb** from **Audio Ease** lets you sample acoustic spaces — or hardware reverbs — on your own. Altiverb is a native reverb plug-in that matches — and *exceeds* — the performance of outboard sampled acoustics processors costing as much as $9,000. Yet it lists for just $495.

How could Altiverb possibly do this? In a word: Altivec — the awesome Velocity Engine co-processor that lives in every Apple G4 Power Macintosh. Altiverb is the first reverb plug-in to take full advantage of the power of Apple's Altivec Velocity Engine. And the result is

nothing less than an astonishing breakthrough in reverb technology that is destined to turn the world of high-end reverb on it's collective ear. Running your audio on a Mac G4? Then you *must* have Altiverb!

www.sweetwater.com/altiverb

TASCAM'S DSM7.1 CONTROLLER
Make your digital console surround sound capable

Okay, I'm going to go out on a limb here and predict that very soon, all of our music, TV shows, movies and even video games will be produced for surround sound systems. True, that's not a particularly daring prediction, but I had to lead off this article with something that would tie into the product we'll be discussing, which is the **TASCAM DS-M7.1 Professional Digital Surround Monitor Controller** ($1899 list).

One aspect of surround production that's often overlooked by prospective surround engineers is effective surround monitoring. Enter the DS-M7.1, a surround sound monitor control device that adds multi-speaker monitoring capabilities to digital consoles that only have eight output buses. The DS-M7.1 duplicates the output buses of digital consoles, then routes the signal to both a stem recorder and multiple amplifier/speaker combinations.

If you have dabbled in surround sound at all, you know that the most common consumer home theater amplifiers and receivers are typically designated as being 5.1 using either a Dolby Digital or dts decoder. The "5" means there are five speakers in the room: Main left and right, a center speaker (typically used for dialog), and two surround speakers. The ".1" refers to a separate speaker that is used to reproduce only low frequency information. In most installations, this means a separate subwoofer.

While 5.1 systems are proliferating in homes all across the country, more sophisticated systems with capabilities for even more spatialization effects are being introduced. Even now, some of the newest home theater systems are adding an additional center rear surround speaker, so these systems are dubbed 6.1. More and more Dolby Digital and DTS movies are being produced using this configuration as it produces even more of a total surround sound experience.

All of which means that studios looking to do post production for film and video, television broadcasts (more and more TV shows are being produced in surround sound), audio for the expanding video game and multimedia markets and surround sound production for music must be ready for a wide variety of monitoring configurations. The surround studio needs to be prepared for everything from basic stereo all the way up to 7.1, which includes left and right side channels along with left and right rear channels.

The DS-M7.1 supports all surround formats from LCRS up to 7.1, with the ability to downmix to LR from any surround format. The unit includes standard 8-channel TDIF, AES/EBU and ADAT connections for a stem recorder and standard TDIF connections to the console (AES/EBU and ADAT are available on optional cards).

There are eight input channels and eight output channels. It can also handle 44.1k, 48k, 88.2k and 96k signals and includes pull up/down operation via an external master clock.

Other features include a built in pink noise generator for monitor calibration, an LED SPL display, standard monitoring controls like adjustable dim, mono and alternate speakers, plus full surround bass management. Best of all, it integrates with your existing console control room monitor output and also offers analog and AES/EBU surround monitor outputs.

If surround sound is in your studio's immediate future (and it should), you need to call your Sweetwater Sales Engineer for additional information and special pricing on the remarkable DS-M7.1.

www.sweetwater.com/dsm71

Custom PC systems for the audio world

Yeah, we do PCs! You seem surprised . . . Sure, a lot of people know that Sweetwater is an authorized Apple dealer. But you may not be aware that the company has made a serious commitment of manpower and resources to be the *undisputed, number one authority on all computer based audio and post production systems — Mac or PC!*

Sweetwater is highly experienced in the specialized demands of audio and MIDI production — something a typical computer dealer just isn't going to understand. Sweetwater delivers turn-key systems, configured specifically for your application. Assembled, tested and gone over with a fine-toothed comb, these systems arrive at your doorstep ready to plug in and use! Whether your calling is MIDI production or heavy-duty post production and mastering, we can build you

The super-quiet Carillon rackmount PC

a system that will work — right out of the box — based on your specific needs! In other words, we do what we're best at: Custom configurations and complete turn-key systems. After which you do what you're best at: Creating and recording music!

