



SWEETNOTES

MUSIC TECHNOLOGY DIRECT

LATE FALL 1998 ISSUE

TASCAM TM-D1000 DIGITAL MIXER

Delivering Functionality and Value

Let's say it right up front. After all, there's nothing to be ashamed of: Everyone wants one of the hot new digital mixers! Problem is, not everyone has the big bucks required to own one of these amazing new units. Fortunately, **TASCAM**, one of the most widely recognized names in professional audio, introduced its all-new **TM-D1000 Digital Recording Mixer** at this year's NAB show in Las Vegas. With an unbelievable list price of just \$1199 (that's not a misprint), the TM-D1000 offers musicians just about every important feature except one: The high price tag.

Designed to integrate with all DTRS format recorders, the TM-D1000 re-defines studio functionality and can easily claim its position as the most versatile *and* affordable compact digital mixer available. Designed for home recording enthusiasts, project studios and off-line editing suites, the TM-D1000 is a 16-channel, full digital mixer that will soon be revolutionizing small studio operations everywhere. The best news? The TM-D1000 is available right now — we have them in stock here at Sweetwater in our giant warehouse, ready to ship right to your door. Get set to change the way you work. And be prepared for great sound quality and that incomparable TASCAM reliability.

So what can you expect from your new TM-D1000? Well, start off with four XLR microphone inputs with phantom power (+48V), eight channels of TDIF-1 digital I/O, dual XLR AES/EBU digital outputs and two RCA S/PDIF digital outputs. The unit also comes standard with a digital external input, analog TRS balanced and RCA unbalanced stereo outs and up to 128 scenes (which are combinations of

EQ, Aux, Pan, Mute, and Effects setups) which can be memorized and instantly recalled from the front panel or via MIDI control.

Combined with the ability to run your recorders directly from the mixer via MIDI Machine Control (MMC) messages, this new mixer will make recording in your studio faster and simpler,

— *Continued on Page 2*



INSIDE THIS ISSUE:

G&L GUITARS

Arguably, nobody was more influential in the entire history of modern electric guitars than Leo Fender. The list of his accomplishments is staggering. Though he sold his original company to CBS in 1965, he returned in 1980 to building the kind of guitars he has always been known for when he formed **G&L Guitars**. What's so special about these instruments? And why do many feel that these are tomorrow's classics?

— **SEE PAGE 4**

AES Show Report

Our own David Stewart spent hour after hour cruising the exhibit halls at the **105th Annual AES Show** to bring you the very latest information on what's new and what's hot! His exclusive report is inside.

— **SEE PAGE 6**

Kurzweil KDFX

If you want the finest, world class reverb and effects for your K2500, you want a **KDFX**. What's so special about this upgrade? Check out Daniel Fisher's report in this issue for all the exciting details! — **SEE PAGE 8**

Antares' Auto Tune ATR-1

You demanded it, so they took their incredibly powerful pitch correction plug-in software and made it a stand alone module. See why industry experts (like us) say it's "perfect pitch in a box." — **SEE PAGE 11**



ProControl for Pro Tools|24
EXCLUSIVE FIRST LOOK! — SEE PAGE 2



PLUS: Mackie's Digital 8-Bus Mixer, Alesis M20/CADI System, the LSR Monitor line from JBL, Soundware Scene AND MUCH MORE!

TASCAM UNVEILS 24-BIT DA-45HR DAT RECORDER

When we get to talking about the ultimate in audio quality, we automatically think 24-bit, right? **TASCAM**, a company who truly understands the professional's need for ultra high resolution audio, introduced the world's very first 24-bit DAT recorder at this past Summer NAMM Show. The crowd's reaction? "When can I get one?" The answer is now!

The incredible new **DA-45HR** (\$1999 list) is able to record true 24-bit audio data on a standard DAT tape. Setting what is clearly a new standard in mastering technology, the 3U rackmountable DA-45HR features XLR balanced and RCA unbalanced analog I/O, AES/EBU and S/PDIF digital I/O, Word Sync I/O and a parallel interface, all of which ensures easy integration into the most demanding production environments.

The new DA-45HR's interface is both new, yet familiar, taking advantage of proven hardware design, but with an entirely new software architecture. The unit's menu-driven environment features an easy-to-read, comprehensive fluorescent display that promotes intuitive operation with easy access to its numerous system parameters, including AUTO ID, COPY ID Select, Reference Level setting, Record Mute and Repeat functions.

The DA-45HR has two recording modes, enabling you to take advantage of the recorder's 24-bit capability or maintain backward compatibility with first-generation 16-bit decks. When operating in 24-bit mode, a standard 120 DAT tape yields 60 minutes of recording time. If the machine is functioning in 16-bit standard mode, the tape will yield a full 2 hours recording time. Supported sampling frequencies include 44.1 and 48kHz.

When it comes to A/D and D/A converters, the new DA-45HR absolutely defines the current state-of-the-art. Featuring 24-bit analog to digital converters and 20-bit digital to analog converters with dither, this outstanding master recorder — as expected — sounds terrific. With its 24-bit A/D capability, the DA-45HR is capable of recording 24-bit audio via either its analog or digital inputs.

The DA-45HR will integrate into virtually any audio production environment. With XLR balanced and RCA unbalanced analog inputs and outputs, it will easily connect to any

mixer or other analog device. This outstanding recorder also features the ability to manually adjust both the input and balanced output levels for optimum settings (a very cool feature in our book!). For communicating digitally, both the AES/EBU and S/PDIF digital protocols are fully supported, enabling the DA-45HR to communicate with mixers, DAWs and other recorders. As you would expect, the recorder also provides Word Sync In and Thru for easy connection to the latest generation of digital recording consoles. There's even a 15-pin parallel interface for added control via fader starts or General Purpose Interface (GPI).

For convenient searching through program material, the DA-45HR provides a shuttle wheel and a convenient 2-point memory / locate function. These features enable you to quickly and easily find a specific audio segment, mark it and later locate back to that position with a single button push.

Navigating the DA-45HR's operating system couldn't be more intuitive. The unit's menu layout makes it easy to access and

edit the numerous system parameters. The DA-45HR even provides alphanumeric character entry for naming program selections. Auto ID level can be set at -48, -54, -60 or -66dB. Copy ID select provisions give you the ability to protect tapes from further duplication, a thoughtful feature. Reference levels can be defined at -20, -18 or -16dB and Record Mute time is variable from 1 to 8 seconds in 0.5 second increments. The recorder's Repeat function ranges from 2 to 15 times with added support for free or unlimited repeat capability. The DA-45HR also provides Single, Skip and Program play modes for added flexibility when working with multiple audio tracks. For added control, the RC-D45 Remote is available as an option.

With outstanding audio quality, a wealth of features and the ability to integrate into any audio production environment, the new DA-45HR clearly reinforces TASCAM's commitment to being the world leader in DAT recording. Want one? We thought so. Just pick up the phone and give us a call here at Sweetwater. Your Sales Engineer can fill you in on all the details and provide you with availability information (the DA-45HR may be in short supply for a while due to the huge demand, so don't wait on this one) plus your very special low Sweetwater price on a DA-45HR for your studio.



TASCAM'S TM-D1000: VERSATILITY AND VALUE

— *Continued from Page 1* meaning you spend less time hassling with equipment and more time creating music. That's the point of having a project studio, isn't it?

The mixer can also be expanded by adding two optional cards: The IF-TD1000 interface card adds eight channels of TDIF and four channels of AES/EBU or S/PDIF while the FX-1000 Effects Board adds four additional channels of dynamics processing and one stereo pair of reverb, chorus, delay, flange, etc. Along with the four XLR microphone inputs and eight 1/4-inch TRS inputs, the TM-D1000 provides the flexibility to accommodate a substantial number of analog inputs. The mixer communicates digitally with DTRS format recorders via the integral TDIF-1 port and can easily be expanded to a 16-track system just by adding the optional IF-TD1000 interface card. ADAT owners can easily interface via converters from Apogee and TASCAM.

Okay, we have great sound and all the connections, but what about some of the very cool extras you expect from a top digital mixer? The TM-D1000 has onboard dynamics processing and 10 stereo effects, enabling the engineer to tailor the audio program to his or her liking without the need to patch in external processors. When needed, adding outboard effects is easy: In Mix mode, the mixer's 4 bus architecture doubles as 4 effect sends.



