

PRO AUDIO REVIEW

Gear & Software Reviews For The End-User



Daddy Yankee
Page 66

May 2006

Live Sound Issue!

Digidesign Venue Delivers for Tony Bennett

In This Issue!

- ◆ Preview: Midas Digital XL8
- ◆ Live Sound Console/Speakers Buyer's Guides
- ◆ Vienna Symphonic Movie Software
- ◆ Akai's MPC 4000

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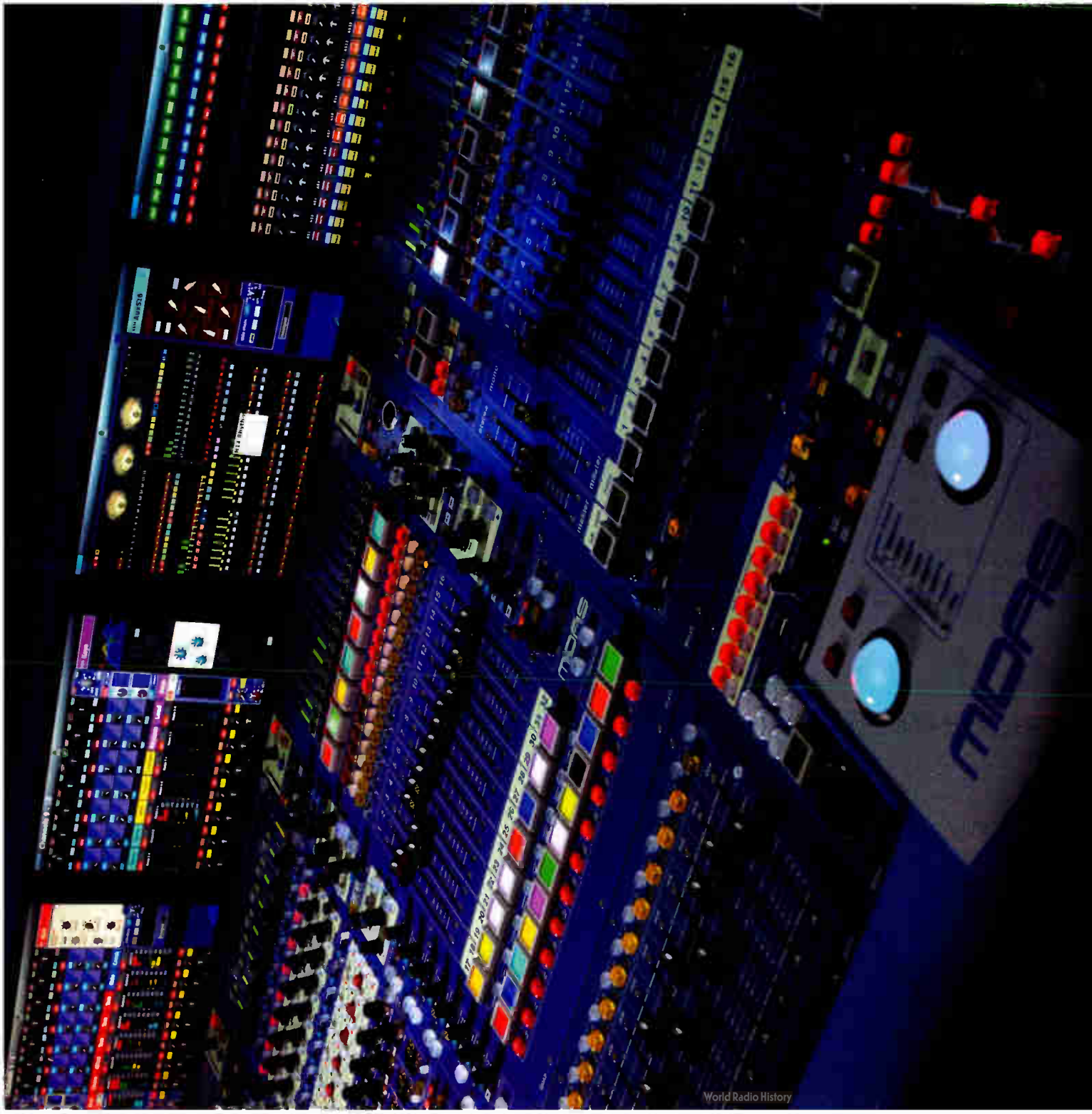
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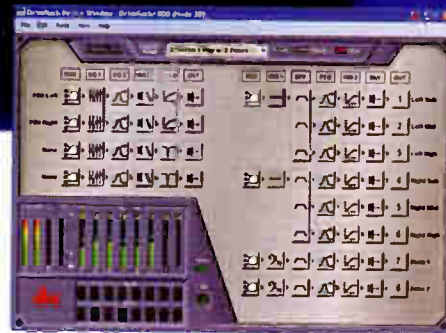


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PROFESSIONAL PRODUCTS



A Live Sound of Experience

BY JOHN GATSKI

I often get queried about how *Pro Audio Review* evaluates products in the live sound environment. After all, you can't deliver a line array or a big digital board to the editor's office and expect a real world evaluation.

From the beginning, *Pro Audio Review* has always done live sound reviews with live sound engineers. Case in point is the front-cover review of Digidesign's highly-regarded Venue. We worked out a schedule with stalwart *PAR* reviewer Tom Young, who works as engineer for Tony Bennett and has more than 30 years of experience in the business.

In order to do a proper test, Digidesign sent Tom the console a few days in advance of a scheduled Atlantic City show. A couple of days of training with a Digi' tech and it was placed in the concert system for the gigs. That is the way we do reviews — in a real job.

Will James, owner and chief engineer for Atlantis Sound in Arizona, is another long-time *PAR* contributor who has done numerous reviews on medium-sized gigs, ranging from L'Acoustics (we may have been the first magazine in the U.S. do an actual real-world evaluation of V-DOSC), Meyer Sound, Soundcraft, MIDAS, Klark Teknik, Allen and Heath, A-Line Acoustics and many others.

Heck, Allen and Heath once complained a little that Will returned one their desks a little dirty from use at a fairground concert. "Hey, I used it on a real gig," Will told me.

Other *PAR* reviewers for the live sound/installed sound niches include Andy Roberts, owner and chief technician for Rockville Music Service in Washington, D.C., whose jobs are as varied as political speeches (gives us a chance to try out lots of cool mics and speakers) to regular performance gigs at the Kennedy Center performance rooms to houses of worship.

For the theater product reviews, we rely on Tony Angelini, who travels between Broadway and the theaters of D.C. Dave Rittenhouse, a longtime engineer for Md.-based RCI Sound Systems, has done everything from small gig PA speakers to the recently tested Yamaha M7CL.

After more than 10 years of publication, I think *PAR*'s caliber of experience from our testers makes for product reviews that end-users can trust. Because of our stature as a credible review publication, I consistently get queried about reviews that have not yet been published. Readers tell me in e-mails and phone calls they are considering buying a certain product and want to know *PAR*'s opinion before they shell out the cash.

One of my most memorable conversations of pre-review persistence was from the late 1990s. A reader called me on the phone, asking me if *PAR* was going to review the new Soundcraft Ghost console. I told him that the review had been completed, but the review was not scheduled to publish for another two months.

The caller persisted in trying to get me to tell him the prepublication opinion of the console. He said he had a great deal pending on a Ghost, but he was not going to buy it until he found out whether *PAR* liked it. I finally relented and told him that the Ghost tested quite well. The guy responded, "I'm buyin' it. Thanks."

Pro Audio Review's reader surveys also bolster the credibility of our reviews. Of those who read *Pro Audio Review*, according to the latest survey, about 70 percent said we have the most credible product reviews of all the industry magazines, and about 75 percent of them said they have bought a product based on a review in *PAR*.

We do not take lightly the credibility that we have with our professional readership. We are always seeking to do more reviews, reviews with a more system approach and more bench tests (*PAR* is the only U.S. pro audio mag to regularly do bench tests).

Sometimes readers have such great ideas for unique approaches to product reviews that I hire them to write for *PAR*. In fact, we are constantly looking for experienced writers who can offer keen insight into a product when it is under evaluation. (Those interested in writing reviews should drop me an email at jgatski@aol.com.)

In *PAR*'s case, I really believe that experience equals credibility.

John Gatski is publisher/executive editor of *Pro Audio Review*.

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Review Wish List

Sennheiser has recently released an antenna that they claim eliminates drop-outs associated with multipath interference in wireless mic applications. Have you guys reviewed the A5000CP? If not, is it possible for you to get one to review and report on its performance?

Mathew Hathaway
Broadcast Systems Engineer
Broadcast Information Group

Editor replies:
We are planning a review in an upcoming issue.

WE WANT YOUR FEEDBACK

We want to hear from you. Send your comments to jgatski@aol.com. Please include name, city, state and job title and firm in the email. For product submissions, contact Brett Moss at bmoss@imaspub.com.

Digital PAR

Just a quick note to tell you I love receiving *Pro Audio Review* by e-mail.

Saves trees and I can read the magazine any time I want, any place.

One thing that bothers me, I would like to make copies of some of the articles so I can follow up on new products, i.e. my NAB list for checking out the products.

Is there any way to make a copy of a particular written article?

Walter Labucki
CHUM Radio
Halifax, Nova Scotia

Editor replies:
You should be able to print them out by simply hitting the print button in the file menu.

Thank you for the *Pro Audio Review* magazine online.

The online *PAR* version is great. *PAR* is a key to all my pro audio purchases and

my ability to stay on top of the recording game.

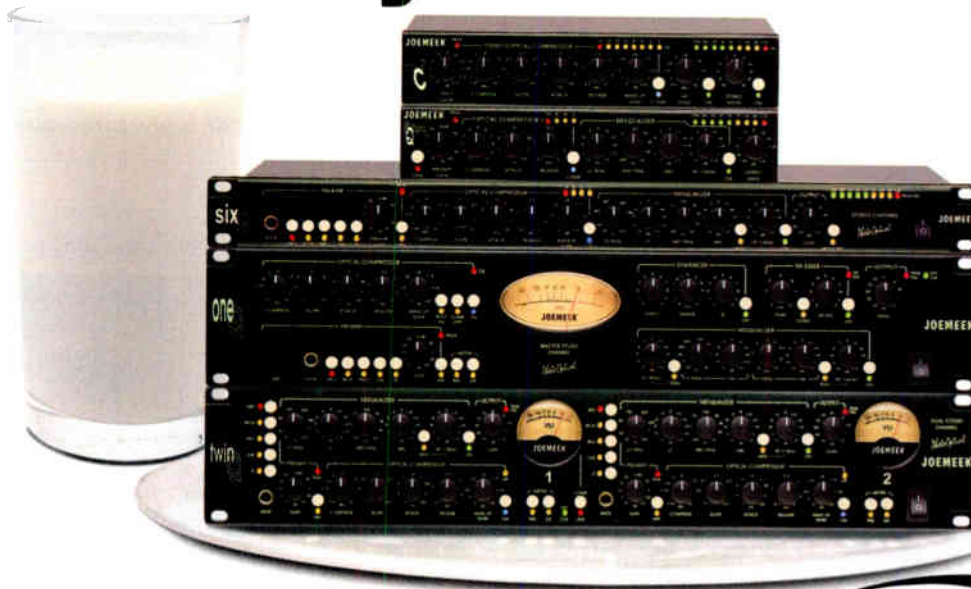
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NEW PRODUCTS

Famed Tootsie's "saloon" in Nashville recently upgraded (or rather updated) its old **Peavey** live sound equipment with new Peavey QW speakers and GPS amps along with a **Crest Audio** HP-Eight console.

Adamson Systems Engineering Y-Axis speakers are being used on the tours of Simple Minds and UB40 along with use at the Eurovision Song Contest this month in Greece. See picture of the crew from Reno-based Starsound Audio with a Y-Axis rig being used by UB40.



The San Diego-based live music TV show, Fox Rox, has added **Millennia Media** HD-3D mic preamps and TD-1 channel strips to its signal chain.

Another live music show, this one in Slovakia, Superstar 2006, has added **JBL** Vertec speakers to its live hall. The speakers are provide by Amex Audio, a regional tour company. Abe V. Systems, a regional tour company based in New York, has added a Vertec VT4889 to its lineup.

Turbosound Aspect speakers are being used by Britannia Row outfitting David Gilmour's tour. Turbosound amps (**MC2**-made) and **XTA** DP428 processors are also being used. .

Ludacris wowed them in Erie with **A-Line Acoustics** AL-10 speakers and LS-218 subwoofers at a recent stop on his tour. Raven Sound of Erie handled the duties..

OAP AS-122 Speaker

The AS-122 from OAP Audio Products is a multipurpose speaker/monitor designed for live and installation applications. A two-way speaker, the drivers consist of 12-inch woofer and a 1-inch tweeter on a rotatable horn. The wedge-style cabinet is .75 birch plywood situated with OAP's steel skeleton. Price: \$1,150.

Contact: OAP Audio Products at 800-788-1627, www.oapaudio.com.



Dolby Lake Processor

Trekkies will be forgiven if upon viewing this processor in action they think that the "assimilation" of Lake Technology by Dolby Labs is complete. The new Dolby Lake processor's unusual faceplate is part of the patent-pending "Portal" user interface design. The Lake is a multiprocessor capable of eight channels of EQ, a la the Lake Mesa EQ, or 4 x 12 channels of loudspeaker processing or a mix of the two. On onboard limiter, LimiterMax, is added along with an anti-ground loop function, Iso-Float.t.

Contact: Dolby Laboratories at 415-558-0200, www.dolby.com/livesound.



Turbosound TSW-218 Subwoofer

For those who want to feel their sound, look no further than Turbosound's TSW-218. Packing two 18-inch horn-coupled woofers – each with a 5-inch voice coil, the TSW-218 should go very, very low (sub-100 Hz according to Turbo propaganda). Design elements such as nylon feet and cabinet recesses assure these thumping units don't walk too much. price: \$4,912.

Contact: Turbosound/Sennheiser USA at 860-434-9190, www.turbosound.com.



Soundcraft Vi6 Console

Soundcraft has entered the big digital desk industry with the Vi6 console. Developed with the help of the lads over at Studer (Vista series), the Vi6 can handle up to 64 input channels. Users of the Vista series will immediately recognize the GUI as Vistonics-derived. Each channel has four-band parametric EQ and dynamics. Inputs are from a separate stage box. Keeping it in the family, the Vi6 is fully compatible with Harman's HiQnet routing system. Price: around \$80,000.

Contact: Soundcraft at 818-920-3212, www.soundcraft.com.



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Jim Weir

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Digidesign Venue Console System



BY TOM YOUNG

With its Venue digital console, Digidesign has added a highly capable digital mixing platform for the live sound market. After nearly three years of development Digidesign, well known for its studio standard Pro Tools, has created a mixing console that represents an innovative design for mixing live sound.

This designed-and-manufactured-in-U.S. console utilizes a systems-oriented approach with studio DSP plug-ins.

Venue is the only live sound console to feature an optional direct link to industry standard Pro Tools LE and HD systems. When using the console, I found there was no trade-off between flexibility, ease of use, and sound quality — when compared to analog consoles. Venue delivers all of the convenience and flexibility of a digital mixing system, while providing some of the best possible audio performance and fidelity I've used in any console. It is ideal for touring sound, houses of worship, theaters and sound contractors.

The Venue consists of the D-Show

Standard Redundant System, priced at \$65,495, which includes the main mixing console, D-Show side car, expandable digital mix engine, an embedded computer running custom Windows XP D-Show control software, an optional multichannel digital snake (\$995), and a remote-controlled stage rack with 48 inputs and 8 outputs.

FEATURES

The redundant system configures all of the components with backup power supplies. By adding an additional stage rack, \$14,995 list, you can expand the capabilities to a full 96 mic inputs, making this product very competitively priced.

The standard configuration includes 48 mic preamp input channels and can run 64 input channels, (including 16 effects returns). The console is equipped with 24 built-in graphic EQs and enough spare DSP power to run dozens of plug-ins. Venue utilizes the same family of Motorola DSP processors as Pro Tools, with 24-bit resolution on I/O. Internal 48-bit processing, said to be the highest offered by any manufacturer, provides maximum resolution for the onboard

EQ/Dynamics sections and offers great headroom specs on the mix busses.

VENUE uses high quality, remote-controlled mic preamps based on the input stage of Digidesign's acclaimed PRE-peripheral for Pro Tools|HD. Each balanced input is hand-trimmed during manufacture to maximize common mode noise rejection. The analog signal is captured using the latest, low-latency A/D converters and passes via a digital snake to D-Show's DSP mix engine.

A well-designed work surface provides ease of use and is conducive to analog mixing style operation. Each input channel strip includes delay, variable-frequency high-pass filter, compressor/limiter, expander/gate, and built-in four-band parametric EQ switchable to emulate analog or digital characteristics. The manual says the special "analog" mode accurately emulates the sonic characteristic of a "renowned" live sound console. I

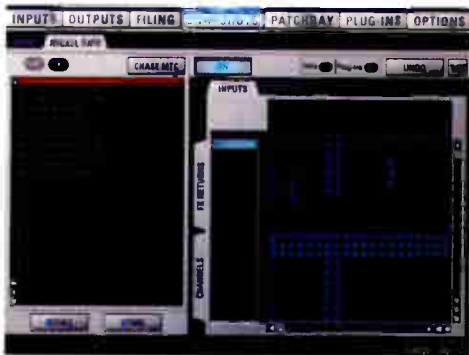
wonder which console that could be.

The Venue has 100mm motorized faders that can be labeled with a six-character name display and up to 32 characters in the patch bay display. It features eight DCA (Digitally Control Amplifier) faders for convenient grouping of any inputs. A channel strip copy/paste function allows operators to copy an entire channel input or output and paste it to any desired location. There are 10-segment bi-color meters on every input channel and effects return channels, and six-segment meters on input dynamics, providing good visual feedback.

Another unique Venue feature is the innovative Personal Q (PQ) system — consisting of wired remote controllers. They communicate directly with the D-Show mix engine, allowing performers to adjust the relative level and stereo placement of elements in their monitor mix.

In situations where the gig doesn't support the luxury of having a separate monitor mixer, the front of house engineer simply sets up the starting monitor mix and is then free to focus on other tasks while the performers fine-tune their individual mixes.

The single-stage rack in a standard 19-inch format handles ins/outs for stage microphone and line input and output signals and accommodates up to 48 remote-controlled preamps and up to 48 outputs. On-stage location of the remote is ideal to ensure that mic signals are converted to digital close to the source, preserving maximum fidelity.



An optional Digital Stage Input (DSI) retails for \$1,995, and Digital Stage Output cards are available for direct digital connection from DigiDesign Venue to digital speaker processors, playback/record devices, and other ancillary equipment.

IN USE

I used the Venue for four days mixing Tony Bennett and his quartet at the Caesar's Palace showroom in Atlantic City. Our first day started

by the removal of an existing Amek Recall console out of the sound booth which audio engineers Paul Swenson and Dave Wink told me had never been removed. After lifting that 600-pound console up and out of a booth, we really appreciated putting in the Venue main and sidecar consoles at only 194 pounds! DigiDesign's Jeff Priepot spent a day with me and the house audio staff, orienting us on the features of the console.

After placing the console, we ran the digital snake that consisted of two standard coaxial cables with BNC connectors and transports up to 48 signals, bidirectional over distances up to 500 feet. The system we used was dual-redundant so there was a backup for everything.

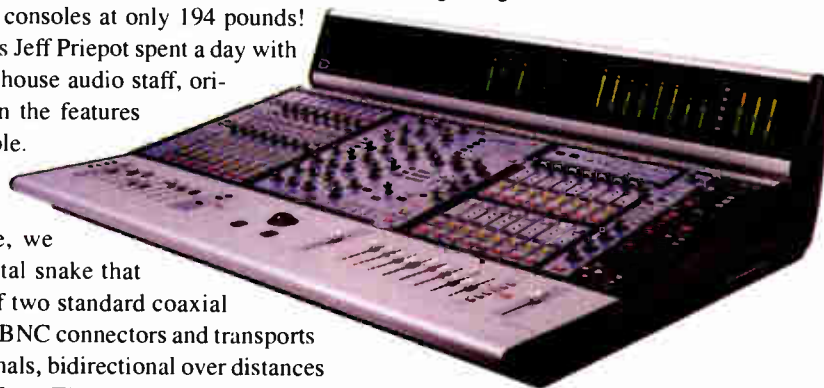
This is the only digital console that in the event of a system failure or host CPU restart not only continues to pass audio (as long as power is still on), but the control surface maintains control over the faders and mutes, which makes it exceptionally reliable.

I immediately appreciated DigiDesign's control surface design when laying out my show on this console. Usually when mixing on a digital console, you must orient your input layout in layers or banks since you have less faders than actual inputs on large shows. The Venue console offers a layered topology for the channel banks, with a maximum of four layers deep.

