

MARCH 2007

ProAudio Review

The Review Resource for Sound Professionals

Incredible-Sounding Analog!

APB-DynaSonics Spectra-T

#EXNTJMM *****AUTO**3-DIGIT 857
 #P189121/1# 0603/B/9/7M 237/2434
 BARRY NISHKIND ECLECTIC ENGINEER
 OLD RADIC COB
 2033 S AUGUSTA PL
 TUCSON AZ 85710-7905
 @@@@@@@@@@@@@@@@@@@@@@@@

This Issue:

- Touring Gear Preview
- Debut of Worship Audio
- Rupert Neve Designs
Portico 5042



TANNOY V6 P30

\$3.95


**PRO
AUDIO
GROUP**



www.proaudioreview.com

A CLEAR PATH TO AN OPEN CHANNEL

NOW WITH
NEW
CONDENSER
HANDHELD!

3000 SERIES



ATW-T310



ATW-R3100



ATW-T371
CONDENSER



ATW-T341
DYNAMIC



The new 3000 SERIES takes the guesswork out of finding a clear and open channel.

With automatic frequency scanning to find the best available channel, 200 selectable UHF channels, true diversity protection from RF hits and dropouts, soft-touch controls, easy setup and great sound, the new 3000 Series wireless delivers truly professional performance.

The new ATW-T371 condenser handheld microphone/transmitter—featuring the Artist Series™ ATM710 cardioid condenser element—delivers exacting detail and studio-quality, high-fidelity reproduction. The ATW-T341 dynamic handheld transmitter features the stage-proven Artist Elite® AE4100 cardioid

dynamic element, robust metal construction and slim ergonomic design. The versatile UniPak™ body-pack transmitter is equipped with a secure 4-pin locking connector compatible with a wide range of A-T microphones, as well as a guitar cable.

Add to all this a very competitive price tag, and you've got everything you need in a wireless system. Check out the new 3000 Series UHF frequency-agile wireless. It's a clear path to a great performance.

Roadies.



With 30 years of experience under our belt, we're ready to hit the road again. Introducing the Tn Series of amplifiers from Yamaha. Stable 2 ohm drive capabilities make this series perfect for pairing and touring with NEXO and other line array systems. Built with a sturdy exterior, removable handles and easy air-filter maintenance, rigorous road conditions don't stand in the way. A 50% reduction in power consumption is realized with Yamaha's own EEEEngine amp drive technology. These guys are built strong to run all night long. A five year warranty proves it.

The Tn Series of Amplifiers. Working hard so you don't have to.

When you need help, time zones shouldn't matter. Yamaha provides coast to coast 24/7 technical support. With dedicated staff and regional service centers, assistance is around the corner. If we can't fix it over the phone, we'll put a part or a person on the next plane out. It's that simple.



INSIDE THIS ISSUE

ProAudio Review

The Review Resource for Sound Professionals

March 2007 | Vol. 13 Issue 03



LIVE

- 8 **Live News and New Products**
- 10 **APB-DynaSonic Spectra-T Analog Console**
by Andrew Roberts
- 12 **Neumann KMS 104**
by Dan Wothke
- 16 **How the Pros Gear Up for Tour**
by Strother Bullins
- 24 **The Power to Move You: Counting Crows and Lonestar on Tour with Furman Sound**
by Strother Bullins

CONTRACTING

- 28 **Contracting News and New Products**
- 30 **Tannoy Power V6 Loudspeakers and VS10BP Subwoofer**
by Roger Williams III
- 32 **Working In Audio, Working In Church**
by Dan Wothke
- 34 **Bose Panaray MA12 Modular Line Array Loudspeaker**
by Scott Burgess
- 36 **From the Field: Audio for DC's TCT Scientific Conference**
by Rob Tavaglione

STUDIO

- 38 **Studio News and New Products**
- 40 **Crane Song Phoenix Tape Emulation Plug-In Suite**
by Alex Oana
- 42 **Groove Tubes Glory Compressor**
by Paul Richards
- 44 **Universal Audio UAD-1 Ultra PAK Plug-Ins and Card**
by Rob Tavaglione
- 46 **Rupert Neve Designs Portico 5042 'True Tape' Emulation and Line Driver**
by Rob Tavaglione
- 50 **Lucid GENx192 Master Clock**
by Stephen Murphy

BROADCAST

- 52 **Aphex Systems 240 Dual-Channel Gated Compressor**
by Stephen Murphy

DEPARTMENTS

- 6 | **PUBLISHER'S PAGE**
Digital This, Digital That
by John Gatski
- 54 | **BUYERS GUIDE**
Studio Processors
- 66 | **SINGLE SLICE**
Daughtry "It's Not Over"
by Strother Bullins

Evaluating audio products for professionals in commercial recording, broadcast production, audio for video/film, project studios, live sound, contracting and multimedia.

Bosch Communications Systems

EV Electro-Voice

DYNACORD

TELEX

RTS

MIDAS

KLARK TEKNIK

Bosch Communications Systems – a business unit of Bosch Security Systems – is now one of the world's leading manufacturers and suppliers of professional audio, wireless, life safety and communication equipment. Bosch Communications Systems offers complete system solutions for the world's most critical, high-profile installations and events.

BOSCH – Professional Public Address, Voice Alarm and Conference products and systems.

Dynacord® – Celebrating 60 years of preeminence in pro audio design and manufacturing.

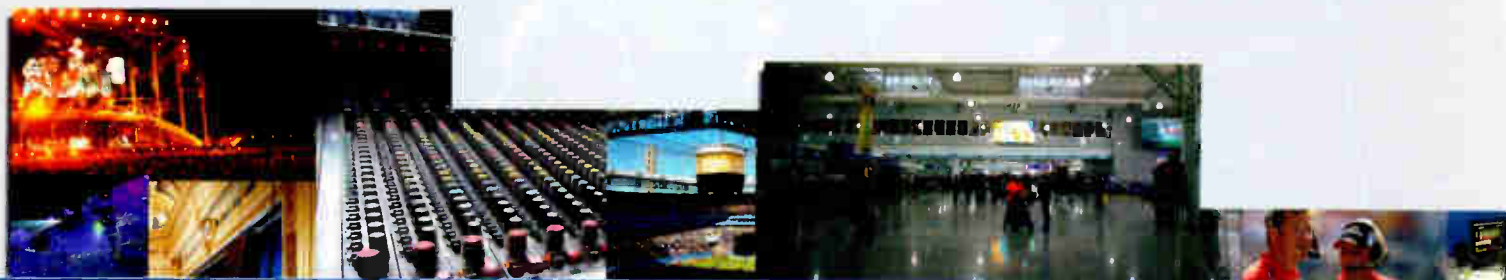
Electro-Voice® – Celebrating 80 years of complete professional audio solutions.