For rapid recall of mixer settings, the TM-D1000 will respond to incoming MIDI messages to recreate up to 128 mixer scenes. This capability makes changing from one project to another an effortless task and adds greater consistency to the mixing process. For controlling transport and track arming features of connected recorders, the TM-D1000 also incorporates the ability to transmit MMC messages. Used in tandem, the external control capabilities of this new mixer are exceptional.

TASCAM's new TM-D1000 represents a substantial advance in affordable digital technology for the small studio operator. With its low list price, this outstanding digital recording console has to be considered a great investment for any studio. No, it doesn't have every single bell and whistle, but it has what you need to get the job done and the ability to grow as a system. What more can you ask for?

To learn more about this mixer, its capabilities and all the options, just pick up the phone and dial up your friendly, knowledgeable Sweetwater Sales Engineer. They'll be more than happy to give you a complete rundown of all the TM-D1000's many features. They can also give you your special Sweetwater pricing — which, by the way, is so low that it makes adding this great TASCAM mixer to your setup a real "no-brainer."

There are a lot of companies out there these days touting their computer-based hard disk recording systems. Truth is, many of them are pretty great. But when you look at which company literally pioneered the entire concept of using a computer to do audio recording, only one name comes to mind, and that's clearly **Digidesign**.

Year after year, innovation after innovation, Digidesign just keeps on finding new ways to make recording with your personal computer faster and easier and sounding better than ever. Here at Sweetwater, we're shipping Pro Tools|24 systems in record numbers and we have

a feeling that more and more musicians, engineers and studio owners will be installing a system of their own soon, particularly with the introduction of Digi's new **ProControl Advanced Control Surface** (prices start at \$11,995 — not cheap, but as we all know, the best rarely is).

ProControl is a modular hardware control surface that adds tactile mixing and editing capability to Pro Tools systems, meaning you can touch it, grab knobs and faders, push buttons, etc. It interacts with Pro Tools software via the DigiFader moving faders and 25 high resolution, 8-character "scribble strips" plus dedicated switch and encoder controls (including control room monitoring and talkback).

In essence, ProControl serves as a comprehensive "front end" for Pro Tools TDM mixing, editing and DSP processing, and serves as the only mix controller in the user's (uh, that's you!) work environment. Its modular design allows you to configure a system that perfectly suits your needs and budget. In fact, recording, editing and mixing with ProControl will totally change your concept of what to expect when working with a fully integrated, pro Digital Audio Workstation.

The Pro Tools TDM system contains some of the most powerful mix automation available on any digital system, regardless of price. This includes Write, Touch, Latch and Read modes for fader levels, pans, sends, mutes, plug-in parameters and more. ProControl provides access to this mixing power through Digi's Patent Pending DigiFader moving faders and dedicated function switches and encoders. Literally every parameter capable of automation in Pro Tools TDM systems can be controlled right from the ProControl surface.

Fader and send levels, pan position, scrub/shuttle and transport control, edit tools/modes and plug-in access and editing are all available from the ProControl surface. Control room and studio monitoring of stereo or surround sound Pro Tools mixes is also provided. ProControl even includes an integrated Trackpad for those rare times when you need to access an item on the Pro Tools graphic interface. Located in the Main Section of ProControl, the Channel Matrix contains 32 dedicated, illuminated channel buttons, 4 bank switches, the Channel/Group LED Display and other function buttons which allows you to quickly navigate through large Pro Tools sessions. Using the matrix, you can view the status of functions like solo, mute and record readys on channels which are not currently displayed in the Fader Section. In addition, you can quickly scan a large "console" configuration in order to locate a specific channel(s) and immediately re-configure the Fader Section to display the desired group of channels.

There's a lot more you'll want to know about ProControl if you're a Pro Tools user (or even if you've been considering the purchase of a Pro Tools system). And please, try to disregard the fact that the ProControl unit will look so totally cool in your studio — we know you're beyond such superficial things. So if you want to know more, we suggest a simple call to your Sweetwater Sales Engineer for all the inside information and (of course) your special pricing on a ProControl unit — or even an entire Pro Tools System. *(The fine print: Digidesign products are not available in all areas, so consult your Sales Engineer before ordering).*

Digidesign ProControl

Advanced Control Surface



for Pro Tools Systems



The Best Hardware for Your Software

PROJECT II

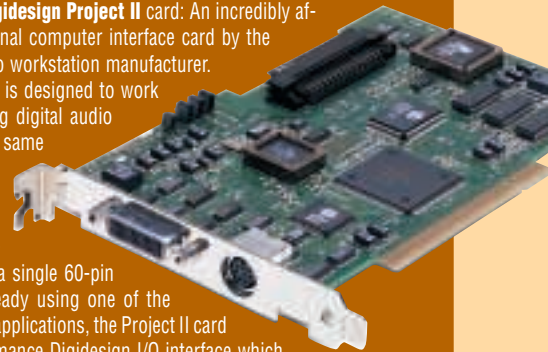
The number one reason most computer-based project or home studios fall short of professional standards is — you guessed it! — sound quality. There are plenty of digital audio sequencers on the market that make it easier than ever to record, edit, mix, and master your music with a computer. But without high quality input/output, the result of all your hard work will be sub-standard, regardless of how much editing and tweaking you do. Enter the **Digidesign Project II** card: An incredibly affordable (\$799 list), professional computer interface card by the industry's leading digital audio workstation manufacturer. The Digidesign Project II card is designed to work seamlessly with all the leading digital audio sequencer applications, and the same Digidesign I/O audio interfaces the pros use.

The Digidesign Project II card is a half-size, plug-and-play PCI computer card with a single 60-pin peripheral port. If you're already using one of the major digital audio sequencer applications, the Project II card (combined with a high performance Digidesign I/O interface which is sold separately) is the best way to improve the sound quality of your studio. Project II supports a variety of applications for Macintosh and Windows NT environments.

The key to Project II's flexibility is a technology called "Direct I/O," which makes it possible for your digital audio sequencer to communicate directly with your audio interface, without the intervention of Sound Manager on the Macintosh or the Multi-Media Engine on Windows. This means all your computer's processing power can now be used by your sequencer, while Direct I/O handles your audio.

Digidesign paved the way for higher sound quality in digital audio workstations by introducing the industry's first true 24-bit system, so it should come as no surprise that the Project II card gives you the option of working in either 16-bit or 24-bit. Keep in mind that 24-bit support will also depend upon the software and interface you use it with. Whichever combination you choose, the Project II card will deliver every bit of sonic performance because you're getting the same high quality converters used by audio professionals in creating today's hit records and blockbuster film soundtracks.

If you want to be a player, don't settle for second best. Use what the professionals use, at a price you can afford. Call us immediately for more information and your special low Sweetwater pricing on a Project II card of your very own.



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When the final history of electric guitars is ultimately written, one of the most important chapters will be on developments that occurred in Southern California in the 1950s and 60s and the instruments being designed by Leo Fender. From Country & Western to Surf music and beyond, the guitars being built in Fullerton, California had an enormous impact that no one could possibly have predicted at the time.

Yet even when Mr. Fender sold the original company that bore his name in 1965 (which was, believe it or not, just the second year the Beatles were together), it's possible that even he didn't recognize the significance of his achievements. By 1968, electric guitars were selling like crazy. It seemed that everyone either played guitar or wanted to play guitar. Though contracts prevented Leo from being involved in making guitars or amplifiers, or lend his name in any fashion to any competitive product from 1965 to well into the 1970s, many important events took place during this time, including the birth of the super-group. You had the British invasion, Woodstock, Eric Clapton and Cream, Jimi Hendrix, Led Zeppelin, The Who and on and on . . .

In about 1980, however, Leo decided to get back into the guitar business and formed a partnership with his long time friend (and co-designer of the legendary Stratocaster) George Fullerton. They decided to call the company "George & Leo", or **G&L** for short. They knew the competition; Leo's former company was a giant in the industry. So they decided to specialize in high quality guitars. They decided that there would be no manufacturing compromises and no imported guitars at all. They also decided that there would be no cheap veneers or fake flame finishes. In fact, every one of their guitars would be hand-built in the USA at Leo's facility located on — believe it or not — Fender Avenue in Fullerton, California, a place where legends truly were born.

Fact is, G&L had no choice but to make a better guitar than their main competitors. If they didn't, there would probably be no way to sell them given the market dominance and reputation of Leo's former company. Today, 18 years later, every single G&L guitar is still constructed of solid real wood with top quality parts, all built by hand by real people, not machines. Every single guitar and bass is hand cut and shaped from the finest woods, carefully sanded by hand and flawlessly finished. Even the pickups are hand wound.