A unique feature of the Venue is that the D-Show console's mix engine directly supports the use of software DSP TDM plug-ins. Unlike some digital consoles that require additional racks of traditional outboard processing, this console allows you to purchase whatever effect or EQ you want as a plug-in such as Drawmer, Sony, Crane Song, TC Electronic and Eventide. Plug-ins eliminate the potential for hum, buzz and increased noise floor. Plug-ins can be inserted on individual or all channels desired, to free up outputs. One of the plug-ins offered is an analyzer called Troodon, which permits full RTA, transfer function, time alignment and impulse response display. Any signal can be routed directly to the analyzer without the need of a computer and patch cables.

When I listened to the console, I was impressed with the sound of the mic pre-amps and the flexibility and sound of the EQ section. Having mixed in this room many times

on other consoles, the transparency and realism in the sound of the mix was obvious. I mixed six sends of monitors from FOH and used the graphics onboard and was able to use a wireless notebook to make changes using DigiDesign D-Show software.



With a FireWire option in the console and Pro Tools LE, I recorded 18 tracks each night directly to my Toshiba laptop. Now that is what I call the ability to make a board tape! The tracks were put on Layer B so I could listen the next day or even in my hotel room using an Mbox.

The Venue's power to listen back, edit, make some quick recordings for the band to review, easily archive the shows quickly and inexpensively, puts this console in a separate league. If your show uses Pro Tools for playback to supplement the band, which is becoming commonplace, it is as easy as using the FireWire or HDx link.

SUMMARY

Most engineers have seen the advantages that digital consoles bring to the live sound marketplace. DigiDesign's Venue has taken it one step further. With the future of sound reinforcement becoming so integrated with recording; (i.e. Live Nation CDs after the show, and tracks being used more and more to supplement live bands) the Venue is well-designed for the future.

Digital consoles are becoming commonplace in live sound, and it is apparent that the division between traditional mixing functions, speaker processing, system analysis, recording, and show control are becoming more integrated. If power, future expandability, and value are something you look for in a live sound console you should definitely check out the DigiDesign Venue. Highly recommended.

Tom Young is the mix engineer for Tony Bennett and a regular contributor to Pro Audio Review.

BY RICHARD ALAN SALZ

Unveiled to the world press at the recent Pro Light + Sound at Musikmesse in Frankfurt, Germany, the Midas XL8 represents yet another large step in the maturation of the live sound digital console. With layout cues, sonic attributes and microphone preamps evolved directly from Midas' universally lauded analog consoles, the XL8 has the potential to take the high-end live sound console market by storm.

Make no mistake, the XL8's target audience is the high-end user. In fact, the XL8 is Midas' new flagship product, retiring the XL4 analog console that has had a place in many high-end tours and installs throughout its 10-year product life.

Development of the XL8 was fast-tracked resulting in a surprisingly short, three-year cycle. Paramount in the design brief of the XL8 was the issue of reliability, and as such, heroic steps have been taken in the areas of redundancy and modularity. Indeed, no single point of failure can bring down the XL8 due to distributed network hardware, multiple linked processors, and duplicated cabling runs. Like many other devices these days, the XL8 is built on a Linux platform, which has proven to be both stable and secure, compared to other common operating systems.

In order to support the XL8 Midas has set up a global 24/7 phone support group with locations in the US, UK, Hong Kong, Japan, and Singapore to ensure that XL8 users have the resources necessary to deal with problems and concerns no matter their location. The level one technicians have XL8s on-site, and are able to duplicate configuration and operational issues in tandem with the user.

The standard configuration of the XL8 is as 96 channels, plus 16 aux mic/line inputs with a 24-bit, 96 kHz sampling rate. Larger connectivity configurations can also be specified, although the current maximum mix matrix is 112 x 51. Quite unlike an analog console which likely consists of just a power supply and a mixer surface, the XL8 system is the sum of multiple parts.

XL8 CONTROL CENTRE

This is the actual work surface of the XL8 system, with a standard configuration consisting of five discrete bays comprising three input modules, one mix module, and one output module. In keeping with Midas' design goals of modularity and fault toler-

Midas Debuts XL8 Digital Console



ance, each of the console bays is a discrete unit with its own power supply, processors, and displays. This approach ensures that a system fault in one area of the console cannot result in a total system failure.

The XL8 Control Centre incorporates the requisite motorized faders, rotary encoders, daylight-visible LCD screens, and dedicated metering that one would expect on a product of this class. The Control Centre also features user assignable grouping and color scheming, plus an innovative KVM (keyboard, video, mouse) switching capability that allows the console to control three remote PCs or Macs and display their output on the display of the Control Centre. Other niceties include white LED lighting, 63 discrete 20-segment LED meters, a slide out keyboard, and dual trackballs.

The input modules of the XL8 include three discrete microphone preamps per channel, simplifying routing audio to multiple destinations such as monitor, front of house, and remote broadcast utilization. Incidentally, the microphone preamps share the same overload characteristics common to Midas' well-regarded analog consoles, which many engineers have used (and abused) to their advantage! Each of the 96 input channels also includes a four-band parametric equalizer with four selectable filter types on the high and low EQ sections, high and low-pass filters with two selectable filter types, frequency-dependent compressor with four compression types, frequency-dependent noise gate with side chain, routing to 32 auxes or 48 foldback mixes for

monitor usage, phase reverse, phantom power, insert points, input delay, pan pot, and routing to mono busses. Whew!

In addition to the display screen and associated faders, the mix module of the XL8 features 12 VCA groups, eight population (POP) groups, and 32 mix busses which include: a six-band parametric equalizer (or optionally a 31-band graphic equalizer), subgroup, auxiliary or mix-minus modes, dual mono or stereo modes, frequency dependent compressor with five compression styles, insert points, direct input, and routing to the 16 matrix busses.

The output module of the XL8 offers 16 matrix busses, each with capabilities similar to the 32 mix busses detailed in the mix module section. Additionally, dual trackballs, a slide-out keyboard, communications panel and associated display screens, and KVM switches are included in this section of the console.

ADDITIONAL MODULES

The other sections that make up the XL8 system are:

- DL-431 - Audio System Input Splitter – The XL8 system includes four of these input splitters which each contain 24 mic/line inputs with three microphone preamps, three analog mic splits, integrated dual-redundant power supplies, and two AES50, Ethernet, and USB connections.

- DL-451 – Audio System Modular I/O – Five of these user-configurable XLR connections

continued on page 14 ▶

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World Radio History

► *Midas from page 12*

tor-based units are included in the XL8 system. They may be configured in banks of eight channels as analog mic/line inputs, analog outputs, or digital AES/EBU inputs and outputs.

- DL-461 – Audio System Signal Router – Two of these 3U rackmount units are provided with the XL8 system. The DL-461 provides connection between the Control Centre and the various other modules.
- DL-471 – Audio System Signal Processor - Ten of these 1U rack mounted DSP modules are included with the XL8 system. The system actually requires only nine modules, the tenth is a backup.
- Klark Teknik DN9331 Helix Rapide – This 6U module can be rackmounted or freestanding and provides a motorized 31-fader graphic equalization controller for the XL8's onboard graphic EQs.

Although the XL8 uses standard Ethercon connectors and CAT 5 to link the various components of the system together, Midas has chosen to license Sony Oxford's AES50 (SuperMAC) digital transfer protocol which provides much faster and denser communications compared to standard Ethernet connectivity. Each CAT 5 link can carry up to 24 channels, bidirectionally. Each network link is physically duplicated for fault tolerance reasons. Latency is stated at 70 from end to end. For connection between the stage network and the FOH position, Midas uses the Sony HyperMac protocol, which, Midas' implementation, carries 192 channels of audio plus standard Ethernet protocol, bidirectionally down dual-redundant CAT 6 or fiber-optic cables.

OPERATION

The XL8 strikes a very nice balance between the visual and the tactile. Unlike some digital consoles that require paging through layers of menus (and submenus) virtually every control that one would need is located within arms reach, and in a logical location. This is due in no small part to the contribution of design engineer Alex Cooper, responsible for other Midas console designs in the past, including the venerable XL4.

On each of the three input modules that comprise a standard XL8 console, a master control detail strip is provided on the right hand side of the module which allows for full (and detailed) control of a selected channel, the screen above this strip displaying detailed information keyed to the operation underway. Unlike some other digital consoles, this expanded channel strip section is in addition to (not in lieu of) functionality on the channel strips themselves which allow for control of essentials like EQ, dynamics, VCA groups, and of course panning and level.

The on screen graphics are well rendered, with graphics perhaps a tick down from fully photo realistic, but certainly clearly visible and informative. In a clever touch, the vintage style equalizers and compressors feature chicken-head knobs, which provide an immediate visual cue to the operator as to the operating mode of the processors. Effects racks can be custom configured on a project basis, and much of the console can be color coded as per the operator's preferences. The equalization and compression models were developed by analyzing engineers' application-specific requirements, as well as leading hardware devices.

THE SOUND

In the fully operational demonstration of the console, it was apparent that it shared the common "Midas sound" in spite of its digital rather than analog topology. The equalization was specially designed to mimic both the curves and tapers of its analog stablemates, even to the point of having phase shift introduced into the algorithm, as Midas found that that made it easier for engineers to "zero in" on a particular band. While I understand the thinking behind this decision, perhaps a phase-compensated option could be incorporated for those who wish to take full advantage of the digital EQ technology commonly found in high-end workstation plug-ins.

Although I didn't have the opportunity to actually mix a live show with the just-introduced console, during a hands-on demonstration period, I was able to test various processors within the console, and I feel quite comfortable in saying that the onboard processing is uniformly excellent. It's certainly possible to integrate outboard equipment (both analog and digital) into the console, due to the flexible nature of the DL-451 modules, but with the excellent quality of the onboard processing, I'd think it hardly necessary to supplement the onboard options.

This combination of fault tolerance, excellent sonics, and intelligent evolutionary interface design is exactly what we've come to expect from Midas. Add to that 24/7 tech support and a solid warranty, and it's easy to see why those with the need and the means for a high end console are well advised not to purchase anything before auditioning the XL8 system.

Contact: Midas/Telex at 800-392-3497, www.midasconsoles.com.

Richard Alan Salz heads Vermont Audio Labs (www.vtaudio.com), a multifaceted audio consultancy.

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BY ANDREW ROBERTS

It's common knowledge that modern automobiles utilize a great deal of technology that originated on the race track. So when you go to see a concert and there's a couple hundred thousand bucks worth of brilliant-sounding transducers hanging from the rafters, is it possible that the same technological prowess could reach the local music/pro audio store? If JBL has anything to say about it, the answer is yes. Some of the attraction to this newest generation of concert-level loudspeakers is that they are compact, lightweight, they handle lots of power and they sound great. While JBL's new SRX700 series cabinets are, in some regards, a far cry from the company's flagship VERTEC line arrays, they do have features that have been derived from their high-flying brethren.

FEATURES

The SRX series is part of JBL's portable sound reinforcement division and the series is comprised of two subs, four full-range boxes and a monitor cabinet. The units I received for review are the SRX715 (a full-range box available in standard or flyware version), the SRX718 sub and the SRX712 multipurpose cabinet (which makes a great monitor enclosure — read on). The woofers in this series utilize JBL's Differential Drive technology. This utilizes two voice coils in each driver, with their magnetic gaps set 180 degrees out of phase with each other. The whole assembly is designed to dramatically reduce weight while putting a premium on sound quality.

Fast Facts

- **Applications:**
Live sound, sound reinforcement, installation
- **Key Features:**
12, 15, 18-inch woofers; Differential Drive technology
- **Price:**
SRX715 \$1,569.00, SRX718 \$1049.00, SRX712M \$1,199.00
- **Contact:**
JBL Professional at 818-894-8850, www.jblpro.com

JBL SRX700 Series Loudspeakers

The SRX715 features a 15-inch woofer (model 2265H) and a horn with a 3-inch diaphragm, neodymium compression driver on a 75-degree x 50-degree body (model 2431H). Considering the cabinet's claimed power handling capacity of 800 watts (continuous), it weighs a remarkably scant 48 pounds and its trapezoidal shell spans 28 inches high, 17.3 inches wide and 16 inches deep. The 8 ohm box has a frequency response of 53Hz-20kHz (± 3 dB), a max SPL rating of 131 dB (@1m), and it has dual Neutrik NL4 input connectors. The enclosure has an internal passive crossover point of 1.2 kHz but it can also be actively operated when the external switch is engaged. The SRX715 is coated with JBL's DuraFlex finish (as are all the cabs in the series) and it has two stand cups - one for horizontal use and one that angles the cabinet down slightly.

The SRX718 subwoofer is a compact, bass-reflex enclosure that features a single 18-inch driver (model 2268H, also Differential Drive with dual voice coils) in a 13-ply birch cabinet. The enclosure weighs 79 pounds and measures 20 inches high, 23.5 inches wide and 29.5 inches deep. The 718 has a claimed frequency response of 34 Hz – 220 Hz (± 3 dB), a claimed max SPL of 130 dB peak, with power handling rated at 800 watts (continuous). The box has a threaded pole receptacle in the top (for use only with JBL's SS4-BK adjustable height pole), dual NL4 connectors, and a switch to convert from 1+/- to 2+/- in the NL4 connection.

The SRX712M is a multipurpose cabi-



net that, in my opinion, is equally as capable as a monitor speaker as it is a main. The box features a 12-inch woofer (model 2262H) and a 50-degree x 90-degree horn (model 2431H). It has a claimed power handling of 800 watts continuous and a frequency response of 83 Hz – 18 kHz (± 3 dB). At 13.75 inches high by 21.5 inches wide by 10.25 inches deep, the enclosure would definitely qualify for low-profile status. Like the SRX715, the SRX712M has dual NL4 connectors (one on each end), an external biamp switch, and dual angle stand cups.

IN USE

My first use of the SRX cabinets was at a press conference for the US Postal Service and it featured the Postmaster General speaking to a group of reporters. This event occurred in the lobby of USPS headquarters in Washington, DC and the room is, like so many others in DC, marble, marble and more marble. Since this event featured only spoken word at a podium, I opted to use the SRX712Ms and I placed them in the angled-down stand cup and had wonderful results. The cabinets sounded clear and articulate — even in that hostile acoustic environment.

Tilting the boxes down toward the seated audience was a marvelous move as it minimized over-spray of the mids and highs, subsequently reducing unwanted reflections.

My next opportunity arose when I needed to supplement a house sound system at a local church. My friends John Conway and Ben Congdon are the audio crew at a large church with a nice installed PA (Yamaha DM2000, flown EAW FOH cabs, etc.) but the system lacks sub augmentation and front fill coverage that would be needed for popular music. They were hosting popular Christian artist Chris Rice and they brought us in for FOH help and some backline gear. I used the SRX718s subs (placed right on the stage deck) and a pair of the SRX712s to fill the first few rows (they were just out of range of the hanging cabinets 35 feet above and angled toward the core of the 900 seat sanctuary). After time-adjusting and some moderate EQ, the JBLs made a nice addition to the house system. The SRX718s enabled the kick drum and bass to have a

nice impact and the SRX712Ms made for very intelligible sound in the audience near the stage.

Over the next few months, I proceeded to use the SRX715/718s FOH combo and 712M in a variety of situations including a weeklong college theatrical production, a 40-piece Russian orchestra and a jazz funk band featuring renowned bassist Gary Grainger and sensational vocalist Meritxell. I must say that initially I felt that the sound from the SRX715s sounded somewhat "scooped" – lacking mids and high-mids. It wasn't until I set the house EQ flat that I realized how nice the cabinets really sound. They are very clean (not harsh) and they have a real even, high-fidelity presentation. The SRX718s subs are surprisingly punchy for a cabinet I can carry with one hand! The SRX715s have excellent off-axis isolation displaying minimal bleed behind them.

SUMMARY

Overall, I think these are superb cabinets and they should satisfy discerning users from churches to concert sound

providers. I found them to have a wonderful sonic character and they are amazingly lightweight and clean looking. I really fell in love with the SRX712Ms. I've used them as distributed speakers at corporate events, FOH cabs at a small folk performance, FOH sidefills for a John Kerry Town Hall meeting, and monitors for a number of very energetic bands — all with wonderful results. My one beef is that they seem to be less efficient than other mid-priced cabinets I've used. Therefore, make sure you have plenty of power to drive them with. If you do, you'll be rewarded with an excellent sounding event.

Andrew Roberts, a regular contributor to Pro Audio Review, is a sound reinforcement and recording engineer.

Review Setup

Midas Venice 320, Venice 160, Yamaha DM2000 consoles; Audio-Technica AE6400, Shure Beta 58 and Beta 87 vocal mics; Audio-Technica, Shure, Audix instrument mics; Rane, Community, TC Electronic and PreSonus processing.

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BY MEL LAMBERT

Few can doubt this Swiss company's expertise in the analog domain; for many decades Studer's two-track and multitrack machines have dominated the international marketplace. And in terms of digital transports, the DASH-format D827 Mk II 24/48-track made fans of reel-to-reel editing convenience. But the firm's console range, aside from relatively modest broadcast offerings, never created the same sort of buzz. Until, that is, the D950 appeared on the scene and dazzled post production and broadcast customers with its intuitive user interface and powerful, bullet-proof operating system.

Fast forward to half a decade ago, and the introduction of Studer's Vista Series, which very quickly established an enviable reputation for connectivity and enhanced user friendliness. The latest offering in the Vista Series, the aptly-named Vista 8 (app. \$200,000 - \$450,000), built on that pedigree and has attracted a lot of attention from the live-production community. A major key to Vista's success is the Vistonics display section, which offers function-specific relabeling of all controls plus a host of other advantages.

As will be readily apparent to anybody who has used earlier Vista Series consoles, Vista 8's Vistonics GUI has dramatically extended the concept to provide flexible output metering and control. In essence, Vista 8 combines the Vista 6's broadcast features with dynamic automation culled from Vista 7 to offer a flexible multipurpose live broadcast/production console. A revised Control Bay provides additional faders in a narrower frame layout, making Vista 8 an ideal choice for both fixed and remote applications. Fold in a revised snapshot system plus dedicated mute groups and the Vista 8 becomes equally at home in a fixed-install concert hall or theater.

Without a doubt, the primary feature of Vista 8 is a remarkably intuitive user interface; you sidle up to the console and know almost instinctively what controls handle what functions. Because if there is one potential drawback to fully assignable digital consoles, it is the steep learning curve for control mapping, and remembering how to reach hidden layers. With Vista 8, all of this assignability is there, of course, but it never seems to get in your way. (A not insignificant requirement for

Studer Vista 8 Digital Live Production Console



live operations.)

Studer's remarkable Vistonics GUI integrates rotary controls and buttons within a flat-screen display. Most digital consoles arrange controls around or below a TFT flat screen display, a topology that brings some ergonomic problems. While parameters are displayed on the screen, their associated controls might be located elsewhere. Vistonics uses specific colors and control shapes or icons to differentiate various functions. Vista 8's channel controls comprise a TFT screen with buttons and rotary controls mounted on it, plus a touch-screen area immediately below. Other channel-specific controls - fader, mute, on/off buttons and so on - are arranged above and below the TFT screen to form an instant overview.

MODULAR SYSTEM COMPONENTS

Vista 8 consists of a single Control Bay plus between two and six Channel Bays that incorporate between 22 to 72 physical faders. Remote D21m Hubs house an array of mic/line analog I/Os, AES format I/O, MADI I/O, TDIF I/O and ADAT format I/O, according to the environment, and connect via a MADI optical link to additional D21m Remote Frames, carrying control data for remote mic preamps. Each

hub connects to the main Vista DSP Core via a CAT-5 port, and also outputs eight AES format I/Os to the separate Monitoring Frame. A simple optical connection links the Vista 8 control surface to the Core, with additional control connections from the surface to the Monitoring Frame via RS485 and to the Hub via RS422 serial ports.

The configurable DSP Core can be set to run at a sampling rate of 48 kHz or 96 kHz, with 40-bit floating point math. A small-format system might be configured with five DSP cards to provide 96 D21m inputs and outputs - for example, a 48-channel stereo console or a 34 to 42-channel surround mixer. With 16 DSP cards and 192 D21 I/Os, a medium-format configuration can be laid out as a 128-channel stereo mixer or an 82 to 104-channel surround console. Usefully, stem mixing also is possible with Vista 8 using group buses that can be patched directly to recorders, and subgroup master channels for stem summing provide additive monitoring. (Stem levels also can be displays on subgroup master channels.)

A routing matrix within the DSP core offers cross-connection between physical I/Os and internal ports, thereby eliminating

continued on page 20 ►

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► *Studer from page 18*

the need for external patch bays or companion router. (The Vista 8's router can also be controlled externally using the industry-standard Pro-Bel protocol, providing audio-follow-video for broadcast applications.)