Take for example the UK-based **Carillon** rack mount system, the "Rolls Royce of PC Audio." It's unbelievably quiet, robust and ready for any pro audio or MIDI production you can throw at it! Besides being incredibly strong with an enclosure built from premium grade aluminum and 14-gauge steel, it offers whisper-quiet operation. In fact, the CPU is so quiet you can actually record within a few feet of the unit without worrying that your audio will be compromised in any way. Everything from the fans and drives to the chassis have been finely tuned and specifically insulated to provide the quietest PC possible.

Then there are the new affordable **Sweetwater Custom Computing** Mid Tower and Rackmount 2.53GHz Pentium 4 Custom PCs. Both are quiet, robust and guaranteed to deliver the performance you expect and deserve from the undisputed leader in computer based digital audio workstations. These custom systems are assembled, tested, retested and arrive at your door ready to plug in and start making music! We can install and configure your Sweetwater Custom Computing PC with your choice of software and hardware at a price that is going to pleasantly surprise you. So call us for information, special low pricing and super fast delivery!

www.sweetwater.com/pccs25r

We have all the hottest products from all major manufacturers — IN STOCK!

TIPS, TOOLS and TECHNIQUES

Recording solo and ensemble brass instruments

In the last two issues of *Sweet Notes*, we've discussed recording guitars and percussion, the two foundations of virtually all of today's music. This time, we'll be looking at recording brass, in particular the trumpet, trombone and sax, which happens to be the most common ensemble combination you're likely to encounter.

MIC SELECTION: The first consideration when miking brass, either individually or as an ensemble, is the fact that these instruments have an extremely wide dynamic range and can produce some surprisingly high sound pressure levels. This means we could choose a dynamic mic (i.e. a **Shure SM57** or **Sennheiser MD421**) since they can easily handle the hot SPLs you'll encounter when recording any of the three played *fortissimo.* Still, for the widest possible frequency response and most accurate recordings, you'd probably choose to use a condenser. Fortunately, manufacturers have designed most modern condensers with built-in attenuation pads, allowing them to stand up to these high SPLs. My personal favorite for recording brass is the versatile **AKG C414 B-ULS**, with its punchy upper midrange, crisp top end and its tight bass response. Another great choice would be the **Audio Technica AT4050**, which has a slight upper midrange bump in the response which really gives brass instruments a nice gloss. Other good choices include the **Rode NTK** tube and the **Neumann TLM103** to name just a few.

Royer makes some exceptional ribbon mics that excel at brass. The new Quincy Jones-produced Arturo Sandoval album was recorded using **Royer R-121**s on the brass section and an **R-122** for Sandoval's trumpet. Regardless of the microphones you choose, the process by which we determine where to place the mics is pretty much the same.

MIC PLACEMENT: When recording solo brass, our first decision will be whether to record the instrument in mono or stereo. That decision will be based upon two things: How many open tracks you have (thankfully, it's getting to be less and less of an issue every day) and whether you have a matched set of mics. Personally, the only time I would consider stereo is if the player will be doing a solo. In that case I might be willing to dedicate two tracks to it.

You're almost always safe trusting your ears and placing the mic(s) in the "sweet spot." If the player will be doing a solo, I prefer to move the mics out into the room for more ambience. In an ensemble situation, you would likely pull your mic(s) in closer to avoid excessive bleedthrough of the other horns, making it easier to mix and less likely to create phase cancellation problems.

Typically, you'll start with the mics pointed towards the bell of the instrument, but from experience I can tell you that it's best if you don't have the mic "head on," but set slightly higher and pointed downward so you're a few degrees of axis of the bell. Just as having a vocalist singing straight into a mic will create noise, particularly

with explosive "P"s, so too will a brass instrument because there's a whole lot of air pressure moving through what is essentially 50 inches of brass tubing in

the trumpet, and even more in the trombone.

While we always want to get a good volume level to minimize noise, I have found that once you set your levels as close to zero as possible, back off the gain just a bit as brass instruments are notorious for producing a hotter signal than most meters can adequately handle. All but the most sophisticated meters are not fast enough to catch some of the peak transients you'll encounter when recording brass. I'd always prefer having to normalize my track than to have some nasty digital clipping.