Where the average "production line" guitar today is built in less than four hours, G&L guitars take more than a day, so you have to figure these are people who actually take pride in how "archaic" their operation actually is (there's not a robot in sight). But a G&L guitar isn't just carefully built to exacting standards, it's also meticulously set up for proper string height, action and intonation. And this isn't done by consulting a set of specs — it's done by musicians who actually use their ears to tell them when the intonation is dead-on and the action is so perfect that a player's fingers will literally fly over the fingerboard.

While G&L guitars are designed and built to the same high standards as those that were crafted in the 50s and 60s, they also have some features that are unmistakably '90s, like the improved performance of the pickups. Yes, you still get the silky smooth highs and velvety lows of those vintage pickups, but you also get remarkably lower noise and lightning fast transient response thanks to the many subtle (but important) changes Leo and his team made over the years. There's also the improved

G&L

Handcrafted Guitars & Basses

truss rod stability of Leo Fender's Bi-Cut neck construction and the simple, yet elegant Dual Fulcrum Tremolo System.

As if all this weren't enough, each and every G&L instrument comes with a 10 Year Limited Warranty for the original owner. Obviously this says an awful lot about the confidence the company has in their instruments.

As usual, we don't have an awful lot of space, but let's get a quick overview of all the G&L models, starting with their popular **ASAT** line (prices start at \$1100 list). One look at the distinctive shape of this instrument and you know you're getting all the vintage vibe you can possibly handle, along with a variety of modern upgrades that include Magnetic Field "Z-Coil" pickups (on the **ASAT Z-3**) and the G&L patented Saddle Lock fixed bridge (standard on most models). There are even semi-hollow versions available, as well as two models with dual humbuckers.

According to George Fullerton, "40 years ago, my partner and I created the world's most famous guitar. Then we set out to make the world's best." The result is the standard **Legacy** (\$1099 list), **Legacy Special** with dual blade humbuckers (\$1300 list), the **S-500** with G&L Magnetic Field single coil pickups (\$1300 list) and the **Comanche**, which sports those distinctive "Z-Coil" pickups. At the top of the line is the **George Fullerton Signature Model** with three sweet G&L vintage style Alnico V single coils and George's signature right on the upper bout (\$1450 list).

If electric bass is your instrument, G&L has no less than eight superb models to choose from with list prices starting at \$990 for the **LB-100**, a modern take on a tried and true bass design.

There's even an **ASAT Bass** (with optional metal flake finish). At the very top of the line is the amazing **L-2500 Custom 5-String** with dual humbucking pickups and the G&L active/passive TriTone electronics that let you dial in just about any bass sound imaginable. Incidentally, fretless necks (with or without ghost lines) are available at no extra charge on G&L basses.

We think that from the first moment you pick up a G&L guitar or bass, you'll feel the magic that comes from only the

very finest instruments. Musicians who have played every kind of guitar over the years are feeling again the long-forgotten excitement and thrills as they play a G&L. And players who are picking out their first high quality guitar are in awe of the quality and playability of these fine instruments. And by the way, if gorgeous wood is your thing, we should mention here that many G&L models come with optional Curly Maple tops and Bird's Eye Maple necks . . . you know, just in case you're into such things.

Yes, there are a lot of very fine guitars to choose from these days. But if you're looking for an instrument with that special Leo Fender magic, combined with exceptional playability, incredible tone and the industry's only ten year warranty, may we suggest that you take a serious look at the fine guitars from G&L. Your Sweetwater Sales Engineer will be happy to work with you to find exactly the right instrument in our extensive inventory that has the features, color and finish you're looking for at a special price that won't have you playing the blues!



Top photo (left to right): **Legacy Special**, **George Fullerton Signature**, **Legacy** and **S-500**. Bottom (left to right): **Two ASAT Classics** and an **ASAT Deluxe**. At right: **The G&L L-2500 Bass**



**By Chuck and Brenda Surack
Owners, Sweetwater Sound**

Sometimes it seems like only yesterday that we shipped our very first order out to our first customer (and that customer is still buying from us today, by the way). Yet when we look around and see all the activity that takes place on a daily basis, it's pretty obvious that a tremendous amount of time and effort has gone into building Sweetwater into the acknowledged industry leader in music technology over the last decade. That doesn't happen overnight.

We never cease to be amazed at the dedication of all the members of the Sweetwater team and how well they all work together. If you were to see what happens to your order once you place it, see how quickly and efficiently it moves right through all the departments and finally out into shipping, you'd be amazed. We see it happen every day and *we're* still impressed.

Gone are the days when a company could afford to let an order sit on someone's desk for a few days before getting it processed. Those companies are either out of business already or headed in that direction very rapidly.

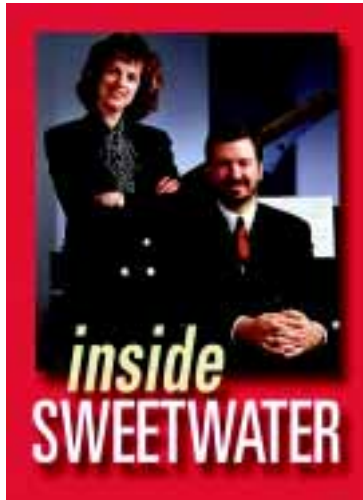
When our customers pick up the phone and call us, we know they're serious about getting the items they need, which means we're serious about getting it to them — *fast!*

Still, when any company grows as rapidly as Sweetwater has — and we're talking about true, record-breaking growth that this industry has never seen before — there are always questions: Are we doing everything we can to satisfy our customers? Is there anything we could be doing to make the entire process faster? Are there products that our customers want that we're not offering?

Along with this phenomenal growth, we also know that there have been a few times where everything hasn't gone perfectly. Mistakes do happen — we're not perfect . . . yet. Of course, when mistakes happen, we do whatever it takes to fix the situation, not in a matter of days, but in a matter of hours.

Thinking about all these "growing pains" issues, we always want to remind each and every one of you that nothing is more important to us than our customers. Every single person that works here knows that keeping our customers happy is our most important goal. Over and over again in ads, or here in *Sweet Notes*, or on our Web site, you see the phrase, "If you're not happy, we're not happy." Those seven words really sum up our attitude because nothing makes us more upset than knowing a customer is unhappy.

As Sweetwater continues to grow, we want each and every one of you to know that our basic philosophy will always



be the same. After all, when the very foundation of our company's unprecedented success is built upon taking care of you, the customer, it sure doesn't make sense to change that! If you love what we're doing and are ecstatic about the way you're being taken care of, by all means let us know. But if you have a problem, or a concern or even think there's a better way for us to serve your needs, we absolutely want to hear from you!

Now there are probably more than a few of you out

there who are brand new customers, or who may have been given this issue of *Sweet Notes* by a friend. If so, we invite you to give us a call and request a copy of our brand new (and absolutely free) "Welcome to Sweetwater" video. It takes you step-by-step through our facility and explains exactly what is behind "the Sweetwater Difference" that you hear so much about. You'll also meet many of the people who make up what is unquestionably the music industry's best sales and service team.

But even if you've been a customer for years, you can

have your very own copy of the video simply by picking up the phone and giving us a call. We'll have a copy on its way to you in almost no time.

On another subject entirely, we're extremely pleased that so many of you have already received your Mackie Digital 8•Bus mixers, Alesis M20s, MOTU 2408s and so on. Manufacturers

have really been knocking themselves out to get us product, and our shipping department has been working long hours getting this equipment out the door and into your hands.

We do sincerely appreciate your patience — we know it's tough waiting for items that have been in such short supply or delayed for a variety of reasons. We understand that you want to be making music right away. But these products are all so incredible, so truly revolutionary, that they're actually worth the wait. Hey, anyone remember how hard it was to get your hands on the original ADAT?

Of course, there's a whole bunch of amazing new products headed our way — things that we could barely have imagined even a few short years ago. Just look through this issue of *Sweet Notes* and check out our exclusive AES Show Report on Page 6, then start putting together your own personal studio "wish list."

1998 is coming to a close with a real bang and 1999 promises to be another year of startling developments and unexpected surprises. Hang on, it's going to be fun!



It makes these people smile to ship you stuff . . . no kidding!