Each Channel Bay on the control surface houses an array of 10, 100mm faders, a Vistonics GUI screen, assignable rotary encoders at the top of each channel strip, plus additional buttons and controls. Each channel features a high-resolution, dual-color bargraph meter with an additional gain-reduction element for the built-in dynamics. Color-coding is used intelligently as an aid to locating an appropriate control on the Vista 8 surface. Within the Vistonics touch area, channel displays are green for dynamics, red for EQ and yellow for pan, providing an instant overview of each setting for the entire console with a quick glance. Pressing a Global View button causes the four Vistonics rotary controls on each channel to change their function throughout the console, displaying the selected audio function's four important parameters. And Global View buttons are located on each Channel Bay, providing handy access from anywhere on the surface.

VISTONICS EASE OF USE

By touching either the dynamics, EQ or pan curves on a particular channel strip, all controls and companion displays for the targeted function are available within the Vistonics panel. Touching EQ and dynamics on the same channel, for example, enables simultaneous control of these complementary functions. Simply turning the rotary controls enable parameters to be adjusted with instant display of numerical and

graphical settings. As I discovered, Studer has provided Vistonics with icons that represent a logical readout for each individual function: graphical readouts represent frequencies, circles are time settings, bar graphs for levels, and so on – all easy to remember, making Vista 8 behave and respond more like a hard-mapped analog mixer than an assignable digital console.

It cannot be stated too strongly that the close integration of controls and readouts is a remarkable breakthrough; unlike other competitive schemes Vistonics' patented technology directs your eye and hand to work cooperatively in the same display – they are coincident, without sub menus - since every parameter can be accessed via a single button push. As Studer says so concisely in its sales literature: "Where you look is where you control."

Audio functions can also be copied and pasted using dedicated keys to transfer or clone just one or a range of channels. DSP channels not assigned to the surface can be accessed by scrolling or banking through available channels, with a freely assignable order across the faders. Each fader can be flipped individually to a second layer for fast access to "must-have" sources, such as backup microphones. And, usefully, all second-layer channels are provided with a small level meter that can be set to the channel strip.

All buttons on Vista 8 are logic-controlled to sense momentary or latching operation, by sensing how long it has been depressed. A quick tap latches the selected function/view, while a touch and hold temporarily activates the same function/view. The result is an intuitive and very powerful user interface that dramatically reduces the number of input processes compared to a conventional console. Controls can also be ganged to enable multiple channel strips to act as one, including mute, faders, copy/paste, plus bus assign.

CENTRAL CONTROL BAY

The central Control Bay comprises a Vistonics screen equipped with 40 rotary controls and switches plus 12 faders: 10 that match the operation of those fitted to the Channel Bays, plus two extras. Overall philosophy here is, without a doubt, "One control per function" – thereby eliminating paging and hidden functions. The 10 "standard" faders can be mapped to control input sources or – more usefully - as VCA Masters or Group Masters via a four-bank array. Interestingly, the screen's rotary controls act as 40 additional faders with real-time meters – maybe as master faders to provide direct access/display of overall levels with headroom and overload indicators. But that is just the beginning. A very handy – and as far as I know unique - "Contribution" button located above each fader calls up a reverse bus interrogation mode, effectively remapping all of the faders that are currently controlling the contributing channels to the bank of rotaries above that channel.

The Control Bay also provides eight fully assignable, high-resolution dual-color bargraphs with dual dynamics readout. Each meter can be switched to display monitored sources, PFL and solo. An optional motorized joystick can be used to automate surround panning and Studer's unique Virtual Surround Panning (VSP) capabilities. VSP provides time-delay panning and ambiances, enabling mono sources to be processed and quickly produce highly realistic surround ambiances. The process "builds" a predefined acoustic space and then positions

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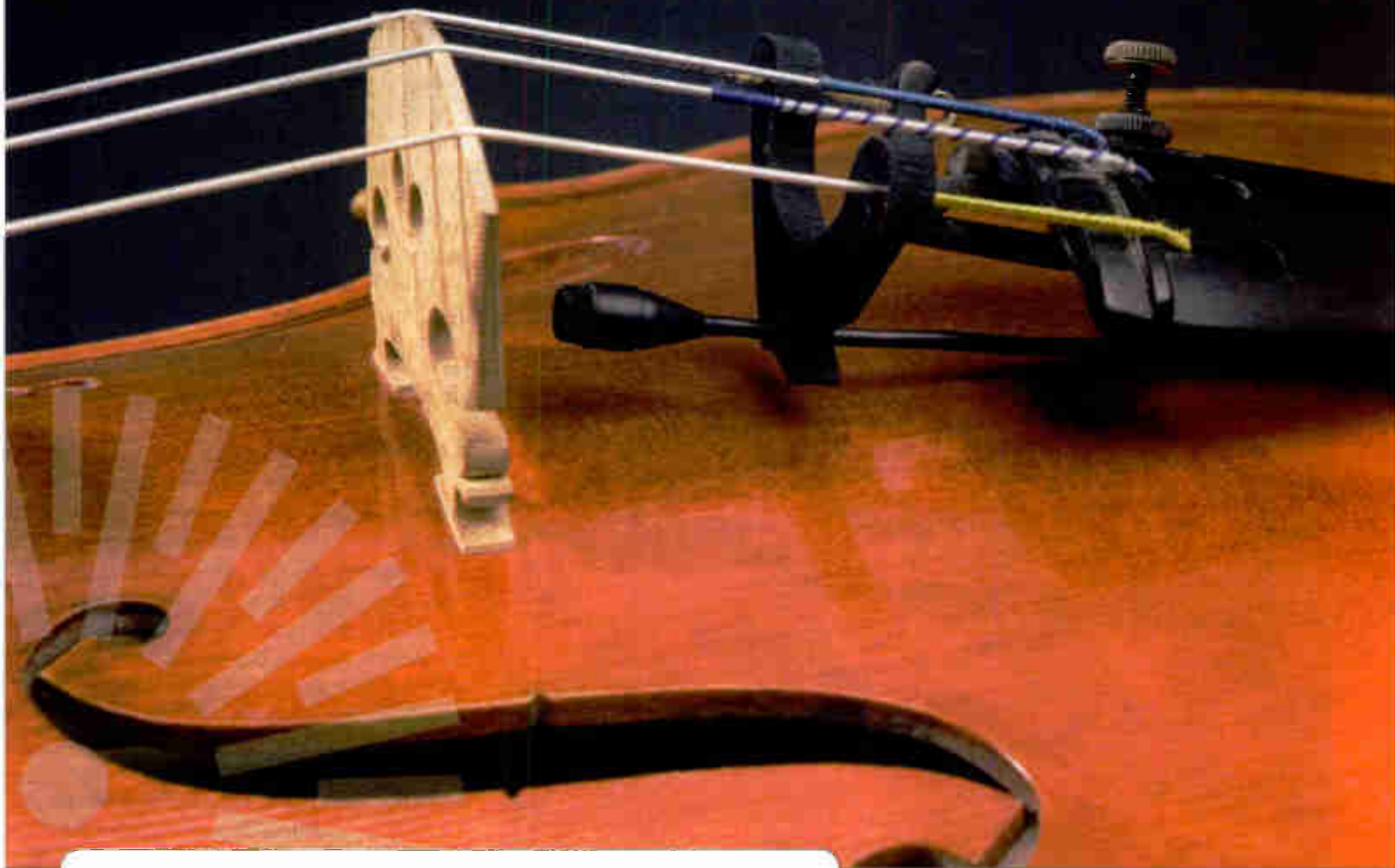
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First Look

► Studer from page 20

targeted sound sources within this fabricated space. LCR and surround pan elements control the level and location of early reflections with closely calculated directionality and time delays for each loudspeaker location, along with stunningly realistic late reverberation patterns. Hearing is believing!

For control room monitoring, Vista 8 supports LR/stereo, LCR to LCRS and 5.1, with Dolby EX as an option. Feeds can be

set to a pair of independent studio areas, with a sophisticated talkback setup. Multiple GPIs and GPOs also are available for controlling external equipment, on-air lights and similar devices.

As well as offering conventional capabilities, each input channel provides features that are essential for live broadcast, live-to-tape and similar real-time production. In addition to 16 dedicated Mute Groups, flexible snapshot modes can be set up and actuated at the press of a button.

Vista 8 offers talkback routing to Direct Out plus N-1, for example, while a series of flexible matrix busses can be configured to drive multiple headphone feeds for complex broadcast productions. (A Vista Remote Bay, with between 10 or 20 faders, is available on special order for operating channel functions up to a distance of 400 yards from the primary control surface.)

One particularly neat function: today's live broadcast or taped productions can be a nightmare to wrangle if outside sources need to communicate offline with one another and/or with the producer in independent, application-specific conference modes. Vista 8 comes equipped with a remarkable provision to set up private communications groups via the PFL system, including the ability to automatically deselect sources by putting them to air and/or the master busses. (Thereby allowing remote reporters, for example, to compare notes, update their impressions and even develop elaborate cues, simply by being routed via an N-1 PFL-activated buss structure. Truly innovative ... and totally stress-free!)

SUMMARY

The Studer brand has always meant quality and reliability, within analog and digital systems that utilize advanced technology and rugged innovation. The Vista 8 Live Production Console is no exception. It offers an easy to use, highly intuitive control surface that can be learned in record time, plus a flexible DSP Core and MADI-based system configurations that provide bulletproof reliability and redundancy. For live productions there are no second chances; you get it right, or the moment has passed. With Vista 8 there is an excellent chance that, with its remarkable Vistonics topology, this console will keep coming back for more and not get in your way. A remarkable development worthy of its Swiss pedigree.

Contact: Studer/Harman Pro at 818-920-3212, www.studer.ch.

Mel Lambert has been intimately involved with production and broadcast industries on both sides of the Atlantic for more years than he cares to remember. Now principal of Media&Marketing, a Los Angeles-based consulting service for the professional audio industry, he can be reached at mel.lambert@MEDIAndMARKETING.com; 818-753-9510.

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BY ROGER WILLIAMS III

Ever since JBL introduced the EON powered speaker over 10 years ago, many companies have tried to emulate the concept and success that they have had. I reviewed the original EON system many moons ago in this same magazine, and I knew they had a winning approach on their hands. The PA-on-a-stick with preamp, active crossover and power amp all wrapped up in one convenient package made for an attractive, modular, portable alternative to component separates. The powered speaker has been firmly embraced in all sectors of sound reinforcement, so it's no surprise that MI equipment manufacturers have followed suit; thus, the introduction of the Crate PSM15P powered full range enclosure (\$629).

FEATURES

The PSM15P has a 15-inch cast frame low-frequency driver and 1.5-inch titanium high-frequency driver mated with a 60 x 90 degree horn in an impact resistant polymer enclosure. It is driven by a 300 watt RMS dual-channel amplifier in a biamplified configuration electronically crossed over at 2.5 kHz with a 12 dB per octave slope. Frequency response is claimed by the manufacturer to be 60 Hz to 18 kHz with a rated maximum SPL of 124 dB. External dimensions come in at 28.5 inches high, 19.5 inches wide, 14.5 inches deep. Weight is 65 pounds.

The preamp is side-mounted into the handle cavity. It contains, from top to bottom, low and high-frequency peak LED indicators, power LED indicator, output level control, separate low, mid, and high EQ controls, input gain control, mic/line sensitivity switch, balanced XLR output and combo XLR/TRS 1/4-inch input jacks, and signal ground lift switch. The rear panel amplifier chassis provides the AC Power

Fast Facts

Applications:

Live sound, sound reinforcement

Key Features:

Powered Two-way; 300W amp; biamplified; plastic cabinet, integral preamp

Price:

\$629

Contact:

Crate Pro Audio at 314-727-4512, www.crateproaudio.com.

Crate PSM15P Powered Speaker



switch, IEC AC power cord receptacle/fuse housing, and voltage selector switch.

IN USE

Since frequency response graphs were not included in the manual, I decided to test it with my NFE DSP2010EX audio analyzer. Driving the PSM15P with pink noise and capturing the averaged response with a calibrated Josephson measurement microphone, I found the unit to be fairly linear, with 5 dB peaks centered at 90 Hz, 300 Hz, 2 kHz, 4 kHz, and 10 kHz, and a 5 dB dip at 6.4 kHz, while rolling off sharply at 50 Hz and 16 kHz. Dialing in the EQ section of the preamp revealed the controls centered at 80 Hz for the low, 2 kHz for the mid, and 10 kHz for the high frequency sections. Boost and cut capabilities for the EQ are ± 15 dB for the low, ± 12 dB for the mid and ± 15 dB for the high sections.

In use at a small 80-seat club, with the band Guitardogs, the PSM15P performed well. Using a Mackie 1604VLZ mixer, dbx 231 dual 1/3 octave EQ, Shure Beta 58s for vocals and SM57s for drums (the exception being an AKG D-12 mic for kick), the system was easy to tune and able to handle pounding kick drum, punchy

mid vocals, and synthesizer high frequencies effortlessly. There was plenty of headroom, with vocals prominently featured over a backline that included the typical Fender 60 watt combo guitar amps, a 300 watt Peavey bass rig and large shell Tama drum kit. The low and high peak LED's rarely blinked. Coverage was fairly even throughout the room. And between sets, system noise was barely discernable.

The PSM15Ps would be good by themselves for say, public speaking engagements at sales meetings or corporate events, evidenced by plugging in a Shure SM58 mic straight into the preamp solo sans mixer. A single unit on a tripod (they include an integrated 1.39-inch stand mount) should be able to address a room with a couple of hundred people. It would probably be a good rental unit for these purposes, easy to set up (although at 65 pounds, tripod mounting is a bit tough for one person), and very durable.

Stacking multiple units is facilitated by Lego-like four-point standoff fabricated into the enclosure. The XLR output jacks provide easy daisy-chaining. The cabinet is designed with one side angled at 45 degrees to enable use as a floor monitor, if desired. Carrying the unit with the single handle is not problematic;

Product Points

Plus:

- + High power
- + Quiet operation
- + Very durable
- + Price

Minus:

- Incomplete manual

The Score:

A durable and powerful full-range biamplified speaker at a reasonable price point

it's well balanced. And the heavy steel grille/plastic cabinet combination seem to be able to withstand considerable stress; they took a pretty good slamming around at night's end by tired roadies, yielding no significant scratches as you would normally expect in a plastic enclosure. For permanent installations, the unit has three mounting points with

continued on page 62 ➤

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World Radio History

NEW PRODUCTS

Pro Audio Review writer Will James and his Atlantis Audio recently installed an **A-Line** AL-10 line array system into a ballroom at the Ramada Express in Laughlin, Nev. See picture of Will and the Atlanteans (he's on the right).



Magic and Kareem are no longer running up and down the floor but the Great Western Forum in Los Angeles recently upgraded its sound system with **Lab.gruppen** fP6400, fP3400 and fP2600 amps to power **JBL** Vertec VT4888 speakers and VT4880 subwoofers.

Also in the LA area, the Walt Disney Concert Hall added a **Lectrosonics** Venue digital wireless microphone system.

Down in Georgia, **Danley Sound Labs** has installed SH-50 speakers and TH-115 subwoofers for "The Bridge," a Duluth-based church. In Atlanta, Perimeter Church, took delivery on a four Danley TH-115 subwoofers. Up the road in Aiken, SC, the Badon H. Brown Performance Pavilion at the Aiken Center for the Arts installed a 7.1 surround sound system consisting of Danley SH-100 speakers and a DTS-20 subwoofer.

Also in Atlanta, the Temple Sinai synagogue has added a **Sabine** SWM7000 wireless microphone system.

The Lakewood Church in Houston recently did a considerable amount of rewiring its A/V facilities. Cable of choice was **Gepco**.

QSC WideLine WL2082-I Installation Line Array

QSC's WideLine WL2082-I Installation Line Array is a line array designed for the ground up for installation purposes rather than touring applications. This results in cost savings and a few extra features. Driver-wise, the WL2082-I features twin 8-inch woofers and twin 1.75-inch titanium dome tweeters mounted on a multiple aperture diffraction waveguide (140-degree pattern). The cabinet is made of polystyrene and utilizes a simplified rigging scheme. Price: \$1,800.

Contact: QSC Audio Products at 800-854-4079, www.qscaudio.com.



dbx DriveRack 4820 Processor

Continuing development of the DriveRack line, the latest from dbx is the 4820. Naturally, this four-input/eight-output multiprocessor has EQ, delay, compressor, limiter, band-pass and crossover filters with a 96 kHz sampling rate. Like all new Harman family products it is fully compatible with HiQnet. Price: \$2,995.

Contact: dbx at 801-568-7660, www.dbxpro.com.



Amplivox SW227 Wireless Voice Projector System

Amplivox's SW227 is a all-in-one PA system for road warriors. A bit more than a speaker-on-a-stick, the SW227 is a wireless system with a mixer built into one of the speakers. Wireless lapel and lav mics transmit to a receiver in the mixer/master speaker which in turn transmits a signal to the slave speaker – range up to 300 feet. Included cables facilitate connection to a laptop or projector. Tripods are built into the speakers and the whole shebang fits into a rolling carrying case. Price: \$1,299.

Contact: Amplivox at 800-267-5486, www.amplivox.com.



Paradigm Rock Monitor 60-SM

Braving the "hard to hear" jokes, Paradigm has introduced the Rock Monitor 60-SM, a speaker in a weather-resistant polymer. The innards of the 60-SM consist of a 6.5-inch mineral-filled polypropylene cone and two 1-inch titanium dome tweeter. The "cabinet" is also UV-resistant and features draining fissures. It is available in Fieldstone, Northeastern Dark Granite or Western Sandston finishes. Price: \$249

Contact: Paradigm at 905-632-0180, www.paradigm.com.



Nady SPL Meters

Two new handheld SPL meters from Nady Systems cover analog and digital audio. The DSM-1 is a digital audio meter that measures analog and digital audio. DSM-1 features include a .5-inch omnidirectional mic, A and C-weighting and an LCD screen. The ASM-2 features include seven sound level ranges, A and C-weighting and peak and average levels. Both meters are battery operable. Prices: DSM-1 - \$129; ASM-2 - \$59.

Contact: Nady Systems at 510-652-2411, www.nady.com.



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NEW!

MM 42

- Process single stereo or two independent mono mixes
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- 4 line-level inputs
- Built-in headphone amp
- On-board Cue Bus
- Sub output

monitor processor



NEW!

PEQ 55

- 5 parametric bands per channel with dual mono 5-band, mono 10-band or linked stereo 10-band operation
- Separate High/Low-Cut filters
- Separate 3-band Tone controls
- Input and output gain controls
- Balanced XLR, TRS and Euro I/O
- Individual filter overload LEDs
- Universal internal power supply
- Real knobs!

parametric EQ

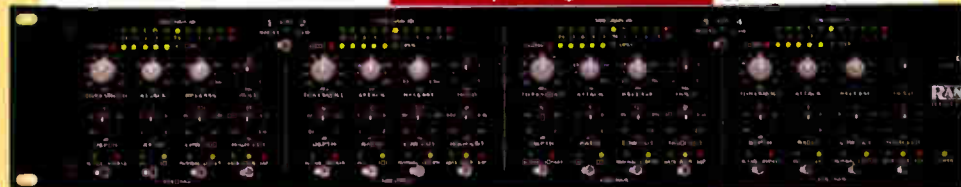


NEW!

G4

- Gate, Ducker and Expander
- External Side-Chain with balanced/unbalanced TRS input
- Side-Chain Source Select, Listen, High/Low-Cut filter and metering
- Stereo link
- Look-ahead Peak Detector
- rms Detector in Expand mode
- Balanced XLR & TRS I/O
- Universal internal power supply
- Extensive multi-mode metering
- Real knobs!

quad gate



NEW!

DEQ 60L

- Perfect-Q™ with no filter interaction
- 25 mm DEQ 60 sliders; 45 mm DEQ 60L sliders
- Full 12 dB Cut-only mode on DEQ 60L
- Separate Accelerated-Slope™ 3-band full-cut tone controls
- Separate High- and Low-Cut filters
- Stereo linking
- A/B curve comparison

Perfect-Q™ graphic



NEW!

C4

- Independent Compressor & Limiter per channel
- True de-essing
- External Side-Chain with balanced/unbalanced TRS input
- Side-Chain Listen, PEQ filter and metering
- Stereo linking g
- Separate gain reduction, limiting and function displays for each channel
- Universal internal power supply
- Real knobs!

quad compressor



NEW!

AC 24

- 4-way or 3-way operation
- Dual mono or linked stereo operation
- 24 dB/oct. Linkwitz-Riley slopes
- Automatic phase compensation
- Alignment delays
- Independent limiters
- CD horn EQ on High-Mid and High outputs
- Stereo link switch
- Internal universal power supply
- Real knobs!

4-way crossover



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BY WILL JAMES

Klark Teknik Square One Dynamics Processor

If ever there were a name synonymous with quality in the pro audio world, it could be Klark Teknik. They have been the purveyors of fine, world-class level audio processors for over 30 years.