Once you have successfully recorded your trumpet, you can use all the same techniques with the trombone and sax (or tuba, euphonium

or whatever). The only "trick" brass is the French horn, because the bell of the instrument actually points backwards when it's being played! But since you normally hear the French horn from a position in front of the instrument, that's the right place to mic it.

CONSIDER THIS: The biggest problem I have encountered when recording horn sections is getting all the players a good feed from the mixer. Along with an additional three headphones (or more), you'll probably need a separate powered headphone mixer since very few small and mid-sized consoles provide more than a pair of headphone outs. Yes, you could try having each player in the group record their part individually, but from experience I can safely say you will never get a great performance that way unless the players are seasoned "A-list" studio pros.

BRASS ENSEMBLES: Let's look at two methods of miking. The perfectionist in us would dictate that miking each instrument individually and giving each its own track would give us the best control over the final mix. For my own brass section recordings, I have used a pair of AKG C414s placed about six feet in front of the three players. My feeling is that the final recording sounds more natural, particularly if you have a good size room to record in. The stereo image is more pleasing to my ears with all three instruments combining across two tracks rather than three mono tracks panned into position. In any case, go with what feels right to you. If you have the tracks to spare and a relatively tight ensemble, try double or triple tracking — you'll be amazed at how quickly three players can sound like a really monstrous horn section!

We've really just scratched the surface here. Recording brass isn't the toughest assignment you'll ever come up against, but it still requires a lot of patience and some trial and error until you find what works best for you. However, once you get the sound you're after, the final result can be quite rewarding. — *J. Miller*

Last Minute News and Updates

• Just announced at Macworld are two new **Apple PowerBook** family members, a larger model for those who want the ultimate mobile workstation, and a compact model that's perfect for highly mobile professional computing. The new **17-inch PowerBook G4** sports an industry-first 17-inch widescreen display, and an ambient light sensor that dynamically adjusts the brightness of the screen and of the new fiber-optic, backlit keyboard. It comes with a SuperDrive and built-in support for Bluetooth, FireWire and new AirPort Extreme technology.

While Apple is mainly targeting graphics and video pros with the gorgeous new wide screen, it's also great for those of us who want to work on our music on the go. The bigger screen means you can have more editing windows open at the same time. It also sports improved battery life for those long coast-to-coast flights.

At the other end of the size scale, the new **12-inch PowerBook G4** comes in the smallest package ever from Apple. It also has built-in Bluetooth support, it's AirPort Extreme ready, and you can configure it with a SuperDrive instead of the standard Combo drive! This means that you can put together a cutting edge mobile DAW that can let you work almost anywhere, and then burn your data or mixes direct to disc! How awesome is that? The best news is that a Superdrive-equipped 12" PowerBook lists for under two grand — which is about what I paid for my PowerBook 170 (ouch!). Both PowerBooks are made of tough anodized aluminum.

• **Mackie** announced the release of an all new operating system for their best-selling D8B console. From the very first glance, you'll see that the new **D8B V5 OS** has a great new look and is chock full of cool features and you'll discover that there is a whole lot more to this OS than simply a "new coat of paint."

With the advent of the V5 OS, virtually every D8B screen features all-new graphics, new features, and increased functionality including: New HUI layer; Improved FAT Channel functionality; A completely redesigned GUI; New effects routings; Event Editor integrated into the Mix Editor; and Surround Monitoring built in.

• **Digidesign** announced the release of **Pro Tools 6.0** software for **Mac OS X** which adds a powerful set of new features and improvements that make this the next evolutionary step for Pro Tools software.

Premier among these features is support for Apple's latest OS X operating system, providing improved, solid interaction between the Pro Tools environment and Power Mac G4s. The new software should be available by the time you read this. — *M.R.*

www.sweetwater.com/digital8bus

Optipatch: Painlessly reconfigure your studio

Do you have a digital console, a bank of digital recorders, and a multitrack computer workstation, each equipped with multiple Lightpipe I/O ports? Are you getting sick and tired of crawling behind your rack of digital gear every time you need to re-configure your studio's signal flow? Are you troubled by that snake-pit of optical cables under your console? Are you worried about all the kludgy daisy-chains and clicks and pops you have to endure just to get signal from point A to point B? Then odds are you need a **Z-Systems OptiPatch**.

The OptiPatch is a fully automated router, patchbay, and distribution amplifier for your Lightpipe and S/PDIF optical digital audio signals. Just hook all your optical fibers to the OptiPatch: controlling who speaks to whom is as simple as the touch of a few buttons. You can send one source to multiple destinations. You can select between multiple sources to a single destination. Or you can do anything in between. And once you've established a routing pattern, it can be saved and recalled later.