Q: I just purchased a new computer based DAW. How often should I back up my hard drives?

A: Every single chance you get. Murphy's Law will always come into play sooner rather than later. If you go for long periods of time working on a file without saving it, the potential for a total crash and the loss of all your information increases exponentially. Backups are your friend! You might find that constantly saving and backing up is time consuming, but ask yourself this: How many hours of work on a project can you afford to lose? Fortunately, we've moved way past the point where backups were done onto 3.5" disks. So get in there and back up now!

Q: I recently installed a SCSI-3 Ultrawide host adaptor into my PC and I'm experiencing communication problems while configuring it to work with my SCSI-2 CD burners. What are the possible issues when combining SCSI-3 and -2 devices in a chain? My understanding is that SCSI is backwards compatible, and I wasn't anticipating any configuration issues.

A: When using an Ultrawide host adaptor and connecting to a SCSI-2 device, you'll need to use a special pass thru adaptor/terminator between the host adaptor and the SCSI-2 devices. While there are other cables available that tie the extra pins to ground at the SCSI-2 end, using one of these will not allow you to selectively assign which devices in the chain are SCSI-2 or SCSI-3, and at this point everything on the bus will be running at SCSI-2 speeds — not what you want!

Once you've inserted the adaptor / terminator, you need to go into the SCSI Bios for your host adaptor (on bootup) and *disable* Ultrawide support for all SCSI-2 devices in the chain. While in the Bios, you also need to disable the SCAMS. At this point there should be no communication issues. Another viable option is to add a second host adaptor, and in some instances this may be desirable.

Q: I just bought a new Zip drive from Sam's Club and it's not working with my Kurzweil. Help! What's the problem here?

A: Zip and Jaz drives are available in SCSI and Parallel port models. As it turns out, Sam's sells the parallel port model. Unfortunately, your Kurzweil requires a SCSI model. Hope you saved that receipt.

Q: Do I need a CADI if I want SMPTE, MIDI, or Video sync signals for my Alesis M20 digital multitrack?

A: No. Unlike the BRC, a CADI is actually a duplicate of the front panel controls of the M20 and does not have the sync functions inside it. The M20 itself generates all these sync signals and can be used alone if you want to be very frugal. However, the CADI is very handy when using more than one M20 (you do have more than one, don't you?) and it also has a few more locate tricks up its sleeve.

NO DELAYS! ORDERS PROCESSED SAME DAY! In most cases, orders ship the same day we receive them!

By David Stewart

Just when we recovered from the Summer NAMM Show, it's time to jump back on a jet and go to San Francisco for the **AES Show**. For the uninitiated, the AES Show differs from NAMM in two fundamental ways: 1) It is open to the general public, and 2) the equipment is almost entirely high tech studio equipment. At AES there are no drums, flutes, banjos, saxophones or bongos being sold. Instead you will find 96-input Euphonix desks, ProControl editing systems, Studer tape machines and mixers, all manner of hard disk recording technology, and a variety of other high-tech products.

Of course, because AES is an Engineering Society, there is a whole wing devoted to papers, seminars and standards. This is where the engineers come together to decide standards and disseminate information on just how the equipment we're going to see in the next few years is going to work together.

There are a few trends that could easily be observed at the show. One of the most obvious is the shift towards 24-bit, 96kHz recording and converters, and 5.1 and 7.1 surround sound technologies are also big news. Much of this is a symptom of the final DVD standard which was announced at this show and created a big buzz. Most prolific of all are the digital audio workstations. You couldn't walk 15 feet without running into a company selling their idea of how to record and edit audio on a tapeless system.

One of the most entertaining parts of the show takes place before the show starts. Since Sweetwater was an exhibitor we were able to get in before any public or press were allowed. The day before it started, the floor was filled with giant shipping crates, booth pieces, and occasionally you'd see a technician hovering over some new thing with a scope and soldering iron. One never knows if the problem was shipping related, the product had a failure, or if it just wasn't quite finished yet. You would be amazed if you really knew the time, energy, money, and effort these people have to spend to make a product successful.

At 12:00 the doors opened and the crowd rushed in as if they were trying to get that front seat at a festival seating concert. It was an almost civilized stampede. Here is a smattering of what they saw. This is by no means a complete report. Those seeking greater depth of information need only check out our Web site for the full unedited report at "<http://www.sweetwater.com/reports/105th-aes/>".

ALLEN AND HEATH had the new GS3000 32 x 8 mixer (street price around \$6500) up and running. This board features faders on both input and tape signal paths as well as two patchable tube microphone preamps built in.

ALESIS essentially hired the brains behind the successful Groove Tube microphone line and then assimilated them as their own. Nice if you can do it! Prices range from \$549 for the AM51 to \$1299 for the AM62.

AMEK had Rupert Neve in the house showing off his 9098i console. If any of you have about a million dollars you'd like to throw at one of the most amazing desks ever developed, this is the board for you.

ANTARES' new ATR-1 pitch correction hardware box was being put to the test. I sang through it and it even made *me* sound on key. Wow! It really works. I can think of some country singers I'd like to give one of these to. See Page 11 for more.

APOGEE gave us a nice demo of their newest stuff. The Rosetta A/D (\$1295) is their new budget converter system. It is a two channel unit with built-in ADAT Lightpipe and TDIF connections. It will do 24-bit conversion or lower bit depths with UV-22 process. They also announced plans to release an improved version of UV-22 called UV-22HR. Existing AD-8000 units will be able to be upgraded.

ART debuted a sexy looking new processor called DMU-Pro (\$499), which is based on a dual processor architecture. They also have a new Tube mic preamp and a new dual tube EQ, both priced at \$499 list.

BEYERDYNAMIC had a pair of their MCD-100 digital microphones hooked up and they sounded beautiful. There is only so much one can hear at a trade show, but I heard enough to make me want to hear more under more controlled circumstances.

DIGIDESIGN, as usual, had the largest, most crowded booth at the show and shook everyone up with their announcement (and working demos) of Pro Tools on Windows NT machines.

EARTHWORKS had the new SR71 (\$399) live cardioid microphone on display. It is housed in a much more rugged case than their precision studio mics.

EMU-ENSONIQ. Get used to seeing those names together. The Proteus 2000 (\$1495) looks ready to ship. The 32-channel, 128-voice unit has some real nice sounding built-in effects and looks like it will be a great new platform for their future. Their big news was the Mantis Modular Digital Mixing System (\$2500-\$9000). The central unit is the mainframe, which houses I/O cards for interfacing to all sorts of equipment.

ETEK gets my award for niftiest product at the show with their 14-channel NoteMix, a notebook style powered mixer. I mean it literally looks like a notebook computer. It opens with the inside lid having all of the mixer controls. It also comes with a gig bag. All of this for around \$899.

EVENT showed a new powered \$999 subwoofer for their monitor range with 250 watts driving a down-firing 15" speaker. They also announced DSPFX version 5.0, which will include more plug-ins than the previous version while maintaining the \$249 price. But the really big news was unquestionably that their Layla system is now totally compatible with the Macintosh. (*Editor's Note: We have them in stock and the drivers are downloadable right from our Web site!*)

FOSTEX debuted their new FD-8 multi-tracker (\$899). This big brother to the FD-4 adds not only an extra four tracks, but has 16 virtual tracks, an ADAT and S/PDIF digital I/O, and disk to disk transfer ability for archiving.

GEFEN SYSTEMS had a new PC/Mac 241 CPU switcher which allows you to shift effortlessly between Mac and PC using the same keyboard and monitor. Units were widely used around the show by companies showing cross platform products.

GENELEC showed the 1038AC, a tri-amplified center channel monitor designed specifically to go with their 1038 monitors. It has two 10" speakers, a 5" speaker, and a 1" metal dome tweeter with two 200 watt, and two 120 watt amplifiers.

HNB showed the Circle-5 passive (\$749) and active (\$1399) studio monitors, which are designed for 5.1 and 7.1 applications. The active ones are bi-amped with 120 watt and 70 watt amps. The 8-inch woofer has that distinctive HNB purple color.

JBL had one of the most spectacular audio demos of the show. Their LSR series monitors were set up in a 5.1 configuration with some very well crafted mixes being played. These monitors really need to be heard to be fully appreciated. See Page 9 for more.