The DN360 EQ is the graphic EQ by which all others are compared and measured, as are many of their products. Klark Teknik has introduced a new line of goodies, called the Square One line, which is currently two new products, a graphic EQ and a dynamics processor, and in this review I shall look at the dynamics processor.

FEATURES

If there is one thing that hits you right out of the box with the new Square One line from Klark Teknik, it would have to be the beautiful purple face teamed with the superb silk screened white lettering. We'll get back to the pretty face, but first the functions.

The KT Square One dynamics processor is a three-rack-space device, boasting eight channels of tour quality tunable compressor/limiter, gate and de-esser.

The front panel is a busy, highly functional place, with some controls offering many features. There are two LED stacks on each channel, the first displaying the constant input level to the dynamics device, the second displaying the amount of volume reduction by either the gate or the compressor of that channel.

The knobs are arranged logically alongside the LED stacks, the first of which is the threshold level control. There are also knobs offering control of the output volume of the channel, the time release control for either the comp or gate, compressor ratio, which doubles as the range level control



when the channel is in gate mode.

The solo switch allows for monitoring of the acted upon signal after the action of the filters with an EXT KEY function that allows for monitoring of signal from the external triggering source. The individual channels on the Square One processor can be switched from gate to comp via the gate switch, depressing the gate switch engages the gate, leaving it disengaged activates the compressor circuitry.

While in compressor mode, the dynamic processor has several interesting and differing sound types of compressor. With the Vintage and Hard Knee buttons disengaged, the sound of the comp is subtle and slow. With the Hard Knee button only depressed, it functions as a limiter type sound suitable for spoken word applications. With both buttons depressed, the unit becomes much faster acting, responding well to extreme dynamic situations. With only the Vintage button engaged, the comp sound becomes more tube style, with a warmer, but accentuated upper frequency accentuation as well. The ratio knob controls the amount of actual volume reduction relative to the amount of volume being introduced above the threshold level, such that a 4:1 ratio means that for every 4 dB of level increase above the threshold, the yield is a 1 dB output.

The gate mode is equally adept and controllable, with several controls and displays, with the main display showing the input level on top and the actual gating amount below. The gate is also functional in attack speed and release speed, with the lower display corresponding to both speeds. The gate offers a piece of circuitry found on few other gates. Intelligent Threshold Shift, which compensates for volume irregularities at the threshold point. These irregularities cause popping, or chattering, or clicking. All annoying characteristics of some gates, but KT has created

circuitry that will keep the gate from being indecisive in its activity at the threshold, by shifting the threshold volume of lower frequencies downward, just enough to keep the gate from clicking or chattering.

Connection to your insert point is achieved through XLR connection only on the rear panel, with the external key connection in 1/4-inch TRS.

IN USE

The KT Dynamics Processor units I received were shipped, most graciously, directly to their first gig, on which we were providing full production (audio, lighting and stage) for Eddie Money and Lou Gramm at a 1960s car show.

These pieces were so new, that even their engineers had never seen them before, so we were all in for a treat. For Eddie Money, we use one eight-channel unit for gates on the

Product Points

Plus:

- + Purple... beautiful !!
- + Incredible dynamic control.
- + Very well written manual, describing the operations and processes

Minus:

- XLR inputs and outputs only, difficult for single point insert consoles

Fast Facts

Applications:

Live sound, sound reinforcement, installation

Key Features:

Eight-channel; gate; compressor; limiter; de-esser; Hard Knee and Vintage modes; Intelligent Threshold Shift

Price:

\$1,750

Contact:

Klark Teknik at 952-887-7444, www.ktsquareone.com.

drums, and the other eight-channel unit as comps on the vocals and instruments. The drum gates opened and closed incredibly smoothly, with no clicking or chattering, and allowed for some very nice tuning of the drums, which otherwise possessed a little annoying detuning frequencies.

By keeping the attack time quick and the *continued on page 41* ▶

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Visit your local retailer or www.peavey.com to order yours today.



BY DOUG STANNY

When you mention ribbon drivers to some tour sound engineers that require massive amounts of SPL from their loud speakers they cringe. That's because they are still under the old impression that ribbon drivers can't handle outputting the same SPL as a horn-loaded line array. Well the reality is, that's not true at all and SLS RLA/2 proves just that.

FEATURES

The RLA/2 is a true source line array module that brings a whole new level of clarity to the line array market. The key feature of the RLA/2 is the high performance PRD1000 planar ribbon transducer that generates a silky smooth high end different from any horn loaded or dome tweeter speaker you will ever hear. The ribbon driver can also displace heat more efficiently while handling an enormous amount of power making it tour capable.

For the low frequency, the RLA/2 uses two 8-inch drivers utilizing a demodulation ring magnet system providing a third less harmonic distortion and reducing inductance modulation. The drivers feature die-cast basket with a patented Intercooler system with handling capability of 500 watts RMS.

The RLA/2 box is constructed with a 3/4-inch 13-ply Baltic birch cabinet wrapped in a rugged weather resistant latex paint. The cabinets are available in black, white or paintable natural birch. Rigging is also included on each box with splay angels from 1 degree to 10 degrees. The total box weight is 60 pounds.

The operating range for the RLA/2 is 80 Hz to 20 kHz with a sensitivity (1W/1m) for the low frequency at 98 dB and high frequency at 103 dB. The horizontal coverage

SLS Loudspeakers RLA/2 Line Array

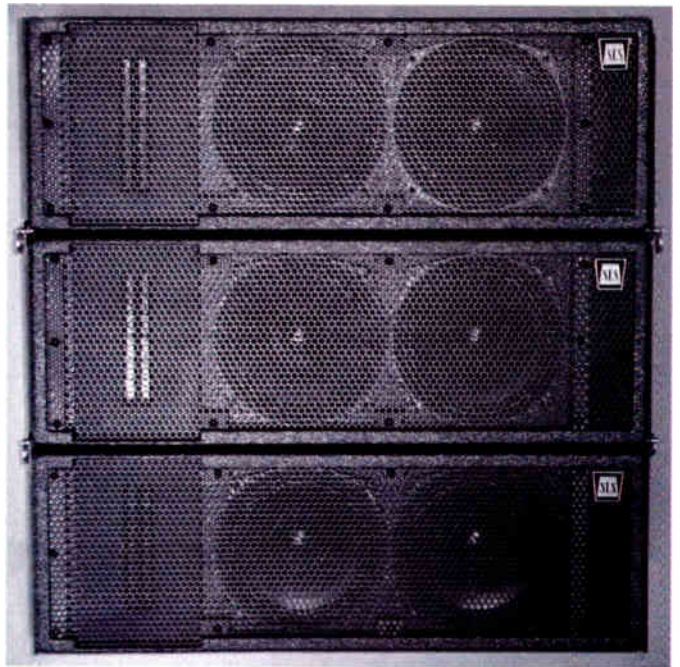
of the RLA/2 is 110 degrees that make for smooth and accurate coverage over a wide listening plane. The recommended amp power for the RLA/2 cabinet is 1,000 watts low frequency and 140 watts high frequency.

IN USE

As the lead audio engineer for Merestone, a national production/install company, I constantly have to work in different environments that were clearly built without any consideration for audio. So with that in mind, it can be extremely difficult to achieve the kind of clarity and coverage we have grown accustomed to. In addition, today's audiences having a much more discerning ear, so it is very important that they hear the same quality of audio in a live venue as they would from their home theater systems. This is where using the right speakers that are sonically consistent yet dependable in a vast array of rooms and acoustical environments is so important.

Since I have been working with the RLA/2 line array I have had nothing but great results and a lot of compliments. While working on the Wells Fargo Star Conference in San Diego Cal., I utilized two different RLA/2 rigs simultaneously in two completely different venues across town from one another. This had to be one of the best tests of a systems consistency from venue to venue. For the Wells Fargo main session, we flew six RLA/2 cabinets in each corner with four FF2605 front fills and eight LBS8115 subs. The room dimensions were approximately 130 feet x 230 feet which requires a lot of coverage from this mid size line array. The RLA/2 not only covered the room but the consistency from front to back was amazing.

On the second night of the main session Wells Fargo bused all the attendees to the



Bob Hope Theater located on the Miramar Marine Base. This theater was obviously designed with acoustics in mind but sometimes when you introduce an amplified audio system into an acoustically tuned room the results can sometimes be disastrous. We had to ground stack four RLA/2s per side with one complementary subwoofer per side and that worked very well based on the room size and what the LASS software had determined. The end result, the sound was just as good in the Bob Hope Theater as during the general session. That just proves all the more that SLS's RLA/2 is a speaker that you can depend on. It wasn't just me who was impressed, even the audience was constantly commenting on the quality of audio. To wrap up the event, Wells Fargo Flew Jay Leno down to perform during the last nights grand finale and what a difference it makes to hear ribbon technology at its finest.

Furthermore, during the entire show I never once felt any ear fatigue and even at higher levels of SPL. With that in mind it is very easy to grow accustomed to the SLS speakers.

The RLA/2 line array can easily setup and flown in a matter of minutes between two people. This is due to the splay angles being clearly marked on the rigging hardware and the ease of use. The pins that come with the hardware are okay but I would

Fast Facts

Applications:

Live sound, sound reinforcement, installation

Key Features:

Two-way; twin 8-inch woofers; PRD1000 ribbon tweeter; 13-ply, 3/4-inch Baltic birch cabinet

Price:

\$2,410 per module

Contact:

SLS Loudspeakers at 417-883-4549, www.ssloudspeakers.com.

strongly recommend the upgraded heavy duty pins if this is a system that will be transported a lot. For selecting the proper splay angles SLS offers the LASS software as a free download from their website. The LASS software is a CAD-based software that allows the user to match the speaker geometry to the room instead of trying to over compensate with processing. This software is very easy to use and from my per-

sonal experience, absolutely necessary to achieve accurate coverage.

SUMMARY

In the past six months, the SLS RLA/2s have been in more diverse situations from tents and ballrooms to live venues and really put through the paces. They are rugged and dependable speakers with a clarity that sets SLS apart from anything else I have heard in a long time. Everyone at SLS was more than accommodating and gave extra

personal attention. If you are in the market for a new line array, I highly recommend checking out the SLS RLA/2 system.

Doug Stanny is currently the lead audio engineer for MereStone, based in Scottsdale, Ariz.

Review Setup

RLA/2 LS8800, FF2605 speakers, RLA/LF LSB8115 subwoofers; Lab.gruppen FP6400 amps; XTA 428 processors.

SLS - PRD1000 Planar Ribbon Transducer

The PRD1000 planar ribbon transducer is one of the key features to the SLS RLA/1, 1.5, and RLA/2 cabinets. This high performance ribbon features a Kapton diaphragm with an etched aluminum conductive trace that is symmetrically driven by symmetrical push-pull neodymium magnets. The driving force directly acts on the diaphragm and is evenly distributed over the radiating surface providing freedom from break-up resonance, transmission delay and losses. A flat diaphragm provides the ideal shape for sound radiation that is frequency independent and the result is an even and coherent wavefront with even dispersion, no wave cancellation, no signal delays, and no horn throat related colorations.

Extremely light, the PRD1000 is over 100 times lighter than a typical four inch titanium compression driver diaphragm and over 50 times lighter than a typical Hi-Fi dome tweeter diaphragm. As the diaphragm compares by mass to associated vibrating air volume, an extremely light diaphragm creates ideal conditions for sound energy transfer, accurate signal resolution, and very high sensitivity with high frequency output extension.

Besides being light weight, the PRD1000 can also handling temperatures of up to 750 degrees Fahrenheit due to positioning an acoustically transparent metal mesh intimate to the aluminum trace. This efficient heat displacement allows the PRD1000 ribbons to handle even more power than compression drivers.

The PRD1000 driver can be used with its standard flat faceplate or with specially-designed cast aluminum 70-degree x 40-degree horn.

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BY TOM YOUNG

I recently had the opportunity to work a sold-out show for Starbucks Corporation's annual shareholders meeting. Having done a fair amount of corporate related events with Tony Bennett over the last 12 years they are usually associated with a performance following a dinner for a corporate client or fundraising event. But this time around, there was an extra dose of excitement and optimism in executive presentations to the estimated 6,000 shareholders at Seattle's McCaw Hall, the city's ballet and opera house. The performances included a 70-voice Seattle Choral Company that did "Oh Fortuna" followed by Tony Bennett and his quartet. Audio coordination and production was handled by Seattle-based Audio Media, led by Steven Midkiff.

SUCCESS

Starbucks is quite a success story and is becoming one of the most recognizable brands in the world. In his slide presentation, chairman Howard Schultz notes that since it went public in 1992, share value had risen 6,533 percent - enough to turn a \$10,000 investment into roughly \$650,000. As expressed in the meeting Starbucks is positioning itself as more than a coffee company as it grows into a major entertainment company. This April, the company released its first major film project, *Akeelah and the Bee*, and has already become one of the largest retailers of CDs.

McCaw Hall in Seattle is a first class concert hall with a sound reinforcement system centered around a Yamaha PM1D digital mixing system with two 96-input CS1D control surfaces, one front of house and the other for monitors sharing a single Yamaha DSP1D 48-input/32-output mix engine. Loudspeaker arrays and individual monitors are JBL's Custom Shop, and a Yamaha O1V96 console provides cue and program mixes for backstage and lobby areas.

The speaker system is an LCR design complemented by distributed fill systems that are orchestra pit rail, under balcony, and over balcony systems, providing complete coverage throughout the hall. An elaborate backstage patch network, along with sophisticated digital technology, allows the system to be reconfigured in

Starbucks Goes to the Opera House



several modes. The proscenium loudspeaker arrays are 11 separate audio sources. Each is individually assignable through the console, the patch bay, and 11 dbx DriveRack speaker management/signal processing units. Located throughout the auditorium are 178 plug boxes for portable effects loudspeakers that complete McCaw Hall's intricate "surround" sound matrix. Each plug box/output is individually addressable. Sixteen effects loudspeakers are permanently mounted in the rear walls.

Being that this event was so unique I posed some questions to Steve Midkiff of Audio Media to get a better perspective on his company and this type of event.

TOM YOUNG: TELL US ABOUT AUDIO MEDIA AND THE OF SERVICES YOU PROVIDE.

MIDKIFF: Really, about 90 percent of my business is industrials like Starbucks and a lot of black-tie galas. My shows are all about wireless, sometimes lots of wireless, finding ways to fly and/or hide loudspeakers in challenging environments — miles of cable and sound systems with many, many zones. Matrix R Us. I often get the call to provide some level of live sound service in places you might not think possible. Private homes (with NO speakers showing), boats,

trains, the parking garage under Microsoft, tour buses, marches, rallies, foot races, etc, etc. Today I finished teching a show in a Boeing 777 hanger (soon to be a 787 hangar) for about 5,000. President Wu of China is stopping by and Boeing wants to throw an event for him. I do many shows for Boeing, mostly in these 350-foot wide hangars. You wouldn't believe me if I told you how deep they are and involving many, many delay speakers.

TY: HOW LONG HAVE YOU BEEN ASSOCIATED WITH THE STARBUCKS ANNUAL MEETING AND HOW WAS MCCAW HALL CHOSEN AS THE LOCATION?

MIDKIFF: I've been doing the Starbucks shareholders meeting since 2002. I started off at Benaroya Hall in Seattle, home of the Seattle Symphony. It was moved from Benaroya in 2004 mainly because of McCaw's greater capacity for dealing with set work (much better fly rail and backstage areas), and because of the support offered by the Seattle Center Facility where McCaw Hall is located. The event has simply grown by leaps and bounds with one half the viewing audiences now located in a venue next door, watching it all on video, some 6,000 in all, and we provide the sound in that room too.

TY: HOW MUCH PREP TIME DO YOU HAVE TO COORDINATE THE AUDIO ISSUES RELATED TO THE EVENT? IS YOUR COMPANY INVOLVED IN THE AUDIO PRODUCTION OF THE TRACKS AND AUDIO FOR VIDEO RELATED TO THE EVENT?

MIDKIFF: Well, although I know about the event three or four months out, the team that plans the event along with Starbucks management have a tremendous ability hatch a perfectly good idea, then add double shots of Colombia Nariño Supremo as we get closer. The 70-voice Seattle Choral Company that did "Oh Fortuna" at the top of this past show was only added a week out. I never get to see an actual "show flow" until a day or two before load-in. I just know a certain amount of things will happen; the number of speakers/presenters is always about the same... and they always have good coffee for us! Kidding aside, all video content comes from outside vendors and some from Network, like the David Letterman event we did.

My company is completely engrossed in live production and since we do about 110 shows a year now, taking on more might not be in my best interests, mental health-wise. As I see it, my job is cue master, and I'm hired by people who trust me to do just that.

Since the clients rarely understand what it takes to "get it right", it's up to me to input what a client wants and turn the audio portion into a useable show. That is trust. All my clients come to me through referrals. This industry is all about those

kind relationships.

TY: THE CHOICE OF MCCAW HALL WAS A PERFECT SETTING FOR STARBUCKS WHICH IS POSITIONING ITSELF AS AN ENTERTAINMENT COMPANY. WHAT OTHER ENTERTAINMENT HAVE YOU PRODUCED RELATED TO THIS EVENT?

MIDKIFF: Last year we had Herbie Hancock, and Emmylou Harris the year before that. One year Kenny G performed with the Seattle Symphony.

TY: WERE THERE ANY UNIQUE CHALLENGES POSED BY THIS EVENT OR EVENTS YOU HAVE DONE IN THE PAST FOR STARBUCKS?

MIDKIFF: Last year we had a vignette about a day in the life at a particular Starbucks store. A complete set was dropped in, customers began filing in, employees were all doing their jobs, and then one of the employees broke into a beat with store utensils, and pretty soon the whole staff and all the customers were doing their rendition of "Stomp." Sixteen body packs and lavaliers, plus set mics all around. Instant theater, with only two run thrus prior to show time. I had to learn the cues on the fly.

TY: IT MUST BE NICE PRODUCING AN EVENT IN A TECHNICALLY EQUIPPED THEATER WITH YAMAHA PM1D MIXING CONSOLES AND AN ADEQUATE SOUND REINFORCEMENT SYSTEM. ALSO, I MUST SAY THE CREW WAS EXCELLENT AND UP TO THE TASK FOR THE EVENT. WERE THERE ANY SPECIAL EQUIPMENT

NEEDS THAT NEEDED TO BE BROUGHT IN RELATED TO THIS EVENT?

MIDKIFF: Not much, really, we bring in most of the wireless as the theater has only four channels. This year we added in-ear monitors for the conductor of the "Oh Fortuna" segment so he could hear the click track from the accompanying video. Beyond that, this theater has most all what is needed. It's really a top notch house, and the crew is simply the best.

TY: WHAT WAS THE REACTION FROM STARBUCKS AFTER THE EVENT?

MIDKIFF: See you next year...what more could I ask for?

TY: THE CREW AND STAFF YOU USED FOR THE EVENT WAS EXCEPTIONAL WHO WERE YOUR KEY PLAYERS FOR AUDIO?

MIDKIFF: Your man at FOH and PM1D wiz kid was Jack Burke, monitors were lavishly handled by Ira Seigel, the master of all things wireless was Chris Tapping, and house system tech with a Ph. D. in patching was Toby Basiliko. It should be mentioned the man who deftly organizes all the staff and schedules for Seattle Center Sound is Bill Droege. As you witnessed, this is an A1 crew, as good as it gets.

TY: I agree with Steve. I have done a lot of events and have to say that I never experienced one run any better than by Audio Media and this first-class crew.

Tom Young is live sound engineer for Tony Bennett.

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NEW PRODUCTS

Squid Hell might be some bad sushi but in this case it is a studio in Boston that's about to install an **API** Vision console and API 500 series modules. And speaking of API, engineer Mark Linnett used a mess of API gear to record the recent live album from the New Cars. Recording a mix of live gigs and new studio cuts, Linnett used AP312 preamps, 550A and 560 EQs along with 525 compressors. See picture of Linnett behind his modified API 2488 console.



CharterOak Acoustics SA538, SA538B and S600 microphones were used by Neal Casal's *No Wish To Reminisce* album.

StarCity Recording Company in Bethlehem, Penn. has added a **Solid State Logic** Axiom MT Plus digital multitrack console to its operation.

Producer/mixer Ronan Chris Murphy used full rack of **A-Designs** EM-Series mic preamp modules and an MP-1 tube preamp on his latest project at his Veneto West Studio. See picture of Murphy with guest artist Terry Bozzio and a rackful of A-Designs EM modules.



In Chennai, India, **Bag End** INFRA-sub-18 Pro subwoofers have been installed into the studios of film music composer/songwriter A.R. Rahman, AM Studios.

SAE Institute has added **BIAS** Peak software to its numerous schools for use in DAW education.

Thermionic Culture Pullet

From UK's Thermionic Culture, and imported by Audio Exchange International, the Pullet is an odd bird – a two-channel equalizer consisting only of a boost section and a cut section. Additional features include a "high-top" shelf filter and bypasses. Unfortunately, it lacks chicken head knobs. Price: \$1,950.