The **OptiPatch** ($599 list) is similar to the critically-acclaimed Z-Systems z-8.8 Digital Detangler equipped with eight optical inputs and eight optical outputs. The only differences are the form factor (1RU) and the 9V DC power supply. The **OptiPatch+** ($999 list) is the same as the OptiPatch, but with 15 ins and 15 outs. When fully connected, the OptiPatch can serve as the central switching hub for a total of 120 input channels and 120 output channels! OptiPatch+ supports both two-channel and ADAT Lightpipe format, although the ADAT-formatted optical signals can't be routed directly to or from the S/PDIF optical format.

Building digital signal routers requires careful attention to component selection and circuit-board layout. If the design is shoddy, the router will most likely be unreliable and very vulnerable to jitter. In the worst case, your downstream equipment may not even be able to lock to the signals coming from a bad router.

For nearly a decade, top line recording and post-production facilities throughout the world have relied on Z-Systems gear for their mission-critical applications, so you can rest assured the OptiPatch will provide you with trouble-free performance for years to come. Simply put, the OptiPatch (or the Opti-Patch+) is the smart way to interconnect all your Lightpipe-equipped digital gear. Install one today, and we promise you'll wonder how you ever lived without it.

www.sweetwater.com/optipatch

STUDIO SPOTLIGHT

Sleepy Hollow Studio

by Jim Miller

To kick off this new *Sweet Notes* feature, I took a short drive across Tallahassee, Florida's capitol city, on a chilly November evening to **Sleepy Hollow Studio**, which is owned and operated by Craig Bishop. Though I've had the pleasure of laying down some guitar tracks there, I really didn't know much about the studio's history, so it was time to dig deeper.

JM: Tell us how Sleepy Hollow got its start.

CB: Like a lot of other musicians, I pretty much started building a studio to record my own music. It all started with a single ADAT and the Mackie CR1604 board. Once I got comfortable working with that, I said to myself, "Hey, I can do this," and added two more ADATs and the BRC remote. Eventually, I had a pretty sophisticated setup and decided to open it up to the public. That was almost ten years ago. Now it just keeps growing.

JM: I'm looking at all this equipment and trying not to drool. Tell us what you've got here.

CB: Well, everything in the studio basically revolves around the **Mackie Digital 8-Bus** recording console and Mackie's 24-bit/96kHz **HDR24/96**. My main monitors are also Mackies, the **HR824**s, though I do have several other monitor systems to A/B the mixes on, including Polk and KLH speakers. I've also got a fast Compaq Presario running **Nuendo** software from **Steinberg**, which I just got a while ago and really like. I also just installed an **Alesis MasterLink** for mixdowns. I still have the Panasonic and Fostex DAT recorders, but to my ears, the MasterLink just sounds better.

JM: I've got one, too, and it does seem more detailed than any DAT recorder I've owned.

CB: I've got so much Alesis gear and Mackie gear and all of it is such fantastic quality.

JM: Looks like your mic cabinet is pretty well stocked.

CB: Absolutely. I have everything from seven each of the **Shure SM57** and **SM58** dynamics to a **Rode NT-2**, a ton of **Audio Technica** mics, two **AKG** mics, an **Electro-Voice PL50N/P** vocal mic and an **Audix D-1**.

JM: You've got two racks of outboard gear, one of which reaches practically from the floor to the ceiling. What's jammed in there?

CB: Naturally, I have lots of reverb and effects units, mostly **Lexicons** and **Alesis** modules because you can never have enough effects. There's also an **Antares Mic Modeler**, at least three compressors and a noise gate, plus several patch bays and some high end mic preamps. I also depend on the **Z-Systems Digital Detangler 2** an awful lot.

JM: So you're pretty much set up here for anything.

CB: Yeah, somebody can come in with basic tracks on an ADAT, and we can fly the tracks over to the Mackie HDR and keep working on the material. We can also dump everything to Nuendo for additional editing. There are lots of options here with all the gear I have.

JM: Did all this come from Sweetwater?