KURZWEIL showed a nearly finished version of their long awaited Expression Mate controller system and the K2500 AES keyboard. KDFX for the K2500 was working impressively (See Page 8 of this issue for more on this) as well as Live Mode. We were also shown the undocumented procedure for using Live Mode to turn the K2500 into a full featured vocoder. Stay tuned for details!

LEXICON surprised us by awarding us their Dealer of the Year award. It's always nice to be recognized in this way, but just between you and me, it's easy to sell products that are this great. Their big announcement

was that they will have full ASIO support for their Lexicon Studio recording system. This will make them fully compatible with all of the popular digital audio/MIDI programs around.

MARK OF THE UNICORN was present with their Digital Performer software running on Digidesign's Project II hardware. The new version of the MAS driver is online for free download at "www.motu.com/downloads/DigiPerfMac/mas131". It gives users the option of using MAS or DAE for playback, each having its own advantages.

NEUMANN displayed the new gold U87 Special Edition and the incredible new M147. After winning their second TEC Award in a row (this time for the TLM103), they stand a legitimate chance, with the M147, of getting the hat trick next year.

OPCODE showed DATport, a new USB interface that provides the easiest possible way to get digital audio into a computer. The interface is brain-dead simple: a USB port on one side and a pair of S/PDIF ports on the other. Simply plug it into your USB port (you can plug it in while the system is hot) on your PC and it's ready to go. No messing with drivers (it doesn't even come with a disk) or DMAs, IRQs or anything.

ORAM caught the attention of many of the "big" console manufacturers with the Series 48 desk. The board employs John Oram's legendary analog designs, but puts them completely under digital control. There is a microprocessor on every single channel module, which gives him tons of headroom for future enhancements, as well as the ability to recall *every parameter on the desk* in a mere 8 *micro-seconds*. There's lots more to tell you about this, so look for a full report, probably in our next issue.

PANASONIC upgraded their DA7 software to version 1.1 which adds comprehensive MIDI communication, enhanced EQ and surround sound capabilities, and several other improvements. The upgrade is free to all users.

RODE debuted a new tube microphone called the NTV (\$1199). It has an edge connected diaphragm like the legendary AKG C12. It seemed to have a very warm and punchy sound while being very low noise for a tube.

SONIC SOLUTIONS is leading the way in developing mastering tools for DVD. Their

— Continued on Page 10



It was — and probably still is — the biggest news of 1998: On June 30th, **Mackie Designs** shipped the very first of its much anticipated 56-input, 72-channel, fully automated **Digital 8•Bus Mixers** (\$9999 list) and reaction from the music world has been, as you might expect, phenomenal. Always super quality-conscious, Mackie put *every one of its first production units* through a thorough real-world mix test before sending them out the door, and this led to some delays in getting enough consoles into the hands of all those people who wanted one.

Here at Sweetwater, units have been arriving just about every day and we expect to be caught up with the back order situation by the time you read this, though we still recommend you place your order now because even as the supply has increased, so has the demand.

Naturally the industry press has been raving about the **D8B**. Frank Wells of *Audio Media Magazine* (May, 1998) wrote: "The desk will find an instant home not only in recording facilities, but in video post and broadcast as well . . . Whereas the D8B can be effectively controlled by the work surface alone, few end users will want to pass up (the) stunning display (SVGA) and powerful virtual control surface." Meanwhile, George Petersen, in a *Mix Magazine* Field Test remarked: "The (Digital 8•Bus) is a great-sounding, flexible and ergonomically sensible digital board that's affordable and ready to meet the needs of the 1990s and beyond. Thumbs up on this one."

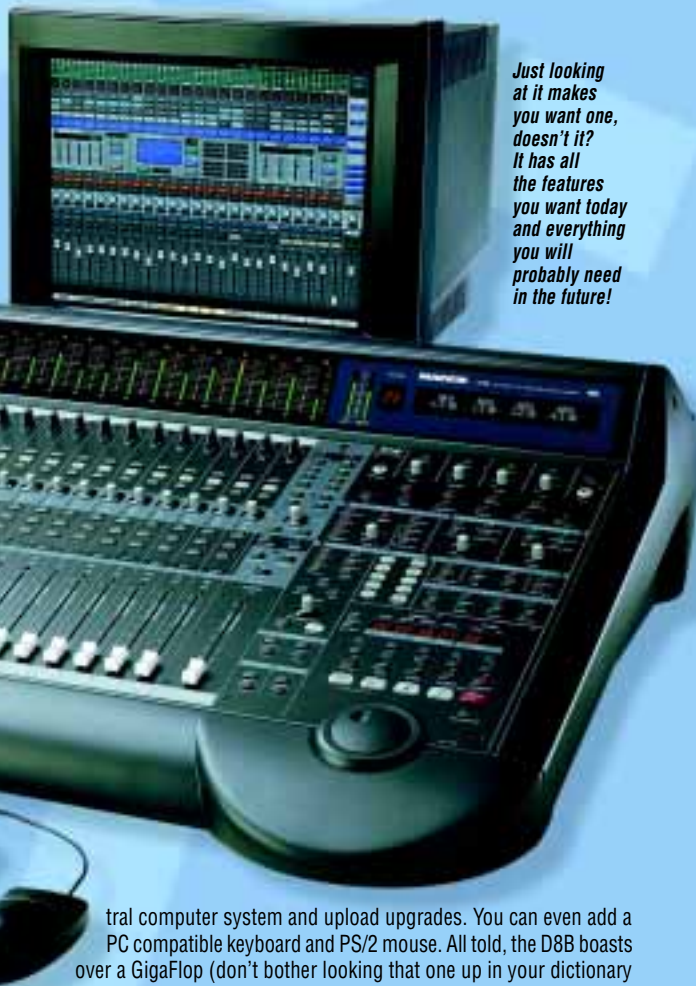
If you haven't been reading *Sweet Notes* (or *Mix* or *Keyboard* or *EQ* or every other industry journal) you might be wondering what the big deal is. Why are those "in the know" calling the Mackie Digital 8•Bus the most powerful digital console made today. Part of it is the basic philosophy behind the unit's creation. When Greg Mackie put together
t h e

D8B design team, he gave them a deceptively simple goal: "Do digital right." In other words, create a digital console that is as intuitive and easy to use as Mackie's rightly famous analog consoles. Create a console that doesn't compromise headroom, noise floor, bandwidth or color the sound in any way. And then make sure it's (like all other Mackie products) an incredibly good value. Actually, Greg hired the best digital audio mixer engineers he could find, headed up by two British designers who helped design those massive, oceanliner-sized digital consoles that pro studios build \$300-an-hour 'A' rooms around. According to Greg, "What our hardware engineers ultimately came up with was more than a digital mixer — they constructed a console with the guts and torque of a dedicated computer workstation, but with the

precise feel of a great analog console." Built with 25 integrated DSP chips, the Mackie D8B has tremendous processing horsepower. In fact, coordinating those DSP chips is a powerful Pentium compatible host computer.

Needless to say, accomplishing all that took just a little longer than anyone thought it would. But when you look at this monster mixer's feature set, well you can't help but be incredibly impressed. So let's take a closer look at the D8B. First of all, one of the nicest features of the D8B is its familiar analog-like interface. And yet it has, unquestionably, far more processing power than other "affordable" digital mixers which typically use less sophisticated micro-controllers to direct their audio and a few basic system functions. You often end up spending more money than you originally budgeted because you have to buy an outboard PC or Macintosh to get much done. The Digital 8•Bus, on the other hand, uses a true workstation-class 32-bit Pentium compatible CPU Processor with a full 16MB of RAM. Besides keeping track of 48 channels of audio, it can perform true computer operations like reading and writing to built-in floppy and hard drives and driving full-color monitors via a built-in SVGA Video Port. The built-in Ethernet connection allows you to dial into to Mackie's own cen-

Just looking at it makes you want one, doesn't it? It has all the features you want today and everything you will probably need in the future!



tral computer system and upload upgrades. You can even add a PC compatible keyboard and PS/2 mouse. All told, the D8B boasts over a GigaFlop (don't bother looking that one up in your dictionary — it's not there yet!) or three billion instructions per second of DSP. Mixers ten times the cost of the D8B don't have this kind of brutish digital muscle. This massive power lets you run digital functions such as EQ and full dynamics processing on all 48 channels simultaneously. And wait until you check out the D8B's luxurious display. There's no squinting at a tiny monochrome display (that's not good for your eyes, after all) and you can even use your mouse to control every feature of the board on-screen. This means that nearly all onboard functions can move in realtime, simultaneously. You can't do that on many other digital mixers, and certainly none anywhere near the Mackie board's price range.