Contact: Thermionic Culture/AXI at 877-440-2717, www.axidistribution.com.

Peavey PV20 Mixer

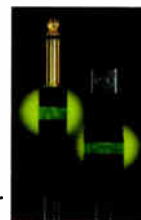
The PV20 from Peavey is a mid-sized multipurpose mixer at home in the studio or in the club. Peavey has upgraded the preamps to "studio quality." Each channel has a three-band EQ and the expected 48V phantom power. Goodies include a digital effects bank, a USB port and a control room monitor output. Inputs are mounted on the top side. Price: \$649.



Contact: Peavey at 601-483-5365, www.peavey.com.

SoundTech LightSnake USB

USB is the order of the day! SoundTech's LightSnake USB is an "intelligent instrument cable." Exactly what that means is a mystery but the LightSnake USB simply put is a 10-foot cable with a 1/4-inch connector on one end (for instruments) and a USB 2.0 connector on the other end for plugging into a computer. An embedded A/D chip does its magic so no preamps or converters are needed. It is all powered by the USB bus. The Light-Snake is system agnostic. Price: \$69. Contact: SoundTech at www.soundtech.com.



Spectral RM-7000 Series

If you need a nifty new computer to plug your LightSnake USB into check out the Spectral RM-7000 series. The heart of the RM-7000 series is a choice of CPUs – AMD dual core 4400+ or Intel Pentium D dual core. Standard equipment includes a whopping 4 GB of RAM and a 74 GB 10K RPM SATA system hard drive. Customizable features include removable SATA recording and backup drives, Nvidia PCI Express dual head video cards and Windows XP Professional as the operating system. RM-7000 series computers are compatible with most major DAW programs. Price: starts at \$2,699. Contact: Spectral Computers 818-981-3101, www.spectralcomputers.com.



Neumann TLM 49

It's not everyday that a new Neumann studio microphone comes out so the debut of the TLM 49 is an event. The TLM 49 is a "retro" mic looking back to Neumann's 1950s past. Specifically it is a large diaphragm cardioid microphone with a K47 capsule (with an internal shockmount). It has the typical Neumann matte nickel finish and ships with an EA3 suspension mount. Price: \$1,699.



Contact: Neumann at 860-434-5220, www.neumannusa.com.



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Bose OB at the Tamworth Country Music Festival

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BY STEPHEN MURPHY

Oram Octasonic Plus Eight-Channel Mic Preamp



John Oram's Octasonic Plus eight-channel microphone preamplifier is the latest release in the Oram Octa-series of products. Also in the series is the OctaEQ eight-channel four-band EQ, OctaMix eight-channel stereo summing mixer and OctaFade eight-channel stereo summing mixer with 100mm faders.

FEATURES

The Octasonic Plus is a single-rackspace, eight-channel mic preamp housed in a sturdy aluminum chassis and done up in Oram's traditional light blue stylings. Power is delivered to the preamps via a locking multipin cable attached to a heavy-duty external power supply unit.

Each channel features a 41-step input gain knob, a phase reverse switch and a recessed 48V phantom power switch plus corresponding LED indicator. A per-channel peak LED indicates when signals reach 6 dB below clipping. The only other front panel feature is a mains power LED indicator, hidden within the "O" in the Oram logo.

The rear panel rivals the front in the simplicity department, featuring a XLR mic input and a 1/4-inch TRS line output per channel. At the far end is the industrial power supply cable connector; the unit's power on/off switch and a corresponding LED are found on the external power supply box.

Preamp input gain ranges from 0 dB to +70 dB, easily accommodating line level signals in addition to most microphones (to a +22 dBu maximum). Oram specifications indicate T.H.D. of less than .005% (20 Hz –

20 kHz), an EIN of –127.8 dBu (200 ohms at max gain), a maximum output level of +28 dBu and an audio bandwidth of 18 Hz – 73 kHz (no \pm dB tolerance given).

IN USE

There is a cliché about the simpler things in life, and the same can often be said about pro audio gear. Having recently used and/or reviewed a number of feature-laden preamps and channel strips (including the excellent but complex single-channel Buzz Audio ARC-1.1 with its 42 knobs and switches!), I often found myself reaffirming my preference for the simplest of recording paths – especially in simultaneous multi-track recording situations. Single or dual-input recording channel strips, complete with EQ and compression, can be ideal for stereo tracking and overdubs, but for high-input simultaneous recording, I like nothing better than a few racks of simple API preamps straight to tape (or converters, as is the usual case these days). A clean preamp with gain control, phantom power, phase reverse and rudimentary metering – just what the doctor ordered.

In this respect, the Oram Octasonic Plus fits the bill perfectly. The preamps, adapted from Oram's BEQ-series consoles, are straightforward and highly adaptable to a wide range of gain need. From a sonic standpoint, the preamps are impressively quiet and clean, with a hint of personality that seems to become more pronounced with higher-level input sources.

On 96 kHz and 192 kHz live/live-in-studio solo instrument and small ensemble recordings, I ended up using fairly conservative preamp gain settings since I was running straight into calibrated-input converters and had no post-preamp gain control. The resulting recordings were full range, dynamic and plenty clean – even approaching a pristine quality.

For band work, I found a pleasantly colored and slightly aggressive sound could be easily had from the Octasonic Plus by driving the preamps into their peak indicator

threshold range and compensating with a post-preamp gain stage prior to the conversion. In many cases, this secondary stage may be a necessity because a preamp input setting approaching the clip-indicator range (-6 dB before actual clipping) pushes the preamp output level well into clipping on +4 dBu-calibrated inputs.

Although clearly an intended feature, I am personally not too keen on the recessed phantom power switches that require the use of a pen (or finger nails filed to a point) to engage/disengage. The theory, of course, is to prevent accidental switching during operation; why, then, is there no protection for the phase switch? My only other minor niggle is the difference in torque from one gain knob to the next – some turn freely with an audible click across the steps, and others are tight and sluggish and produce no click. Minor, I know, but it would be nice to have these narrowed to a more consistent range.

[John Oram responds that the 'torque' differential problem will ameliorate over time as the knob shafts, bushings and heavy lubricating grease used break in – Ed.]

SUMMARY

The Oram Octasonic Plus is a fine example of a simple multi-preamp unit done well: high-quality preamp design; versatile gain range; individual phantom power switches with LEDs; stepped gain controls; quick to setup and easy to use. The Octasonic Plus' preamps are impressively quiet and clean, but a modest amount of color can be introduced by pushing them towards their limit. This unit is highly suited for use as a high-quality analog front end for digital audio workstation-based studios and live recording duties, or combine with Oram's OctaEQ and OctaMix to create a full analog recording/mixing solution.

PAR Studio Editor Stephen Murphy has over 20 years production and engineering experience, including Grammy-winning and Gold/Platinum credits. His website is www.smurphco.com.

Fast Facts

Applications:

Studio

Key Features:

Eight-channel; 48 volt phantom power switch and LED per channel; phase reverse switch per channel; outboard power supply; balanced outputs (1/4-inch TRS)

Price:

\$2,880

Contact:

Oram at 44-1474-815-300,
www.oram.co.uk.



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BY CARLOS GARZA

Choosing a symphonic sample library used to be so much easier. Dedicated hardware samplers from the likes of Roland, Yamaha, Kurzweil, EMU and Akai once ruled the studio and stage and sample libraries were designed around limitations of the hardware - memory and processor speed being the chief constraints. Price and sound quality were the key discriminators.

The sound quality expectations are higher than ever but another battleground has risen around the software features of disk-based streaming sample players. Vienna Symphonic Library (VSL), GmbH, based in Vienna, Austria and distributed in the US by ILIO, is one of the leading contenders in this market. VSL was one of the first to build a controlled recording environment has developed a proprietary, real-time performance control mechanism compatible with four major sample players covering Windows and Mac.

Our look at the Horizon Series began in the October 2005 issue with a review of the Opus 1&2 Orchestra bundle, a selection of strings, brass, woodwinds and percussion instruments. In this review, we uncover the Solo Strings, Chamber Strings, Woodwind Ensembles, Epic Horns and French Oboe.

FEATURES

All products in the Horizon series are available for Apple Logic's EXS24 sample player, TASCAM's GigaSampler/

Fast Facts

- **Applications:**
Post production, broadcast
- **Key Features:**
Symphonic instrument samples for Apple Logic's EXS24 sample player, TASCAM's GigaStudio, Steinberg's HALion and Native Instruments' Kontakt Performance Tool adds realistic legato and note repetitions.
- **Price:**
US Prices: Solo Stings, \$395; Chamber Stings, \$715; Woodwind Ensembles, \$355; Epic Horns, \$315; French Oboe, \$235
- **Contact:**
ILIO at 800-747-4546, www.ilio.com
Vienna Symphonic Library:
www.vsl.co.at.

Vienna Symphonic Library

Horizon Series:

Solo Strings, Chamber Strings, Woodwind Ensembles, French Oboe and Epic Horns



GigaStudio, Steinberg HALion and Native Instruments Kontakt.

Some of the Horizon products include samples from the Pro Edition while others are completely new. For the most part, these are single-note instrument samples rather than phrases. All Horizon products covered in this review are 16-bit/44.1kHz stereo. VSL claims an average of 95 dB signal-to-noise ratio. (See the Opus 1 and 2 review for more recording details.)

- Solo Strings includes 50,000 samples requiring about 29GB of hard drive space and ships on five DVD-ROMs. It includes samples from the Pro Edition and new samples. Each instrument, violin, viola, cello and double bass, is represented in a number of articulations. There are more articulations for violin than the others but all include: short notes, staccato détaché, long notes (with and without vibrato), dynamics, tremolo, trills, pizzicato, Bartok pizzicato, col legno, performance-legatos and repetitions.
- Woodwind Ensembles contains around 14,000 new samples (6.1GB) and ships on a single DVD-ROM. It includes ensembles with three flutes, three oboes, three clarinets and three bassoons. The French Oboe set contains over 13,000 samples (7GB) and ships on a single DVD-ROM. It also contains instruments for "French style" English

horn, small E-flat clarinet and piccolo runs. Epic Horns ships on a single DVD using 2.7GB for about 5,900 all new samples.

- Chamber Strings includes almost 32,000 new samples (17.8GB) and ships on four DVDs. It includes programs with six violins, four violas, three celli and two double basses. Each instrument group includes short notes, sustained notes, tremolo, pizzicato, trills, harmonics and other articulations. The performance articulations include legato, with and without portamento, and several styles of repeated notes. Also included are ensemble instruments, incorporating combinations of string families.

All reviewed sets include the samples (taking most of the disk space) and the EXS24 and Giga instrument programs on the DVD-ROMS. HALion and Kontakt instruments can be downloaded from the VSL website after registration. Updates to Instruments and samples and the Performance Tool can be downloaded by registered users.

The performance tool, which is included with all of the products in this review, supports smoothly connected legato playing and key switched articulation selection for on-the-fly substitution of samples. For example, users can switch between various short notes, staccato, long notes or pizzicato

samples while playing in a single phrase.

IN USE

I tested the VSL Horizon products using the EXS24 sample player plug-in under Logic Pro 6.4.2 and 7.1 under OS 10.3.7. Early testing was done on a 1 GHz dual-processor G4 Mac with 1.5GB RAM. The G4 was monitored through a Pro Tools HD|1 with a 96 I/O and Mackie HR824 speakers.

The samples were loaded on an OWC Mercury Elite FireWire 400/800 enclosure, which I attached to the G4 at FW400 speed. I later acquired a Quad G5 Mac running OS 10.4 "Tiger" with 4GB RAM and attached the OWC drive using its FireWire 800 port.

A few years ago, my group, Silent Orchestra, recorded a surround score for the Image Entertainment DVD of the silent vampire classic, *Nosferatu*. Most of my symphonic sounds came from a Kurzweil PC88 keyboard and two Akai S2000 samplers with the Miroslav Vitous mini set, Roland Strings and the Peter Siedlaczek Advanced Orchestra.

I'm fond of the Akai samples I used but the S2000's 32MB memory and the limited

real-time performance controls are a hindrance to realism. Instead of simply remixing and editing the score for CD, I decided to see just how much better the strings, woodwinds and brass could sound using the new VSL products.

Our score uses a solo cello melody as a leit motif for the vampire. I found the edge I wanted in the forte performance-legato cello from the Solo Strings collection. The automatic features of the VSL performance tool made it effortless to create an animated part with smoothly connected notes and subtle slurs.

The VSL products are not a panacea. Effective realization of symphonic arrangements requires an understanding of each instrument in the orchestra and a willingness to explore the capabilities of the product. A combination of articulations (varying the note length and dynamics) help create a more realistic performance. Since the VSL samples were recorded dry, you can create any acoustic environment you can imagine through EQ, panning and reverb.

One section of our score features woodwinds. I used Opus 1's solo flute with the Woodwind Ensemble clarinets, oboes and

bassoons for the accompaniment. I put a very quiet Epic Horn part in the upper register to add weight to the high parts while the bassoon section held down the low end. The blend was sonorous and so convincing, that Rich O'Meara, cowriter of the score commented, "it sounds like a real orchestra."

VSL products have potential in non-symphonic settings. For example, I was hired to write solo cello and violin parts for an alternative rock recording. The parts were to eventually be recorded with a cellist and violinist. Plans changed when they heard my mock-ups using the Horizon Solo Strings. Time and money may have been factors but I like to think it was the striking quality of the samples and the convincing performance-legato programs.

I decided to try the Chamber Strings in an arrangement for another rock band, Red Racer. One piece called for an aggressive part based on a guitar riff. A solo cello wouldn't have had the impact I was looking for. The *détaché* cello in the Chamber Strings set had just the right combination of attack and weight.

continued on page 40 ►

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► Vienna Symphonic from page 39

The “French style” English Horn and the French Oboe -- both are from the French Oboe set -- are the most evocative woodwind samples I’ve ever played. In this pop setting, the English horn added a stately quality but it would be equally at home in a world music arrangement or a moody film score.

The guys gave me complete freedom to experiment so I put the “French” English Horn, Chamber violins, violas and cello and

a soaring Epic Horn solo on one track. The Epic Horns are majestic, powerful and inspiring while the English Horn and strings are seductive and enveloping. It feels like a hit.

VSL’s studio team has done a great job of capturing the instrument sounds. The extended frequency response is generally a huge advantage. The winds and horns are detailed and airy. The strings are bright and crisp. The horns are commanding.

All VSL samples are recorded in a “silent

stage” with standard articulations making for a very compatible sound across all Horizon products. Some performance features are very straight-forward. For example, programs using the mod wheel to cross fade between dynamics are very easy to use. The performance tool features is very effective but some features require a bit of study. Most of my problems resulted from running too many EXS24 tracks on my G4 and maxing the 1.5GB of RAM. I had no problems on the Quad G5 with 4GB of RAM and the FireWire 800 interface.



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Product Points

Plus:

- + High quality samples
- + Large variety of playing styles
- + Performance Tool creates believable recordings rapidly
- + Some discounts for upgrades (see VSL website)

Minus:

- All Horizon products limited to 16-bit samples

The Score:

An excellent value in a line of tailor-made products.

There is plenty of depth in the articulations but I’d like to see more atonal effects - perhaps a single product incorporating spooky and amusing strings, brass and woodwinds. The alternate English horn and oboe are fantastic but more alternative instruments would be welcome. Wouldn’t it be nice to have another identically recorded solo violin for duets? How about a rock or jazz flute?

SUMMARY

These Horizon products score high marks in sound quality and ease of use. They are expertly recorded, beautifully played and offer exciting ways of creating realistic performances. You’ll want a fast G4 or a G5 with plenty of memory if you plan on sequencing many tracks. A fast drive is also recommended.

The recent price reductions have created a bargain situation for all but the Chamber Strings, which is priced closer to Opus 1 Orchestra than the other Horizon products. Chamber Strings is still worth the asking price, it’s just not the bargain that the others are. Solo Strings is a steal.

VSL offers discounts on certain 24-bit

Vienna Instruments for owners of First Edition and Pro Edition products and some related Horizon products. See the discount calculator on the VSL web site for specifics.

Whether you are scoring for stage, TV, film or pop arrangements, these VSL Horizon products are a fabulous resource and highly recommended.

Carlos Garza runs Pepperland Studios in Springfield, Va. He composes music for films. His work has been heard on Image Entertainment DVDs, Turner Classic Movies and the National Gallery of Art. He is a regular contributor to *Pro Audio Review*.

► *Klark Teknik from page 28*

release time very short. the drums took on a very tight, concise attack, which allowed for reverb to be added most tastefully, and gave a nice glossy, studio sound. On the vocals, the compressors were adjusted as not to be too overly present, and sucking away all the dynamic range, but more to keep transient surprises at bay. Eddie Money is a smooth singer, with excellent mic technique, but even the smoothest of vocalists requires a little assistance with dynamics from time to time. The KT Dynamics Processor kept the vocals right out front. with smooth presence and no weird dynamic reduction.

SUMMARY

The coloring of the original signals, in either gate or comp mode, was nonexistent. In fact, these are the most transparent, noninvasive gates and comps I have used in a long time. The electronic signal path is incredibly clean and quiet, and I could detect no audible presence of noise when switching the processor in and out of the insert points. Klark Teknik has scored again, with what will be, in my opinion, the new high water mark for dynamic controllers, setting a new standard in quality of gates and compressors.

Will James, owner and chief engineer of Atlantis Audio and Lighting, is a contributor to *Pro Audio Review*.

Review Setup

Midas Siena, 48-channel, Soundcraft Series Five, 48-channel consoles; A-Line Acoustics AL10 line array; Yorkville TX2 monitor speakers; various Audix and Shure mics.

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BY DR. FREDERICK J. BASHOUR

GarageBand 3 and Podcasting

While I was in high school, I listened to Joey Reynolds on WPOP, Hartford, CT. When I was in graduate school, I listened to Mitch Kapor (yes, that Kapor, before Lotus and the EFF) on WYBC in New Haven. Now I listen to Jonathan Schwartz on XM 73, "Frank's Place." What do these three very different gentlemen have in common? Well, for starters they all worked in a radio studio filled with lots of professional equipment. But the times, they are a-changin', and if you're a person committed to hobbyist broadcasting you, too, can have a radio show with potentially thousands of listeners — made right in your own digs, on your own an iMac or MacBook. That's right, I can have "Dr. Fred's Place"!

IN A NUTSHELL

It's completely impossible to review GarageBand 3 — let alone the entire iLife '06 software suite — in one page, so I'll just touch briefly on some highlights pertinent to podcasting. Just close your eyes and imagine what you think would be necessary to produce a radio show. Make a list. Open GarageBand 3, click on the Help menu, and ask it how to do item number one on your list. And so forth. I'm not making this up; that's exactly how I did it!

First, let's take a time out for two paragraphs. What's a podcast? Well, it's sort of an MP3 file of a home-made radio program, placed on the Web for listeners to download and listen to on their own computers or iPod-like devices (hence the term, 'podcasting'). The main difference between an MP3 and a podcast is in the delivery mechanism. You can place an MP3 on your Website featuring, say, your band, and announce that you "have a podcast," but to be the real deal, your MP3 needs to be set up so that it can be accessed by an RSS feed — whether from your site, the iTunes site, or some other RSS host/directory server. And remember, this is not streaming, it's downloading.

RSS stands for "Really Simple Syndication," and uses the same technology bloggers use for publishing their web logs. Your podcast file needs to be



enclosed within an RSS document, which can then be found by your audience using a small application known as an "aggregator" or an "RSS Reader." For those wishing further detail, simply Google these terms.

Okay, back to GarageBand 3. It does it all. It helps you create your audio file, and converts it to the AAC Enhanced Podcast format. The Enhanced Podcast format facilitates artwork, URL links and other fun stuff.

GarageBand 3 also links to iWeb to create the RSS feed file and uploads the RSS file and its enclosed Enhanced Podcast file to your website. You don't even have to worry about validating the feed. Trust me; like most things Apple, it just works.

YOUR OWN SHOW

Here's what I did to create my own 10-minute fictitious podcast (and I did all this on my 12-inch PowerBook in about an hour). I played some original piano music (using an M-Audio Evolution USB keyboard) and recorded some dialogue (using the teeny mic built into my PowerBook. I could have used a fancy external mic but, hey, where's the adventure in that?

Then the fun started. GarageBand 3 is as multitrack in the digital audio and MIDI sequencer department as most peo-

ple this side of professional would ever want, and it has literally thousands of software instruments and audio loops available — so if you can't make some sort of acceptable-sounding music on it, then I give up. Since I'm an old-fashioned professional musician myself, I tend to stay away from audio loops, but I found nothing wrong with playing with the hundreds of "radio show specific" loops, sound effects, jingles, and stingers the GarageBand 3 installer put onto my hard disk. We're talking most every sort of audio event anyone has ever heard on a radio show — they're all here! GarageBand 3 even includes files as specialized as multiple 32-bar jazz bossa nova beds — just right for laying under your commercial for that new club in town.