CB: Most of it — all the most sophisticated gear. I've been a Sweetwater customer for about six or seven years now. My first ADATs and the Mackie came from somewhere else, but once I got turned on to Sweetwater, I've pretty much stuck with them, though I have checked around every once in a while. I've actually had, I think, three different sales people over the years. There were times where I would spend, seriously, at least an hour on the line and there was never a rush, no "we've got to get off the phone" or anything like that. I thought that was a cool thing.

In fact, I had been looking to buy a set of **Roland V-Drums** for a while and (my rep) called me up and said, "Craig, we've got a great deal on them." It was a pretty big purchase, so I did call a few other places and nobody even came close to the Sweetwater deal. My rep worked with me, got them here on time. So now I have a full set of V-Drums all set up and ready to go. It's been a good relationship that I've had with the company.

JM: Have you got any hot tips for other musicians that are thinking of starting or adding

Craig Bishop at the controls

on to a home or project studio?

CB: Absolutely. Make sure you have good neighbors around you. My neighbors are just really cool people. Even with a full band in here they never complain.

Web site: *www.sleepyhollowstudio.com*

Manufacturer's Corner

Get the most from your new TASCAM DM-24

The "swiss army knife" analogy is probably one of the most overused cliches in describing an audio product that serves many different applications. And yet, it's hard not to use it when discussing **TASCAM's DM-24** 32-Channel 8-Bus Digital Mixing Console. The reason is simple: the DM-24 is equally at home as a mixer for hardware recorders, for software-based computer DAW systems, and as a great mixing tool for live sound reinforcement.

Your DAW's New Best Friend. The great thing about doing computer audio production is that theoretically, the software can do it all: Recording, mixing, signal processing, advanced editing and so on. Yet, there are some applications for which, in practice, the computer on its own falls short. That's where the DM-24, with its host of features for DAW compatibility, excels.

From the start, the DM-24 is a great front end, with 16 high quality mic preamps, 24-bit A/D converters, 4-band parametric EQ, gates, compressors and 24 channels of TDIF digital interfacing. With a computer interface like **MOTU's 2408mk3** (see cover story), you could use the DM-24 to record sixteen tracks simultaneously, making it perfect for those who need to record a full band directly into their DAW. With the DM-24's six aux sends, you can also set up six individual cue mixes for the individual musicians in the band. You can use the DM-24's built-in effects processors (including **TC Works** reverb and **Antares** mic/speaker modeling) as an easy way to add effects to those cue mixes while recording dry.

Automation, Routing, Interfacing and Effects. Often, the most difficult compromise to make with a host-based DAW system is that plug-ins and automation take up too much of your CPU's resources. This results in not having enough DSP power to run all of the plug-ins and automation moves needed to finish a mix. The remedy? Use your DM-24 as a submixer. Again, using tools like a 2408mk3 or an RME Hammerfall, you can route up to 24 tracks directly to the DM-24, allowing you to take advantage of the unit's internal DSP. Without using your computer's processor, you can then use a 4-band, parametric EQ and compressor on every track, as well as a gate on the first sixteen tracks. Instead of running plug-ins for every effect, you can take advantage of the DM-24's two internal processors. The DM-24 also offers analog and digital I/O for you to easily take advantage of outboard processing devices. The DM-24 even has four assignable inserts, allowing you to insert your favorite compressor on any channel.

When you send MTC or SMPTE to the DM-24 from your DAW, you can take advantage of the DM-24's automation for these tracks as well, taking the strain off of your CPU and giving you the stable processing you need for your mix. Using

MIDI Sysex, you can store all of the DM-24's settings for a song on a MIDI track in your DAW project so the entire tune can be instantly recalled at any time.

MIDI Surface Control and HUI Emulation. The DM-24 can also be a control surface for your DAW. You'll find templates on the TASCAM website (*www.tascam.com*) for **Logic, Cubase** and **Nuendo**. Moreover, the DM-24 now features HUI emulation, which allows it to be a control surface for **MOTU Digital Performer** or any **Digidesign Pro Tools** system! HUI emulation offers control over faders, pans, mutes, aux sends, track arming, transports and fader banks in groups of eight. The DM-24's touch sensitive, motorized faders make mixing a delight. The DM-24 also has nine other MIDI layers available, allowing you to control parameters on synths, sound modules, effect processors, and more.