There are a number of other things that you're going to love about the

— *Continued on Page 10*

By Daniel Fisher, Director of Soundware Engineering

Longtime Sweetwater customers know that we've been major fans of **Kurzweil Music Systems** synths and samplers from Day One. Seems like every time one of their instruments has reached its full potential, along comes another Operating System or Hardware Option that once again gives the instrument new and exciting areas to explore.

Since the release of the K2000 back in 1991, the bar has been raised many times to once again set the standard for synthesis power: a full-blown arpeggiator, 8-Zone Set-ups, the DMTi Digital Multitrack interface, Note-Starts from Controllers, KB3 realtime organ drawbar system and even a Live Mode that allows external audio to be processed by VAST. But the single most innovative and revolutionary option is the new **KDFX** (Kurzweil Digital Effects) for the K2500. Its sonic power and flexibility rivals most outboard effects and its retail price of \$795 is far below other serious professional studio devices.

There are a number of advantages in having a KDFX unit in your K2500 as opposed to using an outboard processor. You can easily design and store individual KDFX Studios and Effects Presets for every Program in your K2500, meaning you don't have to create MIDI Patch Maps to link Programs to Effects like you would with an outboard processor. This allows you to save all your Programs, Songs, Samples and Effects as a *single file!* An outboard digital effects unit would need to save its files as a SysEx dump somewhere else. Another area where the KDFX is superior to outboard effects processors is its tremendous controller assignment capability. Kurzweil's Variable Architecture Synthesis Technology is recognized as having the most powerful control signal processing, and now, all of these controls (and more) are available for every single KDFX parameter. This allows you to create powerful digital multieffects that precisely follow your performance. For those of you with studio applications the KDFX is a god-send (and god-return?). Not only does the KDFX allow 4-stereo busses of digital output which can be sent to ADAT Lightpipe or TASCAM TOS Link (via the DMTi Digital Multitrack interface), it also can send a stereo, 16- or 20-bit digital signal



DIGITAL EFFECTS FOR K2500

directly from the K2500 itself. You can even bring live, external digital or analog audio signals into the K2500 (via Sampling Option) and process them with both VAST and KDFX. The result can be sent back out of the K2500 as either an analog or digital signal. So it's almost like getting a full blown external processor for free.

But convenience, controllability, and external processing would all be of little importance if the KDFX didn't have stellar sound quality. Soundware designers and audio experts have already favorably compared the KDFX's reverbs and effects to many of the world's most expensive processors. The Reverbs (over 100) in particular were singled out as being among the best in the industry. But besides reverbs, there are also Complex Echoes, 4- and 8-Tap Delays that can sync to MIDI Clock, Spectral Delays, Stereo Choruses, Flangers and Phasers, Lazer Verbs, Pitchers, Shapers, Bit Quantizers, Distortions with EQs and Cabinet Simulators, PolyDistortions with up to 8 distortion stages, Leslie Rotary simulators with separate Horn and Rotor control and the list goes on. And the list will keep getting longer as new FX Algorithms were made available via software from Kurzweil in the future.

If you're convinced that the Kurzweil Digital Effects Option is just the ticket to take you into the 21st Century of audio production please visit our KDFX Install Party which can be found on our Sweetwater Web site at: "<http://www.sweetwater.com/products/kurzweil/kdfx>". There you'll learn why Sweetwater Sound is, by far, the best place to have your KDFX professionally installed. There's also instructions on how to safely prepare and ship your K2500 to Sweetwater for this exciting new upgrade. We've even provided an on-line form where you can create the Return Authorization document and the FedEx Airbill which will expedite sending us your instrument. You can even download the entire KDFX User Manual and Algorithm Reference to read at your leisure. But don't say we didn't warn you: Once you go through the manual and flip through the Algorithm Reference you won't be happy until your K2500 has KDFX.

For more expert information and your best KDFX value simply call your Sweetwater Sales Engineer and we'll get you up and running in the shortest time possible. It's going to be a great century to create music!

CADI Controller Autolocator Desktop Interface for Alesis M20

After designing what is certainly one of the world's finest stand-alone multitrack recorders, the 20-bit **Alesis M20**, the company had to address the way such a great recorder would be integrated into the modern studio. Obviously, engineers need instant access to all their controls in one place, but sometimes that place might be hundreds of feet — or yards — away from the recorder they're using. Top studios with big name clients can hardly say, "Hang on a minute, I'll just walk down the hall and arm those two tracks for you. Be back in a jiffy." Well, they could say that, but they wouldn't end up keeping many clients. Enter the **Alesis CADI** (\$1499 list), a new remote control (and we mean remote) and autolocator specifically designed for use with the M20.

Connecting to the M20 via an Ethernet-style RJ-45 connector, the CADI can be operated at huge distances from the recorder and still offer flawless control of the unit's transport and track arming functions. Even the M20's jog/shuttle wheel can be operated from a remote location using the CADI. A bright, clear vacuum fluorescent display shows machine status and alphanumeric information such as the names of location points. What's more, the CADI can directly control up to eight M20s right from its front panel, for a total of 64 tracks (plus time code and eight Aux tracks). Individual M20s may be taken offline from the remote, and individual indicators show when all machines in a system are in sample-accurate sync. For commercial studios that keep recorders in a separate area from the control room (and that's the logical way to set up a major studio, right?), the CADI is the solution for integrating M20s into any professional environment.

Specs and features? Plenty: The CADI sports full front panel controls and indica-

tors, a numeric keypad, illuminated record enable buttons and indicators (64 of them), Aux/TC track enable (8), track status, machine status, editing buttons, a gorgeous vacuum fluorescent display, a jog/shuttle wheel and a bunch of other stuff we don't have room to tell you about. It weighs in at just 10.6 pounds and is remarkably compact.

Top studios are already ordering M20s in record numbers. After all, this is a machine that was specifically created for heavy duty use in commercial audio recording facilities and high end video and post production facilities. Its sophisticated full servo direct-drive transport and flawless 20-bit audio capability guarantees sound that unquestionably surpasses even the biggest, baddest, most expensive analog mastering recorders. It was engineered for demanding, around-the-clock use and low maintenance. It has quick response and built-in SMPTE/EBU time code synchronization, as well as sample-accurate multiunit sync.

Yet it still uses the same inexpensive, readily available S-VHS tape stock as the original ADAT recorders (well, there are just some things you can't improve on).

Yes, we could go on and on about the built-in, high resolution oversampling A/D and D/A converters, the ADAT optical ports and sync jacks and the stunning audio quality of the 20-bit format (which can record an astounding 16 times more audio data than a 16-bit machine), but we'll leave that to your friendly, extremely knowledgeable Sweetwater Sales Engineer. Oh, and he or she will also be glad to give you a special Sweetwater price on an M20 and CADI system that's exactly right for your high end studio. So pick up the phone and make that call right now!





The **JBL** marketing people have come up with a pretty nifty slogan for the company's new **LSR-Series Monitors**: "Hear Every Thing." Catchy, isn't it? And quite accurate as a matter of fact, since these new speakers apply the very latest technology to produce a sound that really does let you hear every single thing in your mix. Of course, while plenty of us are still working in stereo, the JBL product designers are looking into the future. More and more, four, five or more channels are being monitored in modern production environments. As the AC-3 and DTS surround formats evolve (and others, no doubt, spring up), you'd better believe that everyone is going to be using them for film, video and (of course) album production. But how are you going to monitor all those additional speakers? Will your present speakers work or will you have to rethink how you listen in your studio? Luckily, the JBL engineers have done the thinking for us (which is good, since my math is awful).

Their Linear Spatial Reference (LSR) philosophy is based on a set of design goals that carefully control the overall performance of the system in a variety of acoustic spaces. Instead of focusing on a simple measurement such as on-axis frequency response, LSR designs require much better control over dispersion via transducer selection and crossover frequency design. Critical decisions of image placement, EQ, balance and timbre are typically made within +/- 15° vertically and +/- 30° horizontally. This workspace is where the engineer, producer and artist make mixing decisions and this is the area in which the LSR speakers are optimized for superb "in-room" response. By incorporating LSR into the system design requirements, placement rules are relaxed, a more stable image is maintained and off-axis coloration is minimized.