Klark Teknik® – Raising the standards of sonic quality through continual research and development.

Midas® – Innovation in design, engineering and sonic quality in both the analog and digital realm.

RTS® – More broadcasters use RTS® for live production than any other.

Telex® – Over 75 years of mission-critical communications solutions.



Together, the future sounds secure.

Loudspeakers • Amplifiers • Electronics • Microphones

Life Safety • Intercoms • Aviation Headsets • Dispatch • Land Mobile

Mixing Consoles • Signal Processing • Conference Systems • Voice Alarm

Digital This, Digital That

You, the reader, may notice in this issue a couple of new feature articles that go beyond the normal cadre of *PAR* reviews.

First is the inaugural installment of Dan Wothke's "Worship Audio" column.

There has been a lot of buzz about audio at churches, synagogues, etc. over the past few years. We've even seen a plethora of dedicated magazines covering the niche.

Since its inception in 1995, *PAR* has always covered church audio. We have always

had engineer readers who worked with houses of worship to varying degrees. I have received letters and e-mails over the years from them, saying they use *PAR* as a guide to buying gear that works best in their particular installation.

Dan, who did our exclusive world premiere review of the MIDAS XL8 console in the December issue, is now doing this regular column that will explore various technical subjects pertaining to the rising sophistication of the pro audio in churches and houses of worship. (Talk about sophistication — the XL8 review was conducted from a church installation!) We've certainly come a long way from a podium mic/basic PA image of church audio.

TOURING GEAR PREVIEW

This issue is distributed at the NSCA convention, so Reviews and Features Editor Strother Bullins has done a great job on his 2007 Touring Gear Preview feature. He interviews major tour engineers and touring authorities about gear to be used (digital boards, of course), as well as tricks of the trade. Though there are different brands of equipment being used, the trends are obvious.

Speaking of live sound, our review of APB DynaSonic analog board is something to check out. Live sound engineer Andy Roberts, who does a lot of gigs in the DC area, says this board is incredible sounding and very user friendly. Yeah, I know there is a lot of action in digital, but don't forget

about analog. Lots of folks still swear by their rock-solid dependability and that analog sound. (Heck, I got a few of them myself.)

TIP OF THE MONTH

Those of you with MacBook Pro laptops may know this already, but working with the digital input/output requires you to use the Audio MIDI utility in the System 10 utility folder in order to synchronize your digital.

If you are working with A/Ds and D/As via FireWire, USB or the built-in optical connection (allowing up to 24-bit/96-kHz digital audio), you must set the sample rate for the system's digital input or output even if the editing/recording program's sample rate seems to be set correctly.

Let's say you are working with 24-bit/96-kHz audio files. The audio will be downsampled through the computer's default setting of 44.1 kHz if the Audio MIDI utility is not set to 24 bit/96 kHz.

I found this out when trying a new USB-connection converter. Initially, the digital output connected to the USB port of the Mac laptop converter did not sound as good as the S/PDIF input from another device playing the same exact audio. I later found that the Audio MIDI utility setting for the digital output was set to 44.1 kHz, not 96 kHz. The audio therefore was downsampled to 44.1 kHz in the laptop then fed to the converter, resulting in a sound that was definitely not high res. Once I figured it out with a little help from the converter company the USB input sounded just as good as the S/PDIF coax connection from the other device playing the same audio. You live and learn!

John Gatski is publisher/executive editor of Pro Audio Review. He can be reached via email at jgatski@aol.com.

Evaluating audio products for professionals in commercial recording, broadcast production, audio for video/film, project studios, live sound, contracting and multimedia.

Publisher & Executive Editor:	John Gatski ext. 119
e-mail:	jgatski@aol.com
Assoc. Group Publisher:	Nick Humbert
e-mail:	n.humbert@audiomedia.com
Managing Editor:	Tony Ware ext. 126
e-mail:	tware@imaspub.com
Reviews/Features Editor:	Strother Bullins
e-mail:	strotherPAR@earthlink.net
Studio Editor:	Steve Murphy
e-mail:	smurphy@imaspub.com
Technical Consultant:	Tom Jung
Contributors:	Tony Angelini, Bruce Bartlett, Dr. Frederick Bashour, Frank Beacham, Wayne Becker, Carlos Garza, Will James, Bascom H. King, Daniel Kumin, Russ Long, Rich Rarey, David Rittenhouse, Andrew Roberts, Alan Silverman, Rob Tavaglione, Mark Ulano, Roger Williams, Tom Young
Production Director:	Davis White
Ad Traffic Manager:	Lori Behr
Publication Manager:	Michelle Norman
Product Showcase/ Classified Coordinator:	Linda Sultan
Graphic Designer:	Lourdes Lilly
President:	Stevan B. Dana
CEO:	Carmel King
COO:	Mariene Lane
Editorial Director:	Carter Ross
Sales Director:	Eric Trabb
National Sales Mgr.:	Matt Rubenstein
Ad Coordinator:	Claudia Van Veen ext. 154
Circulation Manager:	Kwentin Keenan ext.108

Extensions refer to office number 703-998-7600



PRO AUDIO REVIEW (ISSN 1083-6241) is published monthly by IMAS Publishing Group, 5827 Columbia Pike, 3rd Floor, Falls Church, Va. 22041. Subscription information can be found at www.proaudioreview.com, by calling 703-998-7600 or writing to the above address. Letters to the editor are welcomed at the above address or par@imaspub.com.

Phone: 703-998-7600 | Fax: 703-998-2966

Periodicals postage paid at Falls Church, VA 22046 and additional mailing offices. POSTMASTER: Send address changes to Pro Audio Review, P.O. Box 1214, Falls Church, VA 22041.

©2007 by JRS Publishing, Inc. All rights reserved.

REPRINTS: Reprints of all articles in this issue are available. Contact Emily Wilson (ext. 110) at Pro Audio Review.

Printed in the U.S.A.



CHOOSING SPEAKERS

My name is Sebastien, a.k.a. Imanseb. I live in France and read the Alesis M1 620 review by Strother Bullins on *ProAudioReview.com*.

My question is: Is the M1 620 good for production for reggae, dub and electronica, or would the M-Audio BX8A or the Prodipe Pro 8 be a better choice? I currently produce and mix with Jamo 500 compact hi-fi speakers. I have very little money to spend.

Imanseb

www.shashamane.fr

Strother Bullins replies: Making the move from your current speakers -- which I understand are 4-inch woofer/2-inch tweeter monitors with a thin 3-inch depth -- to any proper studio monitor should make a notable improvement in your production environment. Luckily, the pro audio market offers a variety of low-cost (under \$600 MSRP USD per pair), high-performance, powered studio monitors, including the aforementioned Alesis M1 620 and M-Audio BX8A, among others.