Hook It Up to Hard Disk or Tape-Based Recorders. Not all people have made the computer their recording device of choice. Whether you're using hardware like **TASCAM's MX-2424** and DTRS machines, recorders like the **Alesis HD-24** and **ADAT**, or even analog machines, the DM-24 offers the built-in interfacing, automation, and great sonic quality to make it the ideal console for any 24-track recording. Plus,

no matter what your recording system is, the DM-24 offers optional expansion interfaces for TDIF, ADAT, AES/EBU and analog to connect with just about any multitracking device.

The Perfect Digital Board for Live Sound. With the DM-24, unlike less advanced digital boards, common functions are not buried in hard to find menus. Almost everything you need to access for a live mix is either on the surface of the mixer or one button press away. You can access the EQ, mute, solo and pan for every channel, or assign channels to busses and/or the stereo buss right from the control surface, without ever being forced to look at the LCD display screen.

A recent update to the DM-24 gives it even more power for live mixing and live recording. While its sixteen direct outputs for recording are usually post fader, there is a mode to make its direct outputs come immediately after the A/D converter. This means your recorder will receive its signal post mic pre, post insert and after it has been converted from analog to digital. With this innovative system, any moves you make to change the front of house mix do NOT effect the signal going to tape (unless you change the input trim controls).

For people who don't want to deal with fader layers and external mic preamps (or who just need even more inputs), two DM-24s can be cascaded to form a digital superconsole. When cascaded, the DM-24s can share the aux sends, busses 1-8, the solo bus and the stereo bus. In other words, cascading turns two individual DM-24s into one giant console. When you recall a snapshot on the master, the slave will also recall. You have full access to the effect processors in both mixers via the aux sends. Cascading two DM-24s provides 64 channels, 32 mic pres, four effect processors, 64 mono and six stereo compressors, 32 gates, 64 parametric EQs, 32 faders and more, all for less than you'd spend on most single mixers with much more limited capabilities!

www.sweetwater.com/dm24

TALK TO AN EXPERT! Our Sales Engineers know their stuff and can help you select exactly the right gear!

In the last issue, we started our "company tour" by visiting the Service Department and spending a little time learning more about Tech Support. Let's move on now to the next stop in the Service Department, which is our Installation and Integration Department.

To make sure we're all on the same page here, "Installation and Integration" does not refer to a contracting group that is installing sound systems in churches and A/V systems in schools. Here, it refers to the team that integrates and configures computer-based products, hardware and keyboards before they ship to the customer.

There are few things more frustrating than spending a bunch of money to acquire a great computer-based system, then having to pull everything out of boxes and spending hours installing software only to discover conflicts or glitches that prevent you from actually using your new toy/musical tool. Frankly, the important element here is that most of us really don't want to be computer geeks, we want to make music! That's where we can help you by taking care of all installation and integration concerns before you even open the boxes.

As you can probably guess, our biggest single product category as a company is hard disk recording. We sell more HD based recording systems than just about anybody else in the world. One of the things that we offer that is quite unique is the ability to ship "turn key" systems. This means the systems are already installed in the computer and properly configured so all our customers have to do is take them out of the box, plug them in, and start making music!

We've configured systems so large that we had to do the installations in our meeting room (multiple stations for University music technology labs) with multiple tables filled with boxes and gear. The ability to configure both single and multiple turn key systems is truly one of the most important of the many "Sweetwater Differences."

There are several key elements that have to come into focus to make installation and integration really work for a retailer (and of value to you as a customer). Here are the keys elements we've found critical:

1. We have the products to make it happen. This means we need to carry and stock the best product offerings from the leading manufacturers (I'm not going to try to list them because I'd surely forget an important one). Critically important is that we actually become authorized to sell and service the computers in which the software will be installed and the hardware is integrated. To this end, we are a fully authorized Apple Reseller as well as being an authorized Apple Service Center; with strong, direct connections to Apple and lots of expertise in-house with this product line, both in our Service Department as well as in our Sales Department.

2. We have experienced people to perform and oversee the installations. Whether putting more memory in a keyboard, installing an ATA hard drive, setting up GigaStudio, or configuring a $20,000 ProTools system, a single mistake at any point in the process can cause huge problems down the line. Our Install/Installation team, beyond having lots of specialized training from various manufacturers, has the invaluable experience born of installing and configuring literally tens of thousands of systems over the years. This translates into systems that flat out work when you, our customers, take them out of the box.