Let's take a quick look at all three LSR speakers. First up is the **LSR32** Linear Spatial Reference Studio Monitor (\$999 list), which combines the latest in JBL transducer and system technology with recent breakthroughs in psychoacoustic research to provide a more accurate studio reference, even in multi-speaker configurations. Differential Drive Technology with dynamic braking is employed for extended low frequency response and low power compression. The company states that the LSR32 is, by design, a mid-field monitor. The LSR32's 12" 252G Low Frequency Transducer is based on JBL's patented DCD technology. With the Neodymium structure and dual drive coils, power compression is kept to a minimum to reduce the fatigue of spectral shift as power levels increase. The cone is made of a graphite/polypropylene composite forming a rigid piston supported by a soft butyl rubber surround.

The C500G Midrange Transducer is a 2" neodymium magnet structure with a woven 2" Kevlar cone. In order to achieve the goal of accurate spatial response the crossover points between low and high frequency drivers are located at 250 Hz and 2.2 kHz. Finally, the 053ti High Frequency Transducer is a 1" composite diaphragm integrated with an Elliptical Oblate Spheroidal (EOS) Waveguide with 60 x 100 degree dispersion which is critical to the smooth spatial response required in today's working environments. The Mid and High devices are mounted within millimeters of each other on a cast aluminum sub-baffle that can be rotated for horizontal or vertical placement giving maximum flexibility in placement to reduce console and ceiling splash that destabilizes imaging and depth.

The **LSR12P** (\$1099 list) is a multiformat powered subwoofer for Dolby Pro Logic, AC-3, DTS and other surround formats. It features a 250-Watt continuous power amplifier with multi-voltage capability and employs Differential Drive Technology with dynamic braking for extended low frequency response and low power compression. The cabinet features a carbon fiber composite baffle for ultra low cabinet resonance and stable inertial ground, and the Linear Dynamics Aperture Port design eliminates port noise and reduces port compression. Separate Left, Center and Right crossover functions are included, as well as a discrete

— Continued on Page 10

SOUNDWARE SCENE

By Daniel Fisher, Director of Soundware Engineering

Once again the leaves are falling and the fresh, cool breezes create a sense of exciting things to come. As you can probably tell, I'm a "Fall guy" and I know I probably couldn't live anywhere that didn't have Autumn as one of its seasons. But Fall is also an exciting time at Sweetwater, as it's always the season that we break (destroy, actually) all of our existing sales records. I guess it's because our customers are ready for new beginnings and new equipment as well.

This Fall I got my own **Yamaha EX5** Music Synthesizer and our Soundware Development staff has been working diligently to get some of our best samples into the EX5 format. Our first result has exceeded our wildest expectations with the release of Sweetwater's **EX Premium Rhythm Section** CD-ROM for the EX5 and EX7. The flagship instrument on this disc is our award-winning 13-meg, triple-strike, Stereo Virtual Grand and I can honestly attest to the fact that our EX version is now the most dynamic and powerfully musical version of this piano yet created.

And when you have a machine with 128 notes of polyphony

you can stop worrying about voice-stealing and just start playing. There was so much polyphony to spare that we even created pianos that were a simultaneous mix of RAM and ROM pianos together. And the Virtual Grand with Strings will give you goose bumps!

To add even more value to this CD-ROM we've also included a Yamaha G3 Rock Piano

as well as some DX-7 textures. For the bottom of your rhythm section we offer six of our best Bass Guitars from our Ultimate Guitar CD-ROM and to kick the groove forward we feature five full-stereo, full-bandwidth, full-length Drum Kits from our Total Stereo Session Drums CD-ROM.

As an added bonus, the EX Premium Rhythm Section CD-ROM includes the program data from all four EX5 Factory Disks, all four EX7 Factory Disks and all eight Demo Songs. We've even thrown in the 8 meg General MIDI set for both RAM and Flash ROM so you never need to change discs. How much for this "Exceptional" CD-ROM? How about \$129! What? You don't have your EX Synth yet? Or you don't have the SCSI, RAM or Flash ROM options you want? No problem, call your Sweetwater Sales Engineer today for a special package price that will get you making exciting new music for the next century!

Before I go I'd like to mention that Winter NAMM '99 is really not that far away. If you're going to be at the show or in the LA area from January 27-31, please make a point to come see us. We're always looking to hire excellent people who share our excitement about music technology. Call Sweetwater and ask for Kristine Haas to set up an appointment. See you soon!



WE HAVE ALL THE HOTTEST PRODUCTS FROM ALL MAJOR MANUFACTURERS . . . IN STOCK!

MACKIE DIGITAL 8•BUS MIXER

— Continued from Page 7

DB8: the bold, futuristic shape, the innovative card cage, the nearly effortless ease-of-use. There are no button sequences to remember or silly ritualistic dance moves to access the DB8's many features. In fact, all button sequences are kept to a bare minimum and every important channel strip control — such as pan, mute, solo and EQ — is available via a dedicated button or rotary control. But even the best hardware isn't useful without user-friendly software. This is where Mackie really went to work on blowing away the competition. The Mackie Design Team felt that conventional computer operating systems were just too slow to meet their ambitious standards, so they created the invisible, proprietary Mackie Real Time OS. It runs all computer functions, supervises all 25 DSP processors, plus dynamic and scene automation without breaking a sweat.

But aside from assembling an impressive group of engineers and product designers to make the DB8 a reality, Mackie also partnered with other cutting-edge companies like **Apogee Electronics**, which means that inside every DB8 is Apogee's much-acclaimed **UV22 Super CD** encoding algorithm. UV22 gives your 16-bit masters near 24-bit resolution when and mastering engineers swear by it. It's a Mackie



exclusive that's previously only been available as a (very) expensive Apogee outboard processor and Pro Tools plug-in. Apogee is also engineering Mackie's digital I/O cards. For the DB8's reverb sound, Mackie went to Euphonics, the software think-tank that has developed algorithms for the world's most respected

producers of outboard digital effects devices.

Plus, Mackie also created an open architecture that accepts additional "name brand" DSP software plug-ins, making this the only mixer on earth that accepts the hottest new 3rd-party plug-ins, — how's that for the ultimate in versatility? Mackie also added a 30-day free trial of a full-blown, vocal doubling, harmony and pitch correction system from IVL, the world leader in vocal processing technology. The DB8's optional Vocal Studio interfaces seamlessly with the mixer's automation and features an elegant,

on-screen interface. They even tossed in full MIDI Machine Control for popular digital multitrack recorders, right down to a Record Enable button on every channel strip.

Greg Mackie sums it up this way: "We think we did our first digital mixer right. We listened to users, got the best engineers, and hammered away at a design that was never compromised. With the Digital 8•Bus, we think Mackie has created the most powerful digital mixer made . . . period."

If you want to know more about the DB8 (and who wouldn't?), we suggest you call your Sweetwater Sales Engineer right now for a complete overview of this impressive product and your special low price on what has to rate as one of the most significant technological advances of the last few years.

JBL LSR MONITORS

— Continued from Page 9 subwoofer input. This unique arrangement provides excellent bass management for a wide variety of formats. The subwoofer signals can be derived from the front channels or from the discrete input with a simple remote switch contact.

The **LSR28P** Bi-Amplified Linear Spatial Reference Studio Monitor (\$999 list) was carefully designed to provide precision imaging in near field monitoring applications. The LSR28P combines two high power amplifiers with an active crossover system which includes over 200 watts of low frequency power and 70 watts for the high frequency drivers. Active circuitry is included for level calibration and frequency response adjustment of both the bass and treble. XLR and 1/4" input connections can be accommodated as well as balanced and unbalanced signals.

The LSR28P's 8" low frequency transducer has dual drive coils which reduce spectral shift as power levels increase. An added third coil between the drive coils acts as a dynamic brake to limit excess excursion and reduces audible distortion at the high levels. The cone is made of a graphite-polypropylene composite forming a rigid piston and is supported by a soft butyl rubber surround. The 053ti High Frequency Transducer is a 1" composite diaphragm integrated with an Elliptical Oblate Spheroidal (EOS) Waveguide with 60 x 100 degree dispersion.

Now that's a lot of technical talk. Some of us dig such details. Others just want to know what these things sound like. Well, those of us who heard them at the NAMM and AES Shows in a spectacular multichannel demonstration were awestruck by the clarity and imaging, even at high SPLs. The subwoofer delivers a bass that you feel as much as hear. By the way, if you're considering a 5.1 surround home theater system, you need to carefully consider the incredibly accurate LSR monitors rather than the artificial, hyped-up speakers typical of consumer electronics stores. Some of these home theater systems look good, but deliver sonics that most of us will find unacceptable.