Yes, the M1 620 and its 6 1/2-inch woofer should give you what you need, but the M-Audio BX8A has an 8-inch woofer and is a very good performer. So if low-end is your thing, the BX8A would most likely be a better choice than the M1 620 (for the same money). The Samson


Resolo 80a is another neat powered model with an 8-inch woofer, is most definitely priced right (under \$550 MSRP USD per pair) and sounds good for the money.

The Event Tuned Reference 8XL is also worth consideration. It offers an 8-inch woofer and -- judging from the genre-specific high performance of its big brother, the hip-hop/reggae/dancehall-friendly Event ASP8 -- it may work very well for you. Finally, don't overlook the Tapco S-8, a comparable model that offers Mackie lineage at the right price.

I am not familiar with the Prodipe Pro 8, but judging from its most obvious specs -- an 8-inch woofer and 140W bi-amped power -- it should be worth a listen and comparison to the models I have mentioned above.

My advice? If you can audition your selection before you buy, please do; bring several varied and familiar mixes to a nearby store for some quasi-critical listening on as many similar studio monitor models as possible, or -- after researching and comparing specs as much as you can -- at least make your purchase from a retailer with a generous return policy. After all, studio monitors are the last line of defense in the battle against bad mixes, so they should be one of the strongest components of your studio. Buy the best for your budget and please don't get stuck with something you don't really like all that much.

Feedback: We want to hear from you. Send your comments to jgatski@aol.com.



DIGITAL EDITION
OF PRO AUDIO REVIEW
NOW AVAILABLE

Pro Audio Review is now available via Internet delivery. To get your free digital subscription (and renew your print subscription), go to: www.proaudioreview.com/subscribe and fill out the form.

To check out an on-line demo of the digital edition of Pro Audio Review, go to: <http://www.proaudioreview.com/digitaldemo>

DAWN OF A NEW ERA

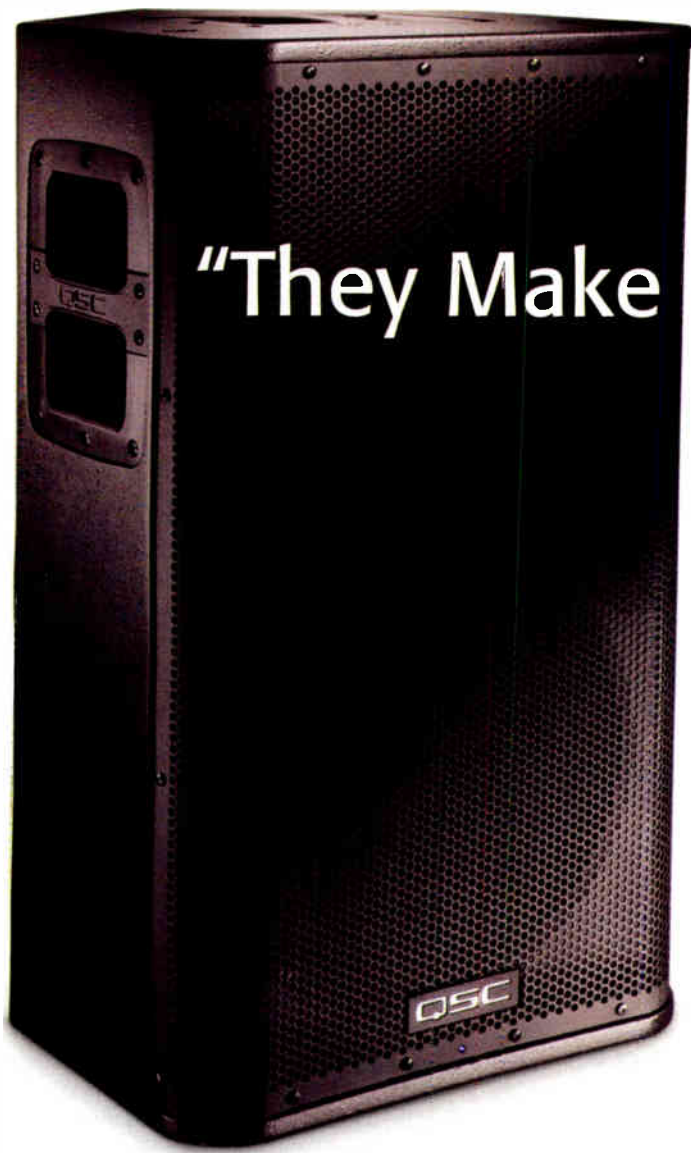
All-New B & C Series Microphones

- Improved Sonic Characteristics
- Increased Signal to Noise Ratio
- Added Functionality
- New "Halo" Suspension
- Sleek New Look



Studio Projects®

Visit www.studioprojects.com for more information



"They Make Me Want to Sing"

Inspiring performance. Inspired engineering.

QSC's **New HPR122i** is so musical, powerful and natural sounding it reminds you why you're an entertainer. Driven by a 500 watt module based on the #1 selling RMX series amplifiers, the HPR122i delivers stunning accuracy and legendary QSC reliability.

The good looks of the rigid, tour-grade birch ply enclosure let your audience know they are in for a professional performance. And high-tech, neodymium magnet speaker technology takes weight out while leaving power handling and sound quality in.

The HPR122i is at home in main PA, stage monitor or flying applications so it can handle whatever the gig gods throw your way. Inspiring performance and inspired engineering – that's the HPR122i. Hear it at your favorite, authorized QSC dealer.

For more information click online at qscaudio.com



QSC™

Powered Speaker Simplicity, QSC Reliability

VISIT US
ONLINE!
6 year
warranty
offer

by Andrew Roberts

APB-DynaSonics Spectra-T Analog Console

This sound reinforcement board offers impeccably crafted dynamics and integrity

There are those in the sound reinforcement field who think that the analog console is primed to go the way of the steam locomotive; they claim that the hammer of technology has started to attach the coffin lid on our old analog friend. But we may want to check with the folks at APB-DynaSonics before the analog console is interred. They have founded an upstart company based on one premise: building premium analog consoles.

Chuck Augustowski, John Petrucelli and Taz Bhogal founded APB in late 2004 (the company acronym comes from the first letter of their respective surnames).

And their impressive collective experience furthers the capability and integrity of the modern analog console.

FEATURES

APB to date produces two variations of the Spectra model: the T and the C. The principal difference between them is the channel EQ.