Once I had my source material recorded, I took a little two-hour "exploratory break" to audition just about every sound the GarageBand 3 installer had given me. Wow! I know this sounds trite (and I never thought I'd ever say it), but the sheer quantity and quality of the software instruments, audio loops, and effects actually inspired me to go back and add more content to my file — once I could imagine the potential possible for someone obsessed with GarageBand 3 tweaking. For voice alone, for example, not

only did I use their “mic modeling” plugin, Speech Enhancer, to beef up (and quiet down) the narration recorded through my PowerBook’s internal mic, but I then used the “Vocal Transformer” preset innocently named “Deep Soulful” to give my little nasely, squeaky voice some serious extra testosterone and, believe it or not, it didn’t sound at all “digital,” or cheesy. Wow #2.

EASY AS CLICK

To cut to the chase, I eventually hit the “Send Podcast to iWeb” drop down menu under “Share” and, BLAM!, (after displaying a commercial for “.Mac,” which I clicked away), it opened iWeb, and asked me to pick a graphic template for my podcast, much like iDVD supplies choices for the main screen of homemade DVDs. After selecting one, I arrived at a new window that gave me the options of doing many more tweaks to the overall look and feel of my podcast. Eventually, I had to decide between several File menu choices (it’s kind of like printing): “Publish to .Mac,” “Publish to a folder,” “Visit Published Site,” or “Submit to iTunes.” That’s right, you can use iWeb to submit your podcast to the iTunes Music Store, so that it appears on its

**I know this sounds trite
but the sheer quantity
and quality of the loops
actually inspired me...**

Podcast page when people visit it online. Visitors can listen to or download your podcast for free. You don’t have to do this, of course.

I chickened out and published to a folder. In about two seconds, a folder (‘my title/site/podcast’) appeared on my desktop containing about 50 files in eight documents and subfolders, apparently necessary to make the RSS thing work. I did some reverse engineering and figured out how to pretend I was downloading my fictitious podcast into Safari and, darned if it

didn’t playback perfectly, first time!

I can see podcasting via GarageBand 3 as a natural for anyone wanting to publicize themselves, their activities, their children’s activities (such as my girls’ numerous musical performances), etc., and share with anything from “the Internet” to a specific small group of family and friends, to whom you have given the passcode to your private website. Perhaps after I catch up with my classical record company projects — some of which date back to the

1990 — I’ll jump on this bandwagon. Contact Apple at 800-275-2273, www.apple.com.

*Dr. Fred Bashour holds a Yale Ph.D. in Music Theory, and currently performs as a jazz pianist and church organist. During the past 25 years, he has received credits on hundreds of recordings released on over a dozen labels. He has also been a regular contributor to **Pro Audio Review** since its second issue.*

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BY RICHARD ALAN SALZ

Akai MPC 4000 Drum Sampler/Sequencer

Here I was the other day, at the Audi dealer having my car serviced. While waiting I checked out the cars on the showroom floor. I mean, that's why they put the service lounge so close to the new cars, right? I walked right past the A4s (since that's what I drive), the A6s got a quick look as I headed right for the A8s. There's just something appealing about big iron, and the 12-cylinder A8L W12 has all that in spades.

What's that got to do with a sampling drum machine? In this era of notebook computer-based full studio setups, consider that the MPC 4000 weighs 23 pounds and is almost two feet wide and a foot and a half deep! Still, just like car buyers, there are some users that will settle for nothing less than the best, and for those users Akai has developed the MPC 4000.

FEATURES

So, what do you get for your \$3,599 (around \$2,800 street price)? Lets start with the essentials like a large tilting grayscale 320 x 240 pixel backlit LCD display, 16 soft rubber velocity and pressure sensitive pads, a big data-entry dial, two performance oriented sliders, a gaggle of soft keys and other controllers, and enough front panel space to actually use everything!

Audio specs of the MPC4000 include a whopping 64-voice polyphony (32 at 96K), 272 MB of RAM, which is upgradeable to 512 MB, and bit depth/sampling rates ranging all the way up to 24-bit/96kHz. This MPC also sports an 80 GB internal hard drive and an onboard CD-R recorder.

Like previous MPC machines there is a 50-pin SCSI port, which means that you can connect your legacy MPC library-filled hard drives, though few other compelling reasons

would seem to exist for the inclusion of SCSI at this point in time. Oddly, there is no provision for Flash cards, but on the flip side, the inclusion of a USB port means that you can easily transfer sounds from a PC or Macintosh to the MPC via the included Akai's akSys software or utilize USB thumb drives for storage.

For sampling purposes a pair of 1/4-inch/XLR combo jacks are provided, as well as a dedicated phono input complete with RIAA EQ. Resampling (the MPC can sample its own output) is available as well. Outputs include dual XLR and 1/4-inch. That's all that comes standard. No multiple outputs, no digital output. For those that need more (and I would venture that most serious users would) there are optional S/PDIF, ADAT, and eight-output analog cards available. Unlike the MPC1000 I recently reviewed, the MPC4000 has a robust headphone amplifier onboard.

Two MIDI inputs and four MIDI outputs are included on the rear panel, as are SMPTE and dual footswitch inputs which can be mapped to control specific pads, tempo or start/stop functions.

The MPC 4000 doesn't skimp on the onboard effects front, as four onboard

processors come standard. A total of 51 separate effect types are available, ranging from distortion to pitch shifting. As is typical for Akai MPC series units, the effects quality is rather good.

With 128 tracks and a total of 300,000 events plus choice of step or real-time operation, there's plenty of space to stretch out and work through complicated sequences. Once again, those numbers aren't particularly impressive when compared to computer based sequencers, but the ease of work flow, and the stability of the MPC operating system do offer compelling reasons for a hard-



Fast Facts

- **Applications:**
Studio, live sound
- **Key Features:**
128-track sequencer; 24-bit, 96 kHz; 16 velocity-sensitive pads; four onboard effects processors; 80 GB hard drive, CD-R burner
- **Price:**
\$3,599
- **Contact:**
Akai at 401-658-4032, www.akaipro.com.

Product Points

- Plus:**
 - + Great MPC feel
 - + Internal hard drive
 - + Four onboard effects processors
- Minus:**
 - No multiple/digital outputs standard
 - Expensive
- The Score:**
Luxury transportation disguised as a sequencer.

ware device of this magnitude even in today's workstation based world.

IN USE

The MPC 4000 wore multiple hats during the time I had it for review: as a sound source for sample playback driven by Nuendo 3.2 and a Yamaha RM1x; on its own as a drum machine and as a full-blown sequencer/sampler. I found the sound of the MPC 4000 to be the best yet of the MPC series. Having the ability to sample at 24-bit/96 kHz (though it halves the polyphony) allows MPC users to create more transparent audio than ever before. On the other hand, the ability to load and play samples from legacy MPC and other Akai, Roland, and EMU hardware sampler formats (going all the way back to the Akai S1000!) opens up the ability to use all those great sounding low-res samples.

The akSys software did its job flawlessly, with nary a crash in the Windows version I used. Users with large legacy sample collections will likely find the application indispensable.

As always, the MPC 4000 did require fre-

quent trips to the manual in order to learn to fully appreciate its functionality, but I suspect that seasoned MPC users won't find the process too arduous.

The pads, of course, are excellent, lending themselves to expressive playing styles. The only thing that could possibly be better would be a "stick friendly" type controller, though for nondrummers that would probably be a liability!

As with the MPC 1000 I reviewed, there is just a certain "something" about the sequencer section that makes the MPC 4000 excel for urban and dance music production.

Sequences created with the MPC 4000 just plain sound different when compared with those created in software-based (and other hardware) sequencers. The same MIDI files played back utilizing the MPC also felt different when compared to playback from Nuendo as well as the Yamaha hardware unit. Whether or not this feel appeals to you is a matter of personal taste, but the fact is that the MPC series represents the de facto standard of hardware-based sequencers.

The data sliders and four q-link knobs

allowed for easy control over things like high hats, but as with other MPC units I'd love to see a "funky" controller feature similar to Roland's D-beam, or a ribbon controller, especially for live performance use.

SUMMARY

The MPC 4000 certainly does sit at the top of the MPC range when it comes to raw horsepower and functionality, but the (as shipped) limitation of two channel analog output and lack of digital output seem curious in a product as expensive as this one. Aside from that (rectifiable with the purchase of optional cards), there is simply no better hardware tool for sequencing and sampling.

Richard Alan Salz, a contributor to Pro Audio Review, owns and operates a recording studio in Vermont that provides Web-oriented media.

Review Setup

Pentium 4 3.0 GHz; Audix D6, Shure SM-57, Audio-Technica 4040 microphones; Fostex NF-1, UREI 809 monitors; Yamaha P2201, Bryston 3B amplifiers.



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BY STEPHEN MURPHY



Building the Perfect Beast (Part 1)

Let me state for the record that I am not a computer expert or electrical engineer. I am, however, an avid fan of both computer technology and DIY electronic projects. Though I have not confirmed the following through a repressed-memory specialist, I am convinced that the combination of these two interests, born at an early age from hobbyist fascinations, naturally led me to a decades-long affiliation with what were once commonly referred to as IBM-compatible computers.

In a form of *ritualistic legal back pedaling* (to nick a phrase I once spotted on Monty Python's website), I would also like to state for the record that, gosh darn it, I do use Macs fairly regularly, and quite like them (very much, in fact: no need to write in).

It's just that I can't take Macs apart, swap out motherboards, pop in one of several available brands of \$40 dual-layer 16x DVD burners, or build a new internet-only computer from the remnants of older upgrades. It may be me, but I just don't get the feeling that those sorts of things are encouraged. Yet that is precisely what I enjoy, if not crave.

Thus, for better or worse, through good operating systems and bad, I have emerged from the potentially dispiriting PC black hole intact and reasonably adept at configuring powerful audio and video workstations.

The good news is that one no longer needs to be a manically obsessed, semi-masochistic tinkerer to configure from the ground up a cutting-edge workstation capable of handling a multitude of high-resolution audio tracks and/or uncompressed HD video editing. My latest beast, based around two of AMD's latest-generation dual-core 64-bit Opteron processors, was by far the smoothest and most rewarding configuration process yet.

The times, they are a changin'...

FROM C-64...

For you amateur psychologists out there, my computer-fixated masochism began early (1981, 13 years old) and acutely, with the unrelenting badgering of the parents to hand over a check for \$99.99 (plus shipping and handling) for a Sinclair ZX81 computer – in kit form. I showed them the picture of the computer, pointed out all its educational benefits, and then begged. A lot.

Apparently, the bright yellow Sinclair magazine ad filled with highly innovative and successful subliminal messages designed to

inspire unceasing desire only worked on the weak of mind. So, two months and six or seven lawn mowings later I had that check.

The Sinclair computer was about the size of a hard-back book, had a plastic membrane keyboard, ran its own version of BASIC, output its RF video signal to channel 3 on my black & white TV, and boasted 1k of RAM. I was in heaven.

But there was no love lost on the Sinclair when, later that year, we got a Commodore VIC-20. Sorry, Sinclair, but this baby had a 1MHz processor and a whopping 5k of RAM, plus displayed 22 lines of video display in any of 16 glorious colors. Now that's livin'!

But, really, you haven't lived until you've fired up the all-powerful Commodore 64, which we did about a year later (I know... we were so behind the times it was embarrassing). For myself, and many others, this computer was the turning point. With an inexpensive price, growing selection of commercially available programs (including – most significantly for me – a sequencer program called Steinberg Pro 16 that worked with a new technology called MIDI), and a wide range of add-on peripherals, the C-64 catapulted the personal computer into the popular market, ultimately selling over 1.7 million units.

...To x64

I got plenty of mileage out of my faithful C-64, but ultimately the advance of processing power and increased demands of professional use propelled me into the world of PC-compatibles. The next significant move was from a two-floppy Kaypro to an x286-based machine running MS-DOS 3.1 (with an early version Cakewalk and a Minnetonka CardD audio interface). Pretty much the rest of the next 10 years is a blur of configuring, upgrading and trashing (with large chunks of time and many unhappy experiences intentionally blacked out, I am sure).



Things are quite different now: since Windows NT4, Microsoft's operating systems have become increasingly stable and easier to install, driver development has become more robust, and peripheral hardware conflicts are essentially a thing of the past. At the same time, processing power has begun to leap frog over most users' processing demands, so we are able to hang on to computers longer before sending 'em out to pasture (especially with the availability of DSP add-in cards).

Now, with the increased demands of high-definition video and high-resolution surround audio, that time arrived for my system. In making the leap to the dual dual-core AMD Opterons, I am now exploring the power and pitfalls of 64-bit computing, and am every bit as excited as when I built the Sinclair 25 years ago.

Next month I will describe the configuration process and offer tips on building your own perfect beast.

PAR Studio Editor Stephen Murphy has over 20 years production and engineering experience, including Grammy-winning and Gold/Platinum credits. His website is www.smurphco.com

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BY STEPHEN MURPHY

Red Microphones Type B



Formed as a division of Blue Microphones, VintageMicrophone.com is a direct-to-consumer source of replacement capsules, shockmounts, pop filters, cases and other parts for classic microphones as well as a Blue designed line of vintage-style microphones. Available on the site are such items as replacement wood cases for ELAM 251, SM69, U67 and U87 mics, shockmounts for U47 and U48 mics, and “The Wonder Mount,” a universal shockmount that can accommodate a huge range of mics including the AKG 414 family, Earthworks SR series, Audio-Technica 40XX series and many others.

VintageMicrophone.com is also the direct source for the Red Type B condenser microphone. Designed by Blue Microphones, the Red Type B microphone kit (\$699) includes the Type B solid state microphone body, the Red lollipop cardioid capsule, a 22-AWG Cranberry mic cable, shockmount and wooden case.

FEATURES

The Red Type B microphone body features a Class A discrete solid state transformerless amplifier circuit, and is designed to act as a foundation for interchangeable lollipop-style capsules. The capsule mount is compatible with the full range of Blue Microphone’s bayonet-style capsules (the ‘Bottle Caps’) as well as vintage capsules such as Neumann M7, M8, M9 and 55k.

The included Type B pressure-gradient capsule features a 6-micron gold-sputtered 1-inch Mylar membrane. It is designed to be a good, all-around cardioid capsule appropriate

for a wide variety of recording applications.

Frequency response of the Red Type B microphone plus Red capsule is stated as 20 Hz to 20 kHz. The mic’s frequency response chart shows a significant 8 dB boost in the high end starting at around 3 kHz and ending at 11 kHz, with its peak at around 5.5 kHz. The chart shows flat response from 100 Hz to 3 kHz and a gentle 3 dB low-end rise between 35 Hz and 100 Hz.

Manufacturer’s specifications for the mic include a sensitivity of 27mV/Pa (1kHz into 2.5K ohm), output impedance of 50 ohms, A-weighted noise level of less than 7.5 dB, a dynamic range of 130 dB and a maximum SPL of 138 dB (0.5% THD into 2.5K ohm).

IN USE

Well, if initial impressions are worthwhile, I wasn’t terribly impressed by the Red Type B microphone right out of the box. Within minutes of unpacking the mic, the “Blue” emblem glued to the capsule popped off right into my hand. And attempting to adjust the angle of the shockmount from the right angle in which it came shipped resulted in the over-tightened thumb key breaking off from the screw (To its credit, Blue said it was aware of this and has corrected the problem; a new shockmount was shipped out immediately.)

But none of that really matters in the scheme of things because, friends, after considerable use on a variety of applications, I have concluded that this is an awesome mic. And at \$700, the Type B is an incredible value to boot.

I first used the Red Type B on a male singer whom I have recorded many, many times. Needless to say, I am intimately familiar with his vocal sound. I have yet to hear a mic capture the range of his voice with such nuance and detail as well as the Type B. The singer now refers to the Red Type B as “his mic” and practically refuses to entertain using any other mic (previous favorite mics on his voice have included current and vintage mics costing two to six times as much).

While the sound of the mic is definitely on the bright side, it is not nearly as severe as the frequency response chart would have you believe. Perhaps this is because it is tempered somewhat by the gentle rise in the lower end, and my preferred use of “warmer” tube pre-

amps for vocals instead of more clinical and uncolored solid state ones. My overall impression of the various vocal recordings I have made with the Red Type B mic is a sound that is detailed, throaty and full, without any trace of harshness or breakup in the high end. The only singer on which I found the Type B to be inappropriate was a female vocalist with very little low-register energy and a naturally bright high-end spread.

In other uses, I found the Red Type B to be a guaranteed winner on cello, tenor and baritone sax, and bass clarinet. I also used the Type B to record a fair amount of jazz electric guitar with excellent results. Although the mic handled the SPLs nicely, for high-energy distorted electric guitar, I preferred the old standbys over the Type B when it came down to placing the tracks in the mix.

The Type B also made an excellent out-of-shell kick drum mic, and performed well on a floor tom (though I was a bit shy about putting this loaner close enough to the head to get decent proximity effect). I would have liked to have two of these mics to try out as overheads; I suspect the emphasized highs and low boost would have yielded an excellent overall kit sound with little or no EQ.

SUMMARY

Straight out of the box, the affordable Red Type B is a great-sounding cardioid condenser microphone that proves to be an excellent choice for a wide range of recording applications. For those with bigger budgets, its interchangeable capsule design allows for an even greater range of uses.

PAR Studio Editor Stephen Murphy has over 20 years production and engineering experience, including Grammy-winning and Gold/Platinum credits. His website is www.smurphco.com.

Fast Facts

Applications:

Studio

Key Features:

Cardioid pattern; Class A discrete solid state transformerless amplifier circuit; bayonet design for interchangeable new and vintage capsules; includes Type B pressure-gradient capsule features a 6-micron gold-sputtered 1-inch Mylar membrane; ships with 22-AWG Blue Microphones Cranberry mic cable, wood case, shockmount.

Price:

\$699

Contact:

Red Microphones at www.vintagemicrophone.com



A-Line Acoustics

“It’s a no brainer!”

Phil Papotnik is serious about his sound. As owner of Raven Sound, a major pro audio provider in Western PA, he needs serious gear that will cover everything from corporate events and theatre, to festivals and concerts. We talked to Phil about why he chose A-Line Acoustics for all his line array systems.

“First, we found that A-Line’s AL10 powered system uses top-shelf components like B&C drivers and built in ICEpower® amps complete with DSP. Alternating powered and unpowered AL10’s in a line array gives us a hybrid active system eliminating the need for power amp racks.

Next, we found these AL10’s lighter and more compact than competing designs. We can set up 6 on the ground, 7 on a Genie Lift or up to 24 in the air. With the EZAL levers on the sides, we can focus them under load without dismantling the array at all. So we can set up in less time with fewer people!

The AL10’s also come in 90° and 150° wide dispersion models so we can combine them to achieve better throw to the back, while providing more even coverage up front.

Then there’s the sound — the definition, clarity and vocal transparency — FANTASTIC!

Finally, they actually COST LESS!

When you add it all up, it’s a NO BRAINER!”

Thanks Phil, may we quote you?

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Recording MC Lars' *The Graduate*

Hip-Hop/techno songs" before venturing to Stanford, then Oxford, for college.

This DIY generation represents a serious challenge for the "old" music industry, MC Lars insists. "It's a new era of DIY," he beams. "And that fact, which I manifest in my lyrics, scares the industry and most labels in general. My lyrics deal a lot about what's wrong with the industry and that I am working to prove that things are changing. The fact is that you don't need a label to be on the radio.



MC Lars, perhaps thinking of his next project.

There's no doubt that DIY recording has officially graduated from its former "just a hobby" status to something more powerful, much to the chagrin of those comfortable with the industry's old paradigm, boundaries and limitations. Creating your own commercial release with real sales potential is a viable and cost-effective option.

Doubt it? Simply look to any reputable music sales chart for hard proof — DIY artists are all over it.

THREE REASONS

The reasons behind this monumental shift are threefold. First, the sale and distribution of popular music has changed forever, thanks to the success of iTunes. Secondly, word-of-mouth and self-promotion among indie recording artists is now powerful enough to drive significant sales outside of an artist's physical locale; MySpace, PureVolume, and other such web-based sources for music and artist info are encouraging that trend. Finally, good recording technology is no longer exclusive to the Big Old Expensive Studios, those hallowed grounds where services are often limited to a dwindling class of customer: the Major Label Artist With the Big Budget. Today, recording neophytes and recording legends alike rely upon ubiquitous software such as Digidesign's Pro Tools, most often gleaning impressive recorded results.

Andrew Nielsen, a.k.a. MC Lars — a Berkley-born child of the '80s and self-described member of the "iGeneration" — is living proof that the walls separating DIY-ers from success have crumbled. His latest self-produced and self-financed album project — appropriately titled *The Graduate* — is experiencing notable sales and has even elbowed its way onto the playlists of radio giants such as Los Angeles' KROQ; "Hot Topic Is Not Punk Rock" — recorded for a paltry \$200 — has become a K-Rock listener favorite. Not bad for a guy who started "as a kid playing around with silly, fun

You don't need a label to have your video played on TV. This is scaring the music industry."