3. We have developed procedures and systems in-house to ensure consistency as we do the installations as well as the ability to service the systems after they leave our building. Looking purely at the installation side of things, we've actually done as much to automate the process as possible by loading the software from a server instead of feeding it in one CD-ROM at a time. This not only ensures completeness of the installation, but also allows our team to perform multiple installations simultaneously (in other words, it's not too likely that you'll wind up having to wait until they "get around to your system").

Further, we very carefully document every system we configure and keep the information on file (for example, if your 3-year old decides to change some of your preferences while you're feeding the dog, we'll be able to get you back to where you need to be quickly).

The bottom line is that our Installation/Integration Department can make sure that you will be able to actually use your new system, right out of the box. You worry about making music, let us worry about making sure the technology doesn't get in the way!

Rock and Roll! — *Jeff (VP of Sales)*

Jim Miller TECH NOTES

I have this nightmare where I find myself surrounded by all sorts of amazing gear. There's a new operating system for my Mac, software for creating DVD movies, sophisticated modeling programs and precise digital audio software. What's more, there are cutting edge synths, a brand new hard disk recorder and on and on . . .

So what's the nightmare? It's all accumulated so fast that I can't keep track of everything. I go to use one piece of gear and can't for the life of me remember exactly how it works. The worst part is when I wake up and find out that it's really *not* a nightmare — *it's true!* I really *do* have so much fantastic technology in my studio that I am simply overwhelmed.

Oh sure, everyone would love to have this problem, right? Well, once upon a time, I felt like I was actually ahead of the curve, but back then my studio was much simpler. Today, I have to constantly refer to notes, reread manuals and on rare occasions, call Sweetwater Tech Support.

Maybe the problem is that I'm trying to do too much. In the afternoon, I'm mastering two or three songs, then burning them to CD. In the early evening I'm capturing video from my Canon GL1 to Adobe Premiere. And later in the evening I'm back at my Roland VS-1680, ready to start another recording project. Hmm, did I forget something? Oh yeah, lunch and dinner.

You get the point. Technology has exploded and I'm being overwhelmed with all the capabilities I now have. I seriously do

not know how the people in Sweetwater Tech Support do it, yet they always have the right answer for me when I find myself painted into a corner with my hardware and software. Same with the sales staff: Nine out of ten times they can answer a question from way out in left field without a moment's hesitation. And it's only going to get more and more complex as manufacturers create new products with technology that didn't even exist a year ago.

Here's a case in point. I just received the new **AdrenaLinn** module from **Roger Linn Design** ($399 list). Now most of you know Roger as the person that created the very first digital drum machine. Very few people know that Roger is actually a talented guitar player, as well. After looking at what was available for guitarists, he decided to put his considerable experience to work building a product that no one had even thought of. The result is — *taa daah!* — the AdrenaLinn .

It's not an amp modeler, though it has modeling capabilities. It's not an effects unit, though it's jammed full of some really cool effects. It's not a drum machine, though it has a hundred preset drum beats in a multitude of styles. The bottom line is that the AdrenaLinn is unlike anything you've

ever heard before. Plug your guitar in, play along with the module's internal drum machine and you'll hear your axe transformed into a dynamically filtered, rhythmic sequence in sync with the beat.

The AdrenaLinn is truly one of those products that cannot adequately be described with words alone. Imagine trying to explain what a flanger sounds like to someone who has never heard the effect, then multiply that times ten and you'll get the point.

The presets start off simply enough with some tasteful amp models that can be used to play along with any of the 100 drumbeats. There's all the usual suspects: Rectified stack, Marshall stack, Fender Bassman and so forth. But by the time you get to preset 06, which is a 4-bar flanger, you start thinking this box is something special. The 4-bar flanger sounds deep and throaty, like my old Ibanez rack mount unit. Next up is preset 07, a 1-bar flanger, and this sounds very much like my old ADA flanger, really vocal-like quality that spins off into a barfy (for lack of a better word) inverted phase sound and back again.

By the time I got to preset 14, which is dubbed "Harmonic minor flanger sequence," I was hooked. There's no way to describe this preset other than "how on Earth did they do that?" And then there's preset 16, "Auto-wah through amp" which for all the world sounds like Jimi Hendrix at the height of his psychedelic powers, running through two or three effects and then into a Marshall stack. To me, the unit is worth the price of admission, just for these two presets, and that's saying an awful lot. Other mind altering presets include "Descending sequence into amp," "Sample & hold filtered fuzz," and "Arpeggiator:E major 6/9." If I were to list all the programs that had me nearly mesmerized, I would fill this page. I *dare* you to play this module and not come up with three or four cool song ideas on just your first pass through the presets!