FAST FACTS

APPLICATIONS:

Live sound, houses-of-worship, theaters, clubs

KEY FEATURES:

Fully sweepable highs and lows on the channel EQ; four dedicated stereo strips; 10 auxes; eight VCAs; four matrix outs; LCR+Mono main outs; Burr-Brown mic preamps

PRICE:

Starts at \$15,500

CONTACT:

APB DynaSonics Inc.,
☎ 973-785-1101,
➤ www.apb-dynasonics.com



The T has fully sweepable highs and lows, while the C has more limited EQ options with selectable frequencies for the same ranges. The console can be framed from 24 - 56 mono channels. I evaluated a 24-channel version of the Spectra-T (\$15,500 as reviewed)

The chassis size of my review unit was only 31.17-inches deep, 9.75-inches tall, 47.57-inches wide and 125 pounds, yet this console has an incredible feature density. It is a very comprehensive desk with features that should appeal to pro engineers at either end of the snake. It has full-featured mono channel strips, four dedicated stereo strips, 10 auxes, eight VCAs, four matrix outs and LCR+Mono main outs.

The Spectra-T's mono input channels feature Burr-Brown preamps, XLR and 1/4-inch TRS inputs, a direct out (1/4-inch TRS) and an unbalanced insert point (1/4-inch TRS). There is a line switch on the strip that can select either the XLR or 1/4-inch TRS inputs as line level. There is also an individual phantom power switch, a pad switch (-26 dB), a polarity reversal switch, an input gain control and a direct out pre-switch. There are several options as to where the signal can be tapped when pre is selected for the direct out: at the mic pre, the insert send (post-HPF) or pre-fade/post-EQ & insert.


The Spectra's EQ section features a sweepable high-pass filter (20 - 400 Hz, 12 dB per octave) that can be activated via pushbutton. The insert point is downstream of the HPF, so

the HPF is followed by an insert activation button. The high frequency control sweeps from 800 Hz - 16 kHz with up to 15 dB of cut boost. It also has a switch to choose either a shelf- or bell-type EQ. It should be noted that the high and low EQ controls feature a variable width when in bell mode. That means the Q BW is wider on boost (where you are more apt to be adding coloration) and narrower on cuts (for more precise feedback control or resonance reduction). The hi-mid control ranges from 400 Hz - 8 kHz, also with 15 dB of cut/boost. The

hi-mid, similar to the high and low controls, has a pushbutton to narrow the width from 1 octave - 1/3 octave. The low-mid ranges from 100 Hz - 2 kHz and has comparable range and width functions to the high-mid. The low frequency control ranges from 20 Hz - 400 Hz and, like the high control, has 15 dB of cut/boost and a shelving/bell switch.

The auxiliary section on the Spectra is very flexible. It has 10 sends with four of them being straight mono and the other six able to be grouped in stereo pairs. Atop the Aux section are two switches for pre-source selection. This means you can choose between pre-fader and pre-EQ for your pre-source aux sends. It should also be noted that the default pre-EQ source is set to post-insert. It can be configured, however, to be pre-insert or pre-HPF. You'll also encounter sends 5 through 10 grouped in pairs. Each pair has a stereo button that converts the top send in the pair to a pan control and the bottom send to a gain control.

The channel's main bus assignment can send the post fade input signal to either a L-R/C configuration or LCR. The pan control in L-R/C mode acts in standard fashion to allow operation in conventional stereo mode or mono. The pan in LCR mode converts to a blend control. Hard left sends the channel's signal only to the left buss. Twelve o'clock sends it only to the center buss and full right only to the right buss. This would be useful in a house-of-worship scenario where the PA had



independent left and right clusters (for music) and a center cluster (for speech).

The channel fader is a 100 mm VCA slider that operates in tandem with eight VCA group assignment buttons, four mute group assignments, a local mute switch and a small 6-segment LED signal display. The local mute switch is internally illuminated (nice!) and is adjacent to an LED indicating a remote mute when one of the mute groups or VCAs is muted (super nice!). The section also features an internally illuminated solo button and a VCA status LED.

There are four stereo channels on the Spectra-T. They have balanced TRS inputs (left and right) and a pair of unbalanced RCA inputs. These left and right inputs can be treated as stereo pairs or as two distinct mono signals as the strip has a switch for split track operation (where each side of the incoming signal can be treated differently with regards to blending and aux distribution). The stereo channels have a scaled back EQ section with three fixed bands and a variable low (switched between 60 – 120 Hz). Aux distribution, post-fade routing and the fader section are all similar to the mono channels.

The Master section on the Spectra-T has an impressive array of controls. As mentioned before, the board has eight VCA groups, each with a 100mm fader. Add these to the similar faders for all the aux masters and the main output and you have a lot of VCA faders on a small patch of real estate. The board has a 15 x 4 matrix that is remarkably flexible. It should be noted the matrix and main output all appear on balanced XLR connectors (which are mirrored to allow easy access to the cable release tabs) and have insert jacks, too. The board has mono alternate outputs (good for feeding broadcast media) and alternate stereo record outputs. The Spectra also has a powerful bevy of headphone monitoring features and a very impressive bank of master LED ladders. The board, in a nod to pro users, comes with onboard redundant power supplies. It also features true modular construction, allowing easy component removal for servicing.

| IN USE

My first use of the Spectra-T was a recording for TV broadcast. We used the board to mix an orchestra and choir to a two-track feed. We were very impressed with the clean images and ample headroom the board displayed with a slew of condenser mics and a line-level feed from a pricey stereo tube mic preamp. I felt like the console's preamps rivaled those of the designer outboard piece.

I next passed the console off to my colleague Trevor Higgins for a tough sound reinforce-

ment assignment. He was mixing a large orchestra made up of Russian stringed instruments (balalaikas, domras, etc.). This group can be technically challenging, but midway through the job he sent me a text message stating, "Hassle factor 3, love of console 10." Say no more. He said the board provided a brilliant house mix, an awesome aux-fed stereo recording and two stage monitor mixes with ease.

I later got to use the desk with my standard PA and a familiar dance band. I know my rig and this band very well. It therefore was shocking when 30 seconds into sound check I realized that my PA could sound so much more impressive. It was like night and day; the clarity and dynamics of my system were noticeably improved. Herein lies the most impressive feature of the Spectra-T: It sounds awesome, and I don't use that word lightly. Rarely has a review product made such an immediate, powerful impression on me.

We used the APB a couple weeks later as a monitor desk for the band the Klezematics, a veteran NY band doing music in the folk/Klezmer genre. The Spectra-T performed wonderfully tackling six wedge mixes and an IEM mix, leaving smiles plastered on the face

of the engineer and the band.

My only beef with the test unit was that it had unbalanced inserts; the now available Spectra-Ti and Ci, however, feature separate, balanced send and return jacks on all insert points. I was also a bit baffled about how to get the talkback mic input to route properly. I actually had to look at the manual!

| SUMMARY

There are many features I enjoyed using on the Spectra-T: the variable EQ width, the mirrored XLR outputs, the flexibility to shift from FOH to monitors and the powerful matrix are all wonderful. They are all trumped, however, by the fact that this board — I'll say it again — sounds awesome. The signal path has been impeccably crafted, so much so that it could possibly make you forget about things like recall and onboard dynamics. If this board proves to be reliable and the APB name becomes rider friendly, then you should be seeing the Spectra for a long time to come.