However, MC Lars explains some labels — such as Nettwerk, the label who distributes *The Graduate* — are supportive of him as well as the DIY trend in general. "Nettwerk and others are down with what I'm doing," he explains. "But they see it all as a paradigm shift that is positive. By supporting it, they are showing that they're helping things change, not fighting it."

DAW LESSONS

Like many DIY recording artists, MC Lars works almost exclusively within the DAW realm. "The computer has always been the main element," he offers. "I do pre-production and the beats in a lot of different programs on an Apple G5. The musical production process is generally like this: I start with Reason 3.0 and build the synth lines and drum programming there; I then do an arrangement, using Reason as an external instrument slaved to Pro Tools 6.7; then I do scratch vocals in Pro Tools."

For MC Lars, mixing methods vary. On *The Graduate*, the project was again transferred to Apple Logic for the final mix and for the addition of extra sounds. "I worked with producer Mike Sapone, who's based in Long Island," Lars explains. "We did more synths,

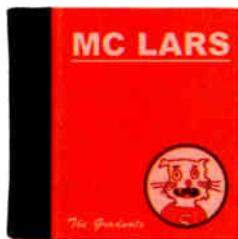
live guitar, and mixed. So there are three layers in total. It's all cool because — other than one track I did in a 'real' studio in Manhattan — everything was just done in people's houses, using their own setups."

For "Hot Topic Is Not Punk Rock" — "a tirade against that mall store" — MC Lars was joined by friends and "punkish" California-based band The Matches at a friend's San Francisco apartment. "The idea was about how they're not 'punk rock,' even though they claim to be," he explains. "I went online, read all this junk about the store and just ripped it out. It's a call and response — I list all these things that aren't 'punk,' and the guys answer, 'It's not punk rock!'"

Lars wrote the music, showed it to his friends, and the group collectively arranged it, doing pre-production within Apple GarageBand. "This was done at their rehearsal studio. We took a click track to a friend's place, did the Pro Tools thing, and the whole song was done in two days. It was a fun, short song that, somehow, got on the radio."

Currently MC Lars is touring the UK with a backing band, but it wasn't always that way. In the beginning of his live performance career — where he built his significant fan base and indie-cred buzz — he performed with only a microphone and a laptop. "The computer is still the main element, but now, it's a cool balance," he explains. "For this UK tour, I want the show to

continued on page 62 ▶



Soundcheck doesn't have to be so painful.



The great thing about the Aviom system is that it puts control in the musicians' hands. The units are easy to set up and troubleshoot, and they function great in day-to-day use. As a musician and engineer myself, I couldn't ask for more.

Matthew Peskie, Jars of Clay
Production Manager

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AVIOM

Beinhorn Says



"Royer R-121s and R-122s are essential to my guitar sounds. They give me something that no other mic has. I use a lot of microphones when I record, but if I pull the Royers out of the mix I really miss them. To me, that's the sign of a good mic.

"I used to avoid using ribbons on drums, but the SF-24 changed that the first time I used it. It attacks in the perfect place and interacts beautifully with the other mics on the kit. It adds power and richness to the drum tracks and seems to smooth out the other mics. Royers have become an indispensable part of how I record music."

Michael Beinhorn

(Producer - Soundgarden, Marilyn Manson, Red Hot Chili Peppers, Ozzy Osbourne)



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Studio

EastWest/Quantum Leap Symphonic Choirs, Quantum Leap Colossus and Ra Sound Libraries

BY CARLOS GARZA

Streaming sample libraries are increasingly taking advantage of the faster storage interfaces, faster CPUs and increased RAM on today's personal computers. Three products from EastWest/Quantum Leap have answered the call with higher resolution, increased variety and real-time performance features.

Colossus is a general-purpose library, which is modeled after the variety of sounds found in a typical keyboard workstation. Ra is a collection of ethnic world instrument sounds. Symphonic Choirs includes adult choir sections, a boys' choir and three soloist virtual instruments. The adult choirs can be programmed to sing words using the WordBuilder application.

The three products in this review are available for \$995 each or discounted through various bundles including an initial offer of all three for the price of two. Colossus is also available in a hardware configuration with customized MUSE



Research Receptor, sold as the EW Receptor.

KOMPACT

The three sample libraries in this review come with dedicated versions of the Native Instruments (NI), Kompact sample player. Kompact incorporates 32-bit internal processing and has support for up to 256 voices of polyphony depending on computer resources. NI has an automated registration system for license keys, which includes support for moving an existing software license to a new computer.

Kompact runs independently for live performance and as a software plug-in through VST, DXi, ASIO and DirectSound under Windows XP and VST, Audio Units, Core Audio, Core MIDI and RTAS under Mac OS X (10.3 or higher).

COLOSSUS

I've purchased over a dozen keyboards in the 30+ years that I've been composing and performing. My first criterion for choosing an instrument is very simple. Does it inspire me?

Imagine the variety of sounds in a professional keyboard workstation with huge storage and you will have an idea of breadth and depth of Colossus. Whereas typical keyboards use file size compression to squeeze samples into read-only memory, Colossus takes about 32 GB of hard drive to store all the samples and articulations for its 160 instruments. Many of

Fast Facts

- **Applications:**
Post production, studio, live sound, broadcast
- **Key Features:**
Streaming sample libraries using Native Instruments' Kompact player; Windows and Mac OS; VST, DirectX, ASIO, RTAS, Audio Units
- **Price:**
Colossus \$995, Ra \$995 and Symphonic Choirs \$995; Introductory offer with all three products for the price of two (other bundles available).
- **Contact:**
EastWest at 800-833-8339, www.soundsonline.com.

the instruments use key switching to enable real-time articulation control.

Approximately half of the disk space is used by a selection of samples from previous EW/QL titles. The other half were newly recorded at 24-bit resolution at Ocean Way Studio B. The instruments represented here are suited to rock, pop, jazz, country, classical and ethnic/world genres.

The percussion highlights include electronic, ethnic, orchestral and drum kits for rock, jazz, Hip Hop and country. The guitar family includes 1960s electrics, blues, electric sitar, banjo, Hawaiian and lapsteel as well as acoustic, fretted and fretless basses. The acoustic Washburn was one of my favorites – suited for pop and world music.

Several ambient textures are provided in the New Age “ensembles.” I found them very colorful and easy to play. There are stock synthesizer leads and basses and some very cool dark atmospherics collectively known as, “Stormdrone.” Most of these use the mod wheel to morph between sounds. The General MIDI set is augmented with pop brass sounds and a choir with vowel sound crossfades.

The keyboards include two grand pianos, a honky-tonk, Rhodes, Clavinet, church organs, Hammond B3 and Farfisa. The main piano is a versatile, bright Steinway that will sound familiar to owners of EastWest piano libraries such as the Pro Samples volume 8. The new 2GB Fazioli piano is darker and would be at home playing Debussy or a moody Thomas Newman score.

I was impressed by the quality and scope of Colossus. The new ethnic sounds are gorgeous and cover most of the world’s regions at some level. The orchestral sounds are of excellent quality and suitable for quick and simple symphonic arrangements and pop/rock recordings.

I used Colossus strings, trombones and French Horns as a replacement for previously recorded keyboard parts on a CD I’m producing. The Colossus sounds are brighter and more detailed than the sounds I had originally played on my Kurzweil PC88. The Kontakt player worked flawlessly in Pro Tools 6.7 under OS 10.3.7 and Logic 7.1 under OS 10.4.

About half of the sounds in Colossus are from other EW/QL sample libraries. This may be a draw back to those with a heavy investment in certain specific titles. For everyone else, this set is a bargain, yes even at nearly \$1,000.

RA

Quantum Leap Ra is a 14 gigabyte sample set covering instruments from the Americas, Australia, Europe, the Far East, Africa, India the Middle East and the Turkish Empire. You’ll find most of the world represented but this is not an exhaustive world instrument collection.

As an owner of the Rare Instruments package, I was intimately familiar with about 10 percent of the Ra library. The remaining 90 percent was also recorded at Ocean Way studios in Hollywood by producers, Pacemaker and Tony Austin.

Many of the virtual instruments include the idiosyncratic bends and inflections that make each instrument unique. Some of these articulations can be selected on-the-fly using key switching.

Ra also features a new performance legato mode, called Q Legato, which I found very realistic. One of my favorite samples from the original Rare Instruments Akai sample set is the Armenian duduk. The key-based articulation switching in Ra makes it possible to explore the range of expression in a single performance – no need to overdub the different note endings, just hit the key switch.

Space does not permit listing every instrument but there are some gems, such as the metal and wooden shakers and Ewe drum ensemble from Africa. Ra is not heavy in percussion sounds but is designed to complement the EastWest Stormdrum product.

The little touches make a difference when you want realism on a tight deadline. One of my favorites of the African drums is the speaker rattling low berkete. The hand slaps conveniently truncate a sustaining low note as you would expect.

I love the sound of the sitar but have never found a sample that I can play for more than 2 minutes until now. The authentic bends and flourishes in the key-switched sitar program had me hooked for hours. I laid down a bed of tabla drums and a tambura drone with its characteristic dynamic swells and had an authentic sounding track in no time.

Other favorites include the ney flute, hurdy gurdy, First Nations cedar flute, Irish low whistle, Gamelan ensembles, highland pipes, gongs, bansuri, middle east strings and the baritone violin. *Lord of the Rings* fans take note - the Hardanger fiddle is here. The producers thoughtfully included

continued on page 60 ►

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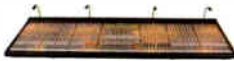
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Contact: Crest Audio at 866-812-7378, www.crestaudio.com.



Midas Verona

Features: Up to 64 inputs; four-band EQ; 48V phantom power; phase reverse; high-pass filter; pan controls; inserts; PFL; 100mm faders. Price: starts at \$12,400.

Contact: Midas at 952-887-4031, www.midasconsoles.com.



Yamaha M7CL

Features: 32, 48-channel; 96 kHz sample rate; 24-bit/96 kHz A/D-D/A; onboard digital effects; four-band parametric channel EQ; delay; graphic EQ; 100mm faders; three mini-YGDAI expansion slots. Price: starts at \$19,999.

Contact: Yamaha at 714-522-9011, www.yamahaca.com.



Digidesign Venue

Features: Up to 128 input channels; four-band parametric EQ; onboard DSP; external I/O box; compatible with Pro Tools DAWs. Price: starts at \$62,995.

Contact: Digidesign at 650-731-6100, www.Digidesign.com.



Studer Vista 5

Features: Up to 240 channels; modular; onboard DSP; 5.1 surround sound; Vistonics touchscreen controls; external I/O box and processor; compatible with Harman HiQnet routing system. Price: app. \$150,000.

Contact: Studer/Harman Pro North America at 818-920-3212, www.studer.ch.



Alesis GigaMix 4CD

Features: Four-channel; three-band channel EQ; 48V phantom power; nine-band master graphic EQ; 100 preset digital effects; high-pass filter; onboard CD player; onboard 200 W amp. Price: \$549.

Contact: Alesis at 401-658-5760, www.alesis.com.



DiGiCo D1 Live

Features: Up to 160 input channels; four-band parametric EQ; comp/limiter; gate; six effects banks; 5.1 surround sound; 38x8 output matrix; TFT touchscreens; LED meters; separate rackmounted I/O box. Price: starts at \$69,000.

Contact: DiGiCo at 310-326-5266, www.digico.org.



Inter-M Kensington

Features: 24, 32, 40-channel frames; four-band channel EQ; eight auxes; VU meters. Price: starts at \$8,790.

Contact: Inter-M at 610-874-8870, www.inter-m.net.



Dynacord PowerMate II Series

Features: Three-band channel EQ with sweepable mids; twin seven-band master graphic EQs; onboard 24-bit effects with 99 presets; anti-feedback filters; four auxes; onboard Class H amps. Price: starts at \$1,660.

Contact: Dynacord at 952-884-4051, www.dynacord.com.



Mackie TT24

Features: 24 input channels; four-band parametric EQ; compressor; limiter; gate; 24-bit/96 kHz; snapshot memory; 100mm motorized faders. Price: \$7,199.

Contact: Mackie at 800-258-6883, www.mackie.com.



Soundcraft Vi6

Features: 64-channel; four-band parametric EQ; up to 16 matrix outputs; FaderGlow LEDs; Vistonics-style touchscreen user interface; external I/O box and SCore Live processor; compatible with Harman HiQnet routing system. Price: app. \$80,000.

Contact: Soundcraft/Harman Pro 818-920-3212, www.soundcraft.com.



Carvin SL40

Features: Four-band EQ; 48V phantom power; low-cut filter; 100mm faders; inserts; eight auxes; PFL; LED meters. Price: \$2,999.

Contact: Carvin at 800-854-2235, www.carvin.com.



EAW UMX.96

Features: 24-bit/96 kHz; EQ; crossover controls; limiter; onboard loudspeaker processing; touchscreen interface; programmable rotary pots; Penny & Giles motorized faders; compatible with SmaartLive. **Contact:** EAW at 800-258-6883, www.eaw.com.



ATI Paragon II

Features: 64-input; 48V phantom power; three-band, four-band EQs; high, low-cut filters; compressor/limiter; noise gate; test tone generator; talkback function; 256 scene memories. Price: starts at \$65,000.

Contact: ATI at 301-776-7879, www.audiotoys.com.



Crate Audio CSX16

Features: 16-channel; three-band EQ; four-band EQ; 48V phantom power; 20 dB pad; PFL; pan; 100mm faders. Price: \$699.

Contact: Crate Audio at 800-727-4512, www.crateaudio.com.



Allen & Heath GL2800

Features: 24, 32, 40-input frames; 10 auxes; 12 x 4 matrix. Price: starts at \$4,599.

Contact: Allen & Heath/American Music and Sound at 866-474-7711, www.allen-heath-usa.com.



FBT Pickup 88E

Features: 8-channel; three-band EQ; 48V phantom power; 24-bit DSP effects; 60mm ALPS faders. Price: \$769.

Contact: FBT North America at 800-333-9383, www.fbt.it.



InnovaSON SY48

Features: 48 input channels; DSP; LCR panning; Xfad technology; LCD screens; separate rackmountable I/O box. Price: starts at \$32,999.

Contact: InnovaSON at 33-297-243-434, www.innovason.com.



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SLS Loudspeakers PLS8695 Powered Line Array

Features: Two-way; eight 6.5" woofers; nine PRD500 ribbon HF drivers; onboard amplifier; onboard DSP; NeverMar coating. Price: \$5,495.

Contact: SLS Loudspeakers at 417-883-4549, www.slsloudspeakers.com.



Peavey Versarray 112 Line Array

Features: Two-way; 12" Neo Black Widow woofers; ribbon driver; rigging hardware; 13-ply Baltic birch cabinet. Price: \$1,599.

Contact: Peavey Electronics at 866-443-2333, www.peavey.com.



Turbosound TA-880H Mid-High Speaker

Features: Three-way; twin 10" low-mid drivers; 10" high-mid driver on a Polyhorn; twin HF drivers on a Polyhorn; steel grille; onboard rigging; birch plywood cabinet. Price: \$6,560.

Contact: Turbosound/Sennheiser at 860-434-5220, www.sennheiserusa.com.



Alesis ProVenue 15

Features: Two-way; 15" woofer; 1" compression HF driver; pole mount socket; powder-coated metal grille; mounting hardware; polycarbonate cabinet. Price: \$399.

Contact: Alesis at 401-658-5760, www.alesis.com.



A-Line SubARRAY Series

Features: 15", dual 15", 18" woofers; onboard 1,000W ICE amplifiers; EZAL rigging system; Duratex coating. Prices: AS115A - \$5,299; AS215A - \$5,599; AS118A - \$5,349.

Contact: A-Lines Acoustics at 716-510-5685, www.a-lineacoustics.com.



Adamson Engineering SpekTrix Wave

Features: Three-way; twin 8.5" Kevlar neodymium woofers; ND8-L mid-bass and ND8-M mid-range drivers; 1.5" compression HF driver on an Adamson Wave Shaping Sound Chamber; Adamson AIR rigging. Price: \$3,365.

Contact: 905-982-0609, www.adamsonproaudio.com.



Electro-Voice Sb122 Bass Module

Features: EVS12SB 12" woofer; low-pass filter; integral handles; optional weatherized version (\$510). Price: \$410.

Contact: Electro-Voice at 800-392-3497, www.electrovoice.com.



Yamaha Installation Series

Features: Three, two-way systems and subs; 18", 15" and 12" woofers; Finnish birch cabinets woofer; 14-gauge steel grilles. Price: starts at \$700.

Contact: Yamaha at 714-522-9011, www.yamaha.com/proaudio.



Rexroat Sound MPT-48 Concert Array Module

Features: Three-way; twin 15" woofers; twin 12" mid-range drivers; 1" HF drivers; birch horns; 45 x 25 degree pattern; Multi-cell cabinet design; 13-ply cabinet; epoxy finish. Price: \$6,749.

Contact: Rexroat Sound at 309-764-1663, www.rexroatsound.com.



QSC MD Powered Series

Features: 12", 15" woofers; rotatable horn 1.4" HF drivers; 60 x 60 or 90 x 40 degree patterns; Class D amplifiers; powder-coated steel grille; rigging hardware.

Contact: QSC at 800-854-4079, www.qscaudio.com.



American Audio Tri Pack Live System

Features: Subwoofer/satellite system; 10" powered subwoofer; two 6.5" satellite speakers; three-channel amp in subwoofer; pole mounts for satellites; ships with cables. Price: \$699.

Contact: American Audio at 800-322-6337, www.adjudio.com.



Radian Audio Engineering RPH 1294/64 Speaker

Features: Two-way; 12" wool-carbon composite woofer; 2" alloy-Mylar compression driver; biampable; 13-ply Baltic birch cabinet; Duradian finish; 90 x 40 degree or 60 x 40 degree patterns. Price: \$1,799.

Contact: Radian Audio Engineering at 714-288-8900, www.radianaudio.com.



OAP SM-281 Stage Monitor

Features: Two-way; twin 8" woofers; 1" Mylar diaphragm driver on a rotatable constant directivity horn; 90 x 60 degree pattern; 16-gauge epoxy-coated steel grille; modified wedge cabinet.

Contact: OAP at 800-788-1627, www.oapaudio.com.



Dynacord D-Lite 2000 System

Features: Subwoofer/satellite system; 15" powered subwoofer; two satellite speakers with 12" woofers; polypropylene cabinets; 1,000W Class D amplifier; cables. Price: \$5,500.

Contact: Dynacord/Telex at 952-884-4051, www.dynacord.com.



L-Acoustics 112P Powered Speaker

Features: Two-way; 12" woofer with a coaxially mounted 1.4" compression HF driver; onboard 1,000W amplifier. Price: \$3,520.

Contact: L-Acoustics US at 805-604-0577, www.l-acoustics-us.com.



Nexo GEO D

Features: Three-way; 12" GEO Directivity Phase Device woofer; twin rear-firing 8" low-mid range drivers; 1.4" Hyperboloid Reflective Wavesource HF driver; metal grille; compatible with Nexo GeoSoft2 controller software.

Contact: Nexo/Yamaha Commercial Audio at 714-522-9011, www.yamahaca.com.



Apogee Sound AE-5 Speaker

Features: Two-way; 12" woofer; 1" composite ferrofluid-cooled tweeter; Finnish birch cabinet; steel grille; onboard rigging system; biamped. Price: \$1,855.

Contact: Apogee Sound at 800-443-3979, www.apogeessound.com.



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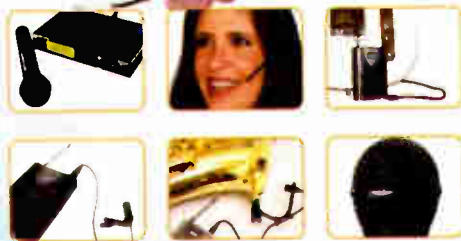
When you first use the RAD-360 UHF Wireless, you'll be tempted to see how far you can go before it actually drops out. Go ahead. Get it out of your system. It will most likely be somewhere between 500 and 1000 feet, depending on your location and line of sight.

The RAD360 is a complete solution for all of your wireless needs, whether it be Live Music, Fixed Installations, Presentations, or Houses of Worship. Handheld systems feature the OM series dynamic mics, critically acclaimed for their clarity, off-axis rejection, and ability to achieve high levels of gain before feedback without distortion. Bodypack systems feature a variety of lavalier and headset microphones, as well as instrument systems for guitar, flute, harmonica, and brass.

You can be sure of drop-out free performance whatever the venue. And best of all, the RAD-360 is simple to set up and use. You'll be up and running in minutes!