Now, once you find a preset you like, you can sync the unit's MIDI clock up to your master drum machine (in my case, an Akai MPC2000) and you're ready to lay down some awesome tracks. Why not just use the internal drum machine? Well, although the drum sounds are, for the most part, quite adequate for most recordings (and some of the sounds are stellar), the limitation of having only a two-bar pattern becomes rather tiresome. Yes, you could go into the User bank and edit the drumbeat you like best to include a variation or two, but if you're going to that much trouble (editing from the front panel of the AdrenaLinn is not one of its strengths), you may as well go all the way and write yourself some custom patterns on your beat box of choice. The good news is that there is now an AdrenaLinn programming module for Emagic's SoundDiver software.

The May 2002 issue of *Guitar Player* proclaimed this box to be "Wicked, wicked fun," while *Keyboard* magazine stated in their June 2002 issue, "There's nothing like it on the market." The unit received *Keyboard's* Key Buy Award and *Guitar Player's* Editor's Pick Award. I guarantee you'll want to write your own rave reviews once you get your hands on an AdrenaLinn.

In my limited remaining space, I do want to toss out a quick "thumbs up" of my own to the Kurzweil sound design team for their excellent work in producing the new Electric Pianos ROM 4 for the Kurzweil K2600. This upgrade alone is a powerful argument for owning a Kurzweil K2600. Included in the collection are: Fender Rhodes, Wurlitzer Electric Piano, Hohner Pianet, Yamaha CP-80 Electric Grand and the RMI Electra-Piano. I particularly liked the fact that the Kurzweil folks stuck exclusively to electric pianos and didn't feel the need to toss in a gratuitous tuba, zither or whatever. Every one of these instruments played an important role in the storied history of rock music. I'm glad Kurzweil gave them the first class treatment they deserve!

I'd write more, but for some reason I seem to want to go back and make some music with my new AdrenaLinn. Let's meet back here next issue.

*Jim Miller can be contacted at **jim_miller@mindspring.com***

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and much more!

EMPLOYEE PROFILE

Name: DAVID HESS
Position at Sweetwater: Sales Engineer
Start Date: 2/15/99
Education: School of Hard Knocks
Where are you from originally? South Central Pennsylvania.
What was your occupation before coming to Sweetwater? Music Store Manager (MI Sales) /Guitar Instructor
Why did you first apply for a job at Sweetwater? I had a real desire to take my musical sales career to the next level. I love the technology and being able to now provide the best tools in the business to my clients without compromise.
Technical Strengths: Signal flow, live sound, DAW system design, guitars, kazoos.
Instruments you play: Guitar, Drums
Gear you own: a few Gibson L6S guitars (they look like a Les Paul that was ran over by a steam roller), Takamine acoustic, G&L ASAT, Boss VF-1, various pedals, Music Man amp, Fender Blues Junior, DMC GCX & Ground Control, Ptools LE on a Mac G4/800MHZ, Logic Audio, EXS 24, various Native soft synths, Rosetta 48K, Summit TD100, various preamps, Bluemax comp, K2000, SP76, Tascam 424, and my beloved PC (for Acid).
Family Info: My wife, Jennifer, and my children Gabriel, Eve, and Ian.
Other stuff we should know about you: I love bass fishing.

Personal Motto: Failure shall never overcome me . . . if my will to succeed is strong enough.
Favorite Magazine: Sound On Sound
Real Life Hero: Jimmy Page
How would your boss describe you? Willing to do what it takes to succeed.
How would your best friend describe you? Someone they can count on in a pinch.
What did you dream about doing for a living when you were growing up? Being a world renowned guitar builder. Or a rock star of course.
What in your life best prepared you for the work you do here? My father.
What do you enjoy most about being part of the Sweetwater Team? The ability to re-evaluate my attitude every day I walk through the door.
What is the most important thing you've learned at Sweetwater? Time management and patience.
Describe the most dramatic situation in which you provided the "Sweetwater Difference" for a customer: Arranged, designed, and delivered a PA system to an aircraft carrier stationed in the Pacific ocean. They had several hands on board and had saved the funds but needed to get it to them. This was the ship that hosted the world premiere of the movie "Pearl Harbor". That was a memorable experience.