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

THE PERFECT MIX

hear back.

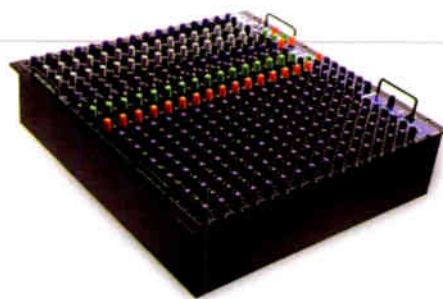
- Unlimited system size
- Local control of eight channels (stereo mix and six "more-me's")
- ADAT, analog, HearBus inputs are switch-selectable from front panel
- Built-in DSP Limiter with threshold adjustment



- Master Volume
- Stereo AUX In
- Balanced Line-Outputs
- Built-in Mic Stand Mount
- Standard CAT5e power

mix back.

- Affordable, flexible 16x12x2x2 monitor mixer
- 16 Mic/Line inputs each with passive split and two stereo and twelve mono level controls
- Pin 1 lift and Mic power switches per channel
- Dual switch-selectable effects sends
- Stereo Aux inputs
- Channel Inserts
- Four-band EQ with dual sweepable mids
- Talkback with intercom and optional remote
- 16 master outputs each available as analog, ADAT, and HearBus



www.HearTechnologies.com

1-256-922-1200

© 2007 Hear Technologies. All rights reserved.



by Dan Wothke

Neumann KMS 104

This latest live mic is a well-designed, great performer and worth the price

Neumann is arguably the most recognized microphone name in the business, so when I heard about the KMS 104, the company's newest live vocal microphone, I immediately took notice. And I soon experienced the cardioid KMS 104 (\$849), plus its predecessor, in a comprehensive evaluation proving Neumann's latest for live does not disappoint.

FEATURES

My first impression upon opening the package containing the Neumann KMS 104 (and the accompanying supercardioid KMS 105) was the high quality of the microphones. Both microphones are built to handle road rigors and come with a clip plus padded case for protection. Each weighed in at a comfortable 300 g (about 10.5 oz), which is comparable to other popular handheld microphones; each microphone's weight is evenly distributed.

The KMS 104 and KMS 105, besides their differences in pickup pattern, share the same tech specs: each mic requires 48 V phantom power, offers 20 Hz – 20 kHz frequency response, has a rated impedance of 50 Ohms and provides a maximum output voltage of 12 dBu. Maximum SPL for THD at .5 percent is 150 dB. Other notable design stats include an invariable, built-in high-pass filter with a cut-off frequency of 120 Hz, dynamic range of 132 dB, self-noise level of 18 dBA and a transformerless output circuit.

Handling noise is nominal due to solid shell design and isolated electronics; each microphone has a grommet around where the diaphragm touches the body, and foam inserts on the PCB at the point of contact to absorb handling noise. The PCB for both microphones consist of no user serviceable parts, as the components are surface-mounted and have a layer of

clear coating over the components. There is a small green LED indicating phantom power is present, but this is not visible from the outside of the microphone. The only thing that could be repaired is the wiring between the PCB and XLR connector although due to the robust construction, I can't imagine why this would be an issue.

Another attribute to the KMS Series design is its internal pop filtering. This is accomplished via different means for the KMS 104 and its older sibling, the KMS 105. The KSM105 has three different level of screens designed to protect the diaphragm element and also combat plosives. The first two are equal in strength, but the pattern is smaller as the screens are closer to the element. The third is a small plastic-framed screen that surrounds the diaphragm. The KSM104 uses an outer screen internally lined with 1/2-inch to 3/4-inch foam and a small cap over the actual diaphragm. Both mics have a very thin, screened fabric directly over the diaphragm.

IN USE

Both microphones were primarily reviewed on male and female vocals in a live, on-stage configuration featuring in-ear monitors; later, another female vocal was used for a second evaluation with a different signal path. The primary signal path for the main live setup was straight into a Soundcraft K2 microphone pre-amp and

some sidechain compression via a Presonus ACP88, which helped manage some of the more piercing high-mid to high frequencies.

The Neumanns' high-pass filters at 120 Hz eliminated much of the low-end associated with proximity and extraneous noise. I am very used to automatically reaching for the HPF on the EQ and immediately applying a high-pass shelving EQ at 80 Hz; this was not necessary with the Neumann microphones.

The microphones' sweet spots are within two inches and directly in front of the diaphragm, although minimal off-axis movement does not result in a noticeable loss of signal. SPL handling at full voice was never an issue for the microphones with any vocalist during the evaluations.

FAST FACTS

APPLICATIONS

Live, Studio

KEY FEATURES

Cardioid pattern; well-built, road-worthy craftsmanship; clip and padded case

PRICE

\$849

CONTACT

Neumann USA | ☎ 860-434-5220
 ☞ www.Neumannusa.com

Belmont Church occasionally uses a hot-spot monitor, so I did some testing with the hot spot at approximately a 30-degree angle towards both microphones' diaphragms. There was never a risk of feedback at any frequency, even with the hot spot set at a high level. I had to deliberately place the microphone directly in front of the hot spot to even flirt with feedback. Bleed from other voices, instruments and sound sources were minimal as off-axis rejection worked fine with both models.

A male vocal sounded great on both models: very clear, crisp tones without any hype except for some welcomed openness on the top end. This enhancement was more apparent with the KMS 105 and was a nice addition to the natural timbre of the singer's voice.

The KMS 104 during the first evaluation was also used on a female vocal singing in mostly the soprano range. It had less high accentuation than its counterpart, and her voice required a bit more EQ to warm up her tone. A second soprano female voice had a signal path featuring a Summit 2Ba-221 tube mic

NEUMANN continues on page 14 ►



The KMS 104
 Photo credit: Randi Anglin.

“The Serato Rane Series Dynamic EQ is fantastic. This is one tool I want to take with me **everywhere.**”



:: GREG NELSON, FOH: Pearl Jam and Incubus

AVAILABLE IN YOUR CHOICE OF FLAVORS - **SOFTWARE OR HARDWARE**

	
<p>serato™ RANE SERIES COMPRESSOR TDM Plug-In</p>	<p>RANE C4 QUAD COMPRESSOR with Dynamic EQ</p>

www.serato.com

www.rane.com

IN THE CONSOLE OR IN THE RACK

NEUMANN Continued From Page 12

| SECOND OPINION

The KMS 104 to my ears is slightly brighter on vocals compared to the KMS 105. The KMS 105 got pretty muddy any closer than three inches unless you had a very thin voice. Both the KMS 104 and 105 share that response due to the proximity effect. You should get better results if you take a look at the published frequency response curve of both mics and dial in an EQ curve to counter the proximity effect. I applied a low shelf starting at 500 Hz and found that I could suck out the woofiness.