Want to know more? Want to audition a set in your own studio (or living room)? It's easy. Just pick up the phone and call us here at Sweetwater. You can get full detailed information and your special low Sweetwater pricing on an LSR System all your own. What are you waiting for? Call now!

AES SHOW SPECIAL REPORT

— Continued from Page 6 for a base machine) which is built on an engine many times more powerful than anything Sony has ever done. Data and algorithms are loaded in through a built in CD ROM drive. The unit is specifically designed to produce the most stunning digital reverbs possible - and in full surround.

STUDER had many amazing things in their booth, like the new V-8 machines and V-24 system. This S-VHS machine is based on the Alesis M20 ADAT, but has a different look and slightly different feature set. The V-24 system is comprised of three V-8 machines and a really sexy looking controller on a roll around stand.

SUMMIT showed one of the most attractive new products at the show, the MPE-200 (under \$5000) mic preamp. This Rupert Neve designed unit offers discrete solid state components running Class A with transformer inputs and outputs. It is under digital control and has MIDI with SysEx capability.

TANNOY showed an active version of their successful Reveal monitors. The Active Reveals (\$449 each) are bi-amped with 50 watts on both low and high frequency transducers. Also shown were the new 800 dual concentric active monitors (\$1999) with 90 watts on both the low and high end. A new smaller, active subwoofer called PS-110 (\$499) is designed to go with the Reveals and brings up the bottom with a 100 watt driven 10-inch woofer.

TASCAM showed a variety of new products. The CD-RW5000 (\$1299) is their new CD burner. It supports all types of media, including rewritable, and has all of the common digital I/O connections. They also have imported a SCSI CD burning package based on a drive from their parent Teac line. The CD Burner 4 x 12 is available in Mac and PC versions (with appropriate software for each) for \$630. Still in early development is the TM-D4000 digital mixer (\$4299). This unit is currently positioned as a slightly scaled down TM-D8000, but will have 24-bit I/O throughout, built-in effects and all moving fader automation.

TC ELECTRONIC blew us away with the new M3000 (\$2495) reverb unit. This one represents years of intensive research on the properties of sound in acoustic spaces. The results of this research have been known for a while, but they actually had to wait until there was a processor powerful enough to efficiently run the algorithms before they could build this box. Also, the Finalizer Express is their budget entry into the final stage limiting/EQ market. With a street price of under \$1400 it will be a great addition to any project studio looking to make pro sounding masters.

Well, unfortunately that's all we have room for here. Keep watching these pages and log onto our Web site often for updates on these hot new products.

By Michael Rief

EDITOR'S NOTE: Jim Miller is off on a brief, though well-deserved vacation and will return next issue (or so he says . . .)

Some people just should not sing. Me, for example. I guess I just never quite got the hang of it, or maybe there's some missing chromosome. Whatever the case, I admit that vocals are not my thing.

Some people have beautiful voices and can sing for hours without ever hitting a bad note.

Then there's those other people (I won't name names, but you know who you are). Some are very talented and often they write great songs. And most of the time, given enough tracks, takes and punch-ins, they can put down a pretty fine vocal track. But that can take hours or sometimes even days!

Knowing that not everyone has perfect pitch, a company called **Antares** introduced a remarkable plug-in for Pro Tools users. It was called **Auto-Tune** and it did exactly what the name implied: Here was a tool that could actually correct the pitch of vocals (and even other solo instruments) in real time, without weird distortion or other annoying artifacts, yet still preserved all of the expressiveness of the original performance.

Not surprisingly, industry publications like *Recording* magazine called the Auto-Tune plug-in a "Holy Grail of recording." They went on to say, "Bottom line, Auto-Tune is amazing . . . Everyone with a Mac should have this program."

This was amazing! Here was a tool so powerful that it could in effect guarantee a perfect performance. No wonder that tons of people went out and bought big buck Pro Tools systems just so they could have access to Auto-Tune. Not surprisingly, when word got around on just how well this plug-in did its job and how many hundreds of hours of studio time it was saving musicians, the Antares folks were inundated with requests for a self-contained "Auto-Tune-in-a-box."

Well, you don't just get a metal case and throw in some software, so it took a little while, but darned if they didn't actually succeed. The result is the **ATR-1**, a rack-mountable hardware implementation of Antares' Auto-Tune pitch correcting software. Like Auto-Tune, the ATR-1 employs state-of-the-art digital signal processing algorithms to continuously detect the pitch of a periodic input signal (typically a solo voice or instrument) and instantly and seamlessly change it to a desired pitch (which is defined by user-programmable scales).

What's more, the ATR-1 includes a number of new features that make it particularly powerful in live performance situations. These include a new Song Mode that lets the ATR-1 follow even the most complex harmonic song structures, foot switch control of Scale selection and a Bypass Mode, as well as full MIDI control of every parameter. By anyone's standard, that is an impressive achievement!

Sounds cool, you say, but how does this work? In order for the ATR-1 to automatically correct pitch, it must first detect the pitch of the input sound. Calculating the pitch of a periodic waveform is a straightforward process. The ATR-1 looks for a periodically repeating waveform and calculates the time interval between repetitions. The pitch detection algorithm in the ATR-1 is virtually instantaneous. It can recognize the repetition in a periodic sound within a few cycles, usually before the sound has sufficient amplitude to be heard by any listener. Combined with a slight processing delay (about 1 to 10 milliseconds), the output pitch can be detected and corrected in a totally seamless fashion. The ATR-1 was designed to detect and correct

itches as low as AO (55Hz) up to the pitch C6. This range allows correction to be performed on all vocals and almost all instruments.

The ATR-1 works by continuously tracking the pitch of an input sound and comparing it to a user-defined scale. The scale tone closest to the input is continuously identified. If the input pitch exactly matches the scale tone, no correction is applied. If the input pitch varies from the desired scale pitch, an output pitch is generated which is closer to the scale tone than the input pitch. The ATR-1 allows you to program 50 different Scales. For each, you can define which notes will sound and which won't. And for each note that will sound, you can decide whether the ATR-1 will apply pitch correction to input pitches near that note or leave those pitches uncorrected.

You also have control over how rapidly the pitch adjustment is made toward the scale tone via the SPEED control: Fast Speed settings are more appropriate for short duration notes and for mechanical instruments, like an oboe or clarinet, whose pitch typically changes almost instantly. Slow Speed settings are better for longer notes where you want expressive pitch gestures (like vibrato) to come through at the output and for vocal and instrumental styles that are typified by gradual slides between pitches. A slow setting can leave a vibrato unmodified while the average pitch is accurately adjusted to be in-tune.

The ATR-1 can even apply a vibrato to the input sound. You can program the depth, rate and delay or even control it in realtime via MIDI. You can also choose the shape of the pitch variation in the vibrato (sine, ramp or square). By combining a fast Speed setting with the ATR-1 Vibrato settings, you can even remove a performer's own vibrato and replace it with the ATR-1's programmed vibrato.

At its top level, the ATR-1 operates in one of two modes, Program Mode or Song Mode. Which mode you use depends upon your application and just how radical the required corrections might be. Unfortunately, space prevents me from going into detail on this, but it's all fairly simple and straightforward and you don't need some specialized degree from a four-year university to understand it. Heck, I can figure this thing out and, as those who know me can attest, I'm no rocket scientist.

Our own David Stewart just sent back a report from the AES Show where he put the ATR-1 through its paces and confirmed that the unit actually made his vocals sound good.

Antares' ATR-1 module is a terrific piece of equipment that no serious studio should be without. What's more, it carries a list price of just \$1199. Considering what this module can do, that's a small investment for a very big return. Want to know more? Just pick up the phone and talk to your Sweetwater Sales Engineer. They can fill you in on all the details we don't have room for here, and get you a great low Sweetwater price on your own ATR-1!



LATE BREAKING NEWS!

Sweetwater is now an authorized dealer for the full line of amazing, innovative **PARKER GUITARS!** Full details next issue!



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inside
THIS ISSUE

- TASCAM'S NEW TM-D1000 DIGITAL MIXER and DA-45HR 24-BIT DAT RECORDER
- G&L GUITARS and BASSES
- NEW DIGIDESIGN PRODUCTS
- AES SHOW REPORT and more!



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