Main Features

- Frequency Agile - 193 channels available per system
- Interchangeable capsule assemblies for handheld transmitters
- Metal housing for receiver, bodypack, and handheld transmitters
- Battery power indicators
- RF level metering
- Noise squelch circuitry



Handheld and body pack use standard AA batteries



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Live Sound Speakers

► Continued from page 56

Bag End P-Quartz-R Subwoofer

Features: Four 18" INFRAs cone woofers; two Minima One onboard 1,000W amplifiers. Price: \$5,750.

Contact: Bag End at 847-382-4550, www.bagend.com.



Danley Sound Labs SH-50 Speaker

Features: Three-way; twin 12" woofers; four 5" mid range drivers; 1" compression HF driver. Price: \$3,925.

Contact: Danley Sound Labs 770-534-7620, www.danleysoundlabs.com.



Renkus-Heinz IC16

Features: Two-way; 16 4" woofers with coaxially mounted 1 tweeters; steel grille; aluminum cabinet; includes multichannel Class D amp/processor. Price: \$9,735.

Contact: Renkus-Heinz at 949-588-9997, www.renkus-heinz.com.



Matrix Audio Designs C-Series Ceiling Speakers

Features: Two-way; 8", 6.5" woofers; coaxially mounted tweeters; optional remote control module. Price: starts at \$180 per pair.

Contact: Matrix Audio Designs at 888-485-9959, www.matrixaudiodesigns.com.



D.A.S. Audio Aero 38 Line Array

Features: Three-way; twin 12" woofers with 4" voice coils; twin 10" mid range drivers with 3" voice coils; 1.5" compression HF driver; Wisla birch cabinet; Isoflex coating; powered version with Class D amps (\$6,870). Price: \$4,553.

Contact: D.A.S. Audio at 888-327-4872, www.dasaudio.com.



Basson Sound PS215TP Speaker

Features: Three-way; twin 15" woofers; 2" compression HF driver; steel grille; steel recessed handles; Tolex covering. Price: \$1,080.

Contact: 760-929-0457, www.bassonsound.com.



TOA Electronics SR-S4 Line Array Speakers

Features: Two-way; eight 4" cone woofers; 24 1" tweeters; steel grille; optional weatherized version, 70V version. Price: starting at \$1,554.

Contact: TOA Electronics at 800-733-7088, www.toaelectronics.com.



Pro Acoustics SD4 Pro Omnidirectional Ceiling Speaker

Features: Four 6.5" full range drivers; 360-degree pattern; polystyrene frame; fits standard 2' x 4' drop ceiling grid. Price: \$279.

Contact: Pro Acoustics at 254-698-4042, www.proacousticsusa.com.



Galaxy Audio Powered Micro Spot DC

Features: Full range driver; 30W onboard amplifier; mounting bracket; stand mount; 12V adapter; battery operable. Price: \$319.

Contact: Galaxy Audio at 316-263-2852, www.galaxyaudio.com.



Mackie S408 Speaker

Features: Two-way; four 8" woofers; 1" HF driver; LF drivers in a tetrad configuration; pole mount; trapezoid cabinet. Price: \$839.

Contact: Mackie Designs at 800-258-6883, www.mackie.com.



Carvin C1588 Speaker

Features: Three-way; 15" woofer; 8" midrange driver; titanium horn tweeter; biampable; recessed handles; metal corner protectors; metal grille; DuraTuff coating. Price: \$600.

Contact: Carvin at 800-854-2235, www.carvin.com.



JBL VerTec VT4888DP Line Array Element

Features: Onboard JBL DrivePack speaker control/amplifier



module. Price: \$7,999.

Contact: JBL at 818-894-8850, www.jblpro.com.

Meyer Sound M2D Compact Curvilinear Array

Features: Two-way; twin 10" low-frequency/mid drivers; 4" high-frequency driver; Ribbon Emulation Manifold; onboard 600W amplifier; QuickFly rigging system. Price: \$7,500.

Contact: Meyer Sound at 510-486-1166, www.meyersound.com.



Community Loudspeakers TFR64A Speaker

Features: Three-way; twin 12" ferrofluid-cooled woofers; Community M200 mid range driver; 2" UC2 HF driver; rigging hardware; 13-ply Baltic birch cabinet; TUFCOAT coating. Price: \$3,325.

Contact: Community Loudspeakers at 610-876-3400, www.loudspeakers.net.



Crest Performance CPT5

Features: Two-way; 15" woofer; 1.5" titanium HF driver; 90 x 40 degree horn; flying hardware. Price: \$499.

Contact: Crest Audio at 201-475-4600, www.crest-performance.com.



MacPherson M2X Version 2

Features: Two-way; 15" woofer; 2" HF compression driver with CD horn; biampable; steel grille; pole mount socket; 13-ply Baltic birch cabinet; optional controller; rigging options. Price: starts at \$2,270.

Contact: MacPherson at 847-674-3535, www.macpherson-inc.com.



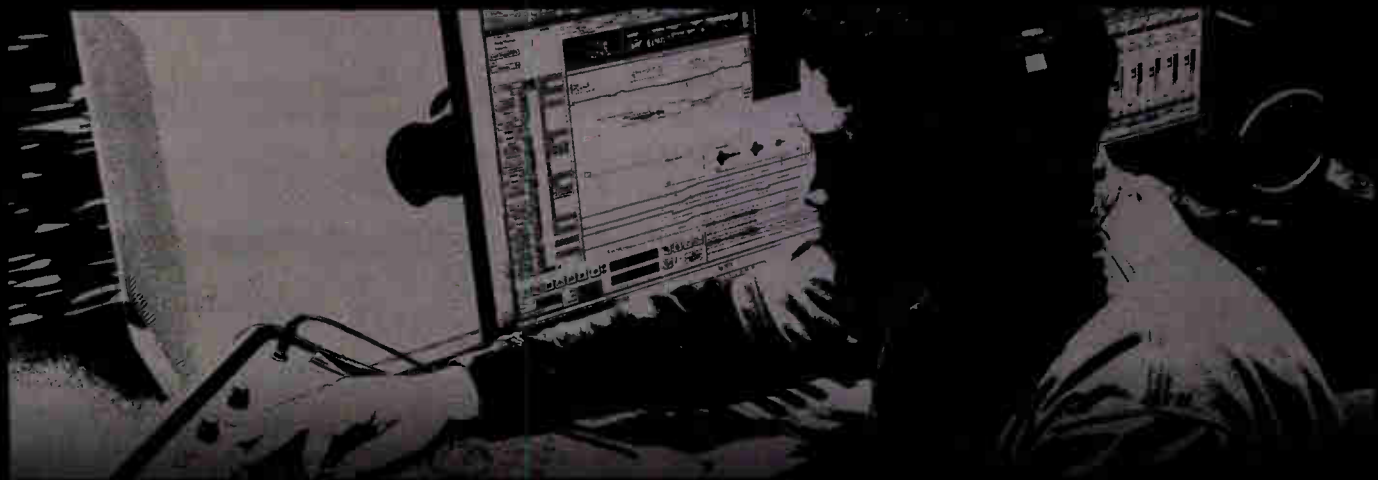
FBT Jolly 12ba Powered Speaker

Features: Two-way; 12" woofer; 1" HF driver; two-band EQ; volume control; 250W Class AB LF amp; 50W Class HF amp; ADAP protection circuitry; 60 x 90 degree horn; fly points; socket mount. Price: \$799.

Contact: FBT North America 800-333-9383, www.fbt.it.



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Tannoy iQ 10/15

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Contact: Tannoy North America at 519-745-1158, www.tannoyna.com.



cabinet; 16-gauge powder-coated steel grille; rubber feet; polyurea elastomer finish. Price: \$1,000.

Contact: Sound Impulse at 262-275-9900, www.soundimpulse.com.



Cerwin-Vega INT-152

Features: Two-way; 15" woofer with a 2.5" voice coil; 1.3" titanium compression HF driver with HighRoad horn; VegaGrip handles; .75" plywood cabinet. Price: \$350.

Contact: 818-534-1500, www.cerwin-vega.com.



Crate Audio PSM15

Features: Two-way; 15" woofer; 1.5" titanium HF driver; stand mount; polymer cabinet. Price: \$449.

Contact: Crate Audio at 800-727-4512, www.crateaudio.com.



KS Audio T Line Array

Features: Two-way; twin 12" woofers; 2" compression driver; onboard four-channel amp module; onboard flying hardware. Price: \$7,900.

Contact: KS Audio at 727-447-9656, www.ksaudiousa.com.



Sound Impulse Chicago 8082

Features: Two-way; 8 Hammer 8" LF drivers; Crystal 3" titanium HF driver; 13-ply Baltic birch

► EastWest from page 53

nontraditional vibrato samples as played in the *LOTR* score along with the traditional inflections.

The producers behind Ra realized that it's just not enough to capture one or two playing styles and call it a day. Many of the melodic instruments offer a generous variety of note bends, trailing figures and alternative playing styles.

The focus on authenticity and sound quality is what sets Ra apart from other ethnic instrument sets. Ra scores big points where it counts.

SYMPHONIC CHOIRS

EastWest/Quantum Leap Symphonic Choirs (SC) is a virtual instrument library comprising soprano, alto, tenor and bass (SATB) choirs, soprano boys and soloist programs with soprano, alto and boy singers.

Samples were recorded in the same concert hall, with the same engineer and mic techniques used for EastWest/Quantum Leap Symphonic Orchestra. The recordings were made at 24-bit, 88.2 kHz resolution (or better) by engineer, Keith Johnson. Close mic, full stage and the ambient hall samples are available for each choir and soloist and the samples are phase aligned to allow blending.

Need a vowel? The SATB choirs include vibrato and non-vibrato looped vowel sounds, consonant sounds and voice effects such as shouts, falls and whispered words. The soprano, alto and boys soloist samples have fewer articulations and no adjustable vibrato. The "Church" choir combines the four adult sections with full hall reverberation in a single instrument for composing and quick arrangements. The mod wheel cross fades non-vibrato with vibrato samples where available and dynamics in some cases.

The most unique aspect of SC is the WordBuilder application, which allows entry of English and phonetics for more precise control of the adult choirs. WordBuilder does not work with the soloist or Church choir programs but does work with both standalone and plug-in versions of Kompact.

The recommended CPU speeds are 3GHz for Pentiums/Athlons and G5 processors running at 1.8 GHz or faster. SC requires 38 GB of drive space and 2 GB of RAM are recommended. I tested SC on a G5 Quad with 4 GB of RAM and a G4 dual 1 GHz with 1.5 GB RAM.

The sound is superb. The voices are pre-mixed with a wide sound stage giving excellent localization of individual singers in each section. The vocal quality has no apparent

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coloration from microphones or room acoustics resulting in a very natural sound.

The hall sound is gorgeous and on the G5 I usually turned off my convolution reverb and used samples with the room sound. This is a first rate choir and an immaculate recording.

WordBuilder's linguistic features give SC its potential but harnessing this requires a little patience and the setup can be daunting. The on-line instructional videos, FAQs and forum are highly recommended.

First, the virtual connections between your DAW software, WordBuilder and the Kompact player must be made. With Logic Pro 7, WordBuilder runs as a separate application and must be virtually cabled between the sequencer engine and the Kompact plug-in. The "pre-wired" Logic Environment and WordBuilder templates on the EastWest web site were helpful.

Each section (altos, tenors, etc.) has its own window in WordBuilder and a dedicated instance of the Kompact player in Logic. The special multiprograms used by WordBuilder are resource intensive because they use five instrument programs each to cover the full range of vowel and consonant sounds.

WordBuilder gives you extensive control of pronunciation. For example, you can adjust how quickly the choir moves through diphthongs using crossfades (Oy!) and control the syllabic em-PHA-sis.

Got a song about snakes? You can sustain nonpitched consonants such as S, T and H. Pitched consonants can also be sustained to create, for example, "singing insects" with a "zzzzzz" melody or to record a certain soup commercial that goes, "mmm mmm good."

This versatile library has many uses including TV/film scoring, video game music, jingles and concert music. I wrote several pieces to test the range of SC and found the experience of commanding a first rate choir with phonetic programming quite surreal. First, I created a horror film theme using tenors and the boys' choir singing in Latin. I was going for something in the style of Jerry Goldsmith's score for *The Omen*.

WordBuilder's built-in Latin phrases gave me a quick way to start my vocal track. The vocals were still distinct even after adding a dense orchestration of strings, brass and percussion. The stereo width of both choirs helped them stand out in the mix while the 24-bit quality and Latin syllables created a frightening realism (whatever they're saying).

Next I went for a lighter sound using the female alto section with a celesta-driven string arrangement along the lines of Danny Elfman's title music for *Edward Scissorhands*. Again, I turned to WordBuilder to breathe life into the track with a series of "ah" and "oh" sounds and the occasional "ooowaaah." SC sounded like the real thing.

The full choirs in SC would be right at home in an action/adventure film score or an electronic game soundtrack. The soloist samples are beautiful, haunting and perfect for simple parts but there is not enough articulation control for instrumental singers like Lisa Gerrard (*Gladiator*) or Lisbeth Scott (*Munich*) to worry about their jobs.

A tremendous amount of control is provided by WordBuilder but the fact that pronunciation is not linked directly with the sequencer's timeline makes word/melody synchronization a bit tricky during recording. I had no problems syncing words with music when both Logic and WordBuilder were started from the beginning.

Some of the sample sets are more resource intensive than others. The G4 was adequate for one or two sections but the Quad was better suit-

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► *Crate from page 24*

optional mounting brackets available. My one reservation is the manual, however. I found it to be a bit incomplete; as I mentioned earlier there were no frequency response charts and I had to use my analyzer to find the EQ section frequency centers. A phone number for customer service would be nice to include, as well.

SUMMARY

I found the Crate PSM15P powered full-range enclosure to be a very capable unit that displays the ability to tackle a variety of applications. It is rugged, powerful enough, and sonically equal to most offerings in the MI marketplace. As a rental unit it should be able to pay for itself in a few outings. In addition, I should mention the 5-year/2-year (5 years electronics, 2 years transducers) transferable warranty that is one of the best in the business. All this for \$629, I would recommend as a good deal.

Roger Williams III is a live sound engineer and musician.

► *XIAudio from page 50*

be as cool as possible. The live band plays along with a click, but it's a fusion of samples, live singing, and the live musicians."

While still young at 23, MC Lars is consistently seeing an even younger collection of young DIY recording artists at his shows who find themselves inspired by the artistic freedom his music represents. "It's cool to see people who are interested in seeing and hearing something different," he explains. "It's inspirational to the kids who are making their own music. It's like, 'Wow. He's a few years older and does what I do. People are coming to see him, and maybe, people would come to see me.' And it's completely possible. It's cool and symbolic of what DIY is all about."

The MC Lars information:
<http://www.mclars.com>
<http://www.myspace.com/mclars>
<http://www.purevolume.com/mclars>

Strother Bullins is a North Carolina-based musician and freelance writer specializing in the professional audio, music and entertainment industries.

► *East/West from page 61*

ed to the demands of a larger choir with full dynamics and WordBuilder. Faster load time and lower memory use are possible by reducing the buffer size and polyphony and using the close mic samples with a separate reverb plug-in.

After tweaking the, so-called, "expert" memory settings in Kompact, I was able to open four multiprograms for WordBuilder on the G5 Quad. In this extreme test, it took Logic 7 about three and half minutes to load my Logic song with all SATB choirs using full mic positions and three-layer dynamics from a FW800 drive.

Achieving believable singing performances with Symphonic Choirs takes some tweaking and an investment in learning the techniques but the results are out of this world. This is an amazing product.

Carlos Garza operates Pepperland Studios in Springfield, Va. His work has been heard on Image Entertainment DVDs, Turner Classic Movies and the National Gallery of Art. He is a regular contributor to Pro Audio Review.

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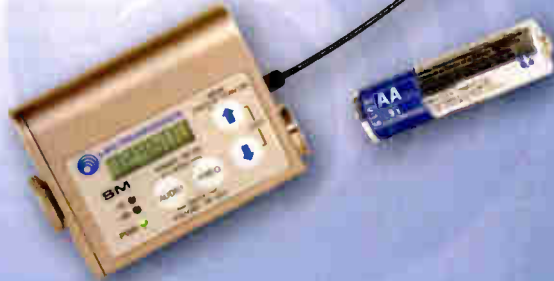
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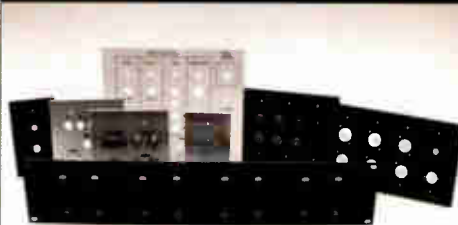
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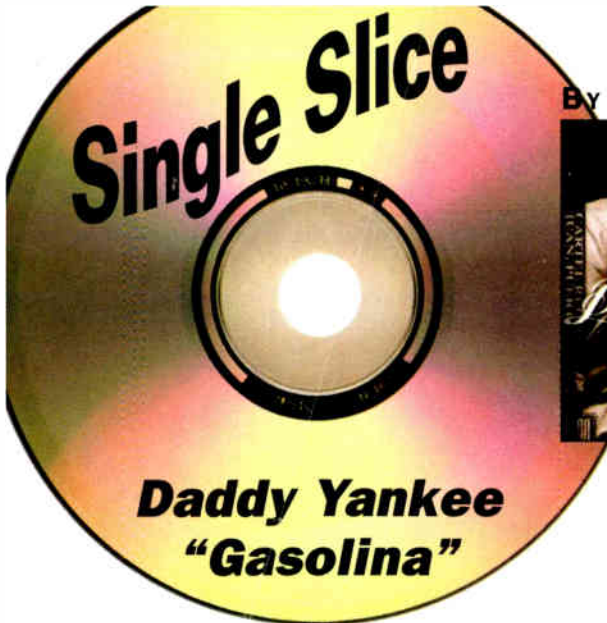
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BY STROTHER BULLINS



Single: "Gasolina"

Album: *Barrio Fino* (El Cartel Records)

Date Recorded: July 2003 through July 2004 at The Lab Studios in San Juan, Puerto Rico

Producers: LunyTunes, Urba & Monserrate, Echo & Diesel

Engineers: Hyde, Echo, LunyTunes

Mix Engineers: Hyde, Echo, LunyTunes

Mastering: Nestor Salomon of Digito Recording Services

Other Projects: As an engineer, mixer, and artist/musician, José "Hyde" Cotto has worked with various Latin American successes such as Vico C, Puya, Tego Calderón, Yaga & Mackie, Ivy Queen, among others.

Single Songwriters: Ayala (Daddy Yankee) and Davila

Console: Amek Angela 2

Recorder: Digidesign Pro Tools|HD

Monitors: Yamaha NS-10M, Genelec 1038A, KRK V88

Vocal Microphone: Neumann U87

Vocal Processing: Avalon 737 microphone preamp, Waves Q-Clone EQ plug-in

Generally, a so-called "hit single" is deemed as such by using one primary criterion: it hit a significant mark on a music industry chart. So how could someone describe fairly the chart success of "Gasolina," a song by Puerto Rican recording artist Daddy Yankee that still lingers on international sales and airplay charts two full years after its initial release? By simply recognizing it for what it is: the world's official introduction to Reggaetón, a musical amalgamation featuring the sounds of Jamaican Dancehall and American Hip-Hop mixed together with tons of Latin flavor.

"It was a surprise for us," comments engineer, mixer, and musician José "Hyde" Cotto about the success of "Gasolina." Cotto, a four-time Latin Grammy winner and 2003 graduate of SAE Institute in Miami, has worked alongside Yankee for years. "We thought it was going to be big, but we didn't know that it would catapult Reggaetón into the international market"

Cotto doesn't exaggerate either. "Gasolina" is presently bouncing around the Top 10 Latin singles on iTunes (alongside two other Daddy Yankee singles) and regularly bumps in discotheques worldwide. So it may not be new, but to many, it's as fresh as the day it was released.



José "Hyde" Cotto

Recorded and mixed at The Lab Studios in San Juan, Puerto Rico — where Cotto is chief engineer — "Gasolina" began with a decidedly upbeat Reggaetón groove and a one-word hook that most anyone could grasp. "Almost everybody, no matter what language they speak, knows what 'gasolina' means," offers Cotto. "People everywhere could identify with the song and the hook."

To record Yankee's lushly reverbed vocal tracks, Hyde used a signal chain consisting of a Neumann U87 microphone and an Avalon 737 preamp running straight to Pro Tools|HD, compressed only slightly. "The U87 is my favorite for recording Reggaetón and Hip-Hop," offers Cotto. "Also, I play around with reverbs a lot; Reggaetón is a type of music where the vocals can be really, really wet at times."

Today, American rap icons are seeking Hyde and the Reggaetón sounds he has helped craft to further expand the boundaries of Hip-Hop. "It's surprising to me," he says humbly. "I feel flattered. It's an honor every time someone from the States asks me to do something for them. It means that we're doing something right."

Strother Bullins is a North Carolina-based freelance writer specializing in the professional audio, music and entertainment industries.

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