The stock KMS 105, owing to its supercardioid pattern, has a slightly more focused hot spot than the KMS 104. Most supercardioids pay for this with floor monitor problems if the monitors somehow end up in the rear lobe of the mic. I don't hear much of a difference off the back of these two mics at vocal frequencies, although I can clearly hear the difference around front.

The KMS 104 is mildly more pop sensitive than the KMS 105. The headgrilles are exchangeable, so I swapped them to see what

if it would have any effect on the frequency response of each mic. Putting the KMS 104 headgrille on the KMS 105 took off a bit of top end, making it sound smoother or less peaked. The KMS 105 lost a bit of low frequency response when I put the mechanical filter from the KMS 104 on the KMS 105.

| PRICE VS. PERFORMANCE

The KMS 104 is priced beyond what many people think they can afford in a world of basement mics but isn't that far out of reach for those who have found that they can't afford to buy cheap. The KMS 104 — at \$649 street like the KMS 105 — may not be for you if you're living out of a van and tossing your gear in and out with little regard for its lifespan or have a crappy PA that kills everything that goes through it. My advice, however, is to try them for yourself, fairly comparing them with what you now use. You may find that the price becomes less important after hearing them.

— Ty Ford

preamp rather than the K2 preamp in the next evaluation. This KMS 104/2Ba-221 combination proved, as expected, to be even more favorable as the right blend of tube helped soften some of the "harsher" frequencies.

I should note that both microphones' internal pop filtering features proved to be extremely useful. It virtually eliminated plosives, yet allowed sibilance to naturally pass through.

| SUMMARY

I must give credit to Neumann. You can always bank on the fact that they make leave budget lines to other manufacturers. The introduction of the KMS 104 should make Neumann's recognizable logo even more popular at the forefront of the stage, and likely spawn a true live standard. The KMS 104 continues the Neumann tradition in high-quality design and performance at a worthwhile price.

Dan Wothke began his journey as a musician and naturally progressed to exploring audio engineering. He has since accrued over 10 years of studio, live sound and technology experience. Dan currently runs the gauntlet of all things media in his role as Media Director at Belmont Church in Nashville.



PUT YOURSELF IN THE MIX

Would you like to mix concert sound like Conservatory graduate Eddie Mapp for Evanescence, Staind, POD and Zakk Wylde? What about winning a Grammy for Radiohead's 'Hail to the Thief' like Darrell Thorpe? Thousands of audio recording professionals have graduated from the Conservatory to work in a career that they had only once dreamed about. With your passion and our training you too could be working as a recording engineer, mixing sound for motion pictures and even touring with bands as their Front of House engineer. When it comes to audio... WE ARE THE EXPERTS. LET US HELP YOU GET IN THE MIX.

**CONSERVATORY OF RECORDING ARTS & SCIENCES**

2300 E. Broadway Rd. | Tempe, AZ 85282

1205 N. Fiesta Blvd. | Gilbert, AZ 85233

1-800-562-6383www.audiorecordingschool.com/pro-audio.html

NEW REALITIES IN AUDIO

With the introduction of the AV-M8 and AV-P2, Aviom delivers new solutions for audio distribution and networking, saving system designers and contractors precious time, money, and labor.

REAL TIME

All Aviom products run over inexpensive, easy-to-install Cat-5e cables, and installation is simple plug-and-play. No drilling for conduit, no heavy copper to lay, no mess, no cleanup. So you can finish the job on time (or even ahead of schedule), make your clients happy, and move on to the next project.

REAL SAVINGS

In addition to saving installation time, those who specify Aviom's AV products get the inside track on winning more jobs through lower labor and material costs on bids and specs. Come in with the lowest price, win the project, and move quality audio easier and faster than ever before.

REAL APPLICATIONS

The AV-M8 is ideal for audio distribution in boardrooms and conference rooms, while the AV-P2 makes a difference in a wide range of venues, including convention centers, hotels, airports, and sports facilities. With the speed and agility of A-Net® at their core, these new products are built for the reality of today's most demanding audio applications.

New AV-P2 OUTPUT MODULE



- Provides 1- or 2-channel analog output from a Pro16™ A-Net® stream
- Independently selectable output levels for left and right channels
- Optional power over Cat-5e using a Pro16 A-Net Distributor
- Latching Euroblock connectors
- 48kHz, 24-bit D/A converters

New AV-M8 MIC MODULE



- Converts 8 analog audio channels to a Pro16 A-Net digital stream
- ADAT In and ADAT Out for cascading two AV-M8 modules
- Per-channel gain control, +48V phantom power, and low cut filter
- 20dB switchable pad (Channels 1 and 2)
- 48kHz, 24-bit A/D converters

THE REALITY OF AUDIO TRANSPORT

Connectivity is essential in any systems environment. All Aviom products are activated by A-Net®, the world's fastest audio transport technology, designed specifically for the unique demands of streaming audio.

For more information visit www.Aviom.com/AV

AVIOM

How the Pros Gear Up for Tour

By Strother Bullins

Diligent readers of *Pro Audio Review* doubtlessly are abreast of the latest audio products designed for live sound use and, more specifically, the touring market.

Those who look to each edition of *PAR* naturally are supplied with a litany of gear announcements and in-depth reviews that directly speak to the gear-dependent audio professional. This month, however, we augment our regular live sound coverage with the opinions, choices and insightful commentary of six notable touring/tour sound professionals who, over the years, have used, abused, championed and occasionally dissed a comprehensive array of audio gear.

Pete Keppler works front-of-house for Nine Inch Nails; Brad Madix, front-of-house for Shakira; Lee Moro, front-of-house for Norah Jones; Ed Pratt, owner of Pratt Sound, Inc.; Chris 'Hoover' Rankin, front-of-house for +44; and James Towler, front-of-house and studio engineer for Steve Winwood. Here, this group reveals some interesting facts about touring gear selection in 2007, as well as a few details about what makes each of their gigs both unique and fun.

ALL-DIGITAL FOH MIXES

All five of these FOHs currently on the road -- collectively covering everything from mid-sized clubs to very large arenas -- are

using digital mixers; additionally, Pratt regularly recommends the use of digital mixers to nearly all his touring clients. Digidesign's VENUE flagship mixer, the smaller D-Show Profile and Yamaha's PM5D comprise the five FOH's choices, and Pratt's "big" consoles regularly provided for tours are the Yamaha PM5D and M7CL.

Nearly everyone noted that their increasingly complicated and intricate mixes needed what only a digital desk could provide, while the Digidesign users openly gushed about bringing Pro Tools|HD rigs on the road for numerous purposes. Most have made the permanent jump to digital live mixing, though first-time digital live mixer Rankin attests that he still enjoys mixing analog, his board of choice being a Midas XL4.

RECURRING THEMES

Reasons for moving to live digital mixing vary in this bunch, but several recurring themes justifying the choice arise throughout the following interviews. There is the increased acceptance of using plug-ins (rather than hardware-based outboard processing) at FOH; the clear convergence of live sound and studio recording technology; more festival-style (multi-act) tour stops; more tours spanning the range of venue types and sizes; and the desire to decrease gear weight and footprint.

These points may seem to dictate main-

ly console selection, but they also directly affect other gear choices; better and more flexible line-array and DSP systems are sought after while heavy outboard racks are increasingly left at home. It should be noted that these pros didn't spend a lot of time discussing various line arrays, speaker enclosures and so on, but they all agreed that the choices in the marketplace were better than ever.

"The technology has gotten to the point where everything is pretty good," insists Pratt, referencing systems offered by the bevy of line array manufacturers in the marketplace. "It's like having a restaurant in San Francisco: if you're not good, you won't make it. If you don't produce a good line array, you wouldn't be playing in the market."

ON WITH THE SHOW

Pratt, even as he praises the choices available to live sound professionals, quickly gets right back down to earth and the realities of modern touring. "No matter how convenient live audio technology gets, a live sound engineer on tour will still be in a new environment every day," he says with wise inflection. "There will always be a new, boomy room the next day and more than enough acoustical anomalies to deal with. That, not the gear, will always separate the men from the boys in a tour setting."

Brad Madix, front-of-house for Shakira

● ON THE DEMANDS OF MIXING SHAKIRA'S INPUT-PLENTIFUL TOUR:

"The main challenge for me is to mix a large number of instruments in a Latin Rock genre around a fairly delicate vocal. There are many moments where the band is playing what is essentially hard rock with Latin elements. Preserving the nuance of the vocal can be tricky in these situations. As she put it to me once, it's like, 'Norah Jones singing for AC/DC.'

"There is also a moment where Shakira goes to a 'B' stage out in front of the PA. Of course, this changes the gain-to-feedback balance to a large degree and we have to deal with that every day. We overlay a separate EQ curve for that part of that song, then just ride the edge. Very exciting!"

● ON FAVORITE ASPECTS OF HIS RIG:

"We're using Digidesign Venue desks for both FOH and monitors. There is little out-board processing going on at FOH. I use the Clair/Lake Technologies I/O to EQ the vocal and that's it; it functions as a feedback-buster only. All the rest of the processing are plug-ins. My current favorite is the Crane Song Phoenix, which I'm using in a number of different ways in a number of different places. It really tends to move instruments forward in the mix without sounding compressed. Nearly all of the monitoring on the stage is in-ear, though there are fills here and there. This is pretty helpful with the vocal sound, of course. The main system is a Clair Brothers i4 rig."

● ON HOW VENUE HAS INFLUENCED THE TOURING MARKET AND, SPECIFICALLY, HIS GIG:

"VENUE was a pretty big leap forward, giving engineers access to many of the tools currently used in the studios that their clients are working in. Digidesign's addition of the D-Show Profile makes the package even more compact, which is something I think is a step forward. I expect that there will be more to come from a number of vendors, but these trends will continue.

For us, the PT|HD recording ability



has been invaluable, especially in rehearsals. There is nothing like sitting with the artist and listening to playback as opposed to giving the artist a CD of a board mix, then getting her comments the following day. Being able to make changes that affect the mix while sitting together really speeds the process and helps to arrive at a mutual understanding of what is desired and possible."

Touring Gear continues on page 18 ►

Chris 'Hoover' Rankin, front-of-house for +44

(featuring former Blink 182 members Travis Barker and Mark Hoppus)

ON "GOING DIGITAL" FOR THE FIRST TIME:

"I've been using the Yamaha PM5D on this project, and have been really happy with the console's ease of use. It's really flexible, and it works very well for us in the variety of venues we are in. With size constraints, it's very helpful to have



that board.

"Before, I used a Midas XL4. I like its analog warmth, which the digital realm still lacks; I have yet to hear anything digital that has the kind of warmth and depth in low-mids and midrange that you get from analog. There have been great strides and improvements in digital live consoles, and it's a lot easier for me to listen to a digital console today. But, when you stack them up side by side, I still prefer the analog warmth to ones and zeroes.

"We also went digital for this project because it's a bit more complicated than what these guys had done in the past. We wanted flexibility to recall scenes for completely different sounds and elements that may arise as the project progresses."

ON CHOOSING THE PM5D:

"At this point, it seems to be the workhorse of the industry. With the festival shows that I had anticipated us doing — which has come to pass — I tried to pick something that seemed to be a standard of the live realm. The PM5D seems to have

populated most rental company stock at this point. That and the fact that it has a small footprint made it very attractive.

"The band is in the startup stage right now, and not having to carry our entire production was attractive. With the console, we have the audio consistency we need and can plug into what is available. In the club world and mid-level touring range, you have to be realistic, bringing as much consistency as budgetary constraints allow."

ON MOVING BACK TO ANALOG:

"Midas and Yamaha analog consoles would be my analog board choices for sure, but I look at my choices as very gig-specific; I'm not locked in to anything in particular. With this tour, we thought we might need completely different sounds and scenes, so being able to recall those with the touch of a button was extremely attractive."

ON SELECTING MICROPHONES:

"I've looked at a variety of mic packages, but I find myself coming back to my tried-and-true Shure package. On Travis (drums) we're using an Audix D6 for the kick, which is the only Audix for this particular project, although we use Audix mics on some of his other projects. In this configuration, I close mic the bottom heads — he's very articulate with his cymbal work, so we've been very successful using Shure SM98 on toms and floors. I'm also using SM57 and SM81 for snare top and bottom. Guitars are KSM32s and SM57s."

ON DAY-TO-DAY, RIG-TO-RIG CHANGES ON TOUR:

"Obviously, we have preferred vendors, but sometimes you're locked in to whatever the promoter has provided. I find that allows me to broaden my horizons; I try not to close myself off from anything. We all know that you need some sort of crossover/processor system, amplifiers and all that, and I accept it as a challenge to take a house system or the 'system du jour,' so to speak, then tweak and manipulate the components to get the desired sound."

James Towler, front-of-house and studio engineer for Steve Winwood

ON THE PRO TOOLS CAPABILITIES OF THE D-SHOW PROFILE:

"For the past five or six years, we've multi-tracked all of Steve's soundchecks and shows. I was using Mackie HDR recorders and would spend four hours a day transferring the data. We've been using Pro Tools in the studio for the last ten years, so the sheer integration of an PT|HD rig with the new console is absolutely fantastic. And compared to a proper VENUE, the D-Show Profile is exactly the right size for us; it'll go in a trailer on the back of the bus!"



ON CHOOSING AVIOM PERSONAL MONITORING SYSTEMS:

"I found that, for musicians, the Aviom system just makes better sense. Currently I am taking the analog outs into an Aviom system which distributes around the stage. But now that Aviom is developing the card to go into the VENUE system, it can work even better. As soon as that card is available, it's going straight into my rack."

ON OUTBOARD PROCESSING (OR THE LACK OF IT) ON THE ROAD:

"I've stripped all that away and I'm just using software now, which is so great. I've

James Towler continues on page 20 ►

www.yamahaca.com

"With total recall of every function and feature, I can concentrate on the mix and the show rather than wondering if all the knobs and switches are set right. I've been around the world with our PM5D's, and they sound great and work flawlessly every time."

— *Stan Miller*

Sound Designer/FOH Engineer – Neil Diamond

"As with any piece of equipment I work with, it has to satisfy my ears and my idea of what I need it to do, but ultimately it has to satisfy the artists I am working with. Perceptive artists deal in texture, mood, colors, feel and flow. Those things don't come from a work surface and a computer. They come from a real console. The PM5D is a real console."

— *Bernie Becker*

Recording/Monitor Engineer – Neil Diamond

Feedback.



Feedback. In the world of audio, a word with both positive and negative connotations. In the case of the PM5D, we're thinking positive. So are Stan Miller and Bernie Becker – longtime sound engineers for Neil Diamond. We asked, they answered.

PM5D

When you need help, time zones shouldn't matter. Yamaha provides coast to coast 24/7 technical support. With dedicated staff and regional service centers, assistance is around the corner. If we can't fix it over the phone, we'll put a part or a person on the next plane out. It's that simple.

YAMAHA
CO
commercial audio

Yamaha Commercial Audio Systems, Inc. P.O. Box 6600, Buena Park, CA 90620-6600 ©2007 Yamaha Commercial Audio Systems, Inc.

just designed a new rack with Andy Huffer at Marquee Audio; I'll now have a PT|HD 192 interface in my front-of-house rack with a set of Genelec 1029 monitors in there as well. Then I can actually monitor and mix back when I'm on the road. I can access the mixes from the night before, listen to the performances, decide if we may release it on CD ... it just speeds up every process."

Lee Moro, front-of-house/production manager for Norah Jones

● ON USING THE MEYER SOUND MILO RIG:

"I've been using Audio Analysts for the past four years with Norah, who supplies a Meyer Sound MILO rig. Coverage is a big thing for me; you want the back row to hear just as good as the front row without hurting the front row. The MILO has been tried and tested, and I was lucky enough to have it on its inaugural tour, so I had a lot of support from Meyer Sound. It's amazing what that box can do."



● ON MULTIPLE INSTRUMENTS AND MICROPHONE DEMANDS:

"A neat thing about Norah is that her show offers a fair amount of inputs. They do quite a bit of snowballing, where they're playing multiple instruments; Norah herself plays piano, electric piano, and acoustic and electric guitar. There are lots of different instruments, many with no pickups, so microphone selection means a whole lot. That's where using Neumann is very nice. I'm using a couple of the new TLM 49, the retro-style large-diaphragm that sounds amazing."

"You can't go wrong with the Neumann vocal mics for this type of music. Also, for female vocals, it's hard to capture the pristine top-end air in a live setting. But these microphones do it. I've used the KMS 104 already for all the promo and television stuff; it's real-

● ON THE COMPLIMENTARY SOUNDS OF THE ADAMSON LINE ARRAY:

"There are so many line arrays out there, and because of it, touring life has gotten much better. I do like the Adamson line array -- it's incredibly good. For Steve's music and its organ 'bass,' the Adamson system has the most appropriate smoothness down at the bottom end. The organ is a difficult instrument to use in a rock setting with no bass player, but the Adamson works very well for Steve's performance."

ly natural sounding and you can get a fair amount of level out of the monitors. Surprisingly, Norah has a fair amount of level coming out of her monitors! But with Norah's 'smoky' vocal, the KMS 104 recreates it better than anything else out there."

● ON CHOOSING THE BEST MIXER FOR THE JOB:

"In the past, consoles have been Midas from front to back -- an H3000 and an XL4 for a little while. The monitor guy will take a Midas H3000, but it looks like I'll take a Digidesign D-Show Profile. For the amount of inputs -- I'm in the high 40s without effects returns -- and the size of the venues, I'm probably over a 48-input console, which gets difficult physically just in getting it where it needs to be."

"Having the Digidesign allows us to bring a little Pro Tools rack out, plug a couple of cables in, and we're done. That whole concept is great. Before, you put a media box down for all your TV stations coming to take their snippets. Now, instead of just giving them L and R, you can create original mixes for them. There were all these new companies that wanted to come out to do webcasts and dealing with audio was a bit of a nightmare. Now it's like, 'Okay, here you go!'"

● ON DEMANDING AUDIENCES AND THEIR REFINED EARS:

"I think that people now expect a certain level of quality. With the invention of the home studio where people can create something that sounds good quickly and easily, the demo days of hearing a band in their garage with a tape deck are gone. People are more educated about audio and don't really hear junk audio anymore. They expect to hear something decent. Bad audio is not an option."

Pete Keppler, front-of-house for Nine Inch Nails

● ON HIS RIG:

"At front of house, I have a Digidesign VENUE that I've been using for the last two years. I'm also using a JBL VerTec large-scale line array with 24 4889 cabinets, 24 4880 subs, and a handful of smaller speakers from [UK-based] Adlib Audio. For monitors, we have the brand-new 'baby brother' of the VENUE, the D-Show Profile, which we like a lot."

● ON CHOOSING THE JBL VERTEC:

"It lends itself to rock and roll. I want to phrase this so that it sounds positive, because it is; the VerTec has an 'edge' that some other systems don't seem to carry. It works well for very close range situations up to full-on arena and outdoor shows where you have to throw 400 to 500 feet."

"One of the other reasons I like to use it is that it's one of the most versatile systems out there. We're working a lot of gigs from large clubs to arenas. In clubs, we'll flip the bumper bar over and load speakers on it upside down, putting up six 4889s per side. Then, the next day when in an arena, we'll have 12 per side flying from the roof. It seems to be the easiest system to do almost any room with as far as line arrays are concerned. The rigging goes up very quickly, and it's easy for the local crew to get their head around; it's not complicated."

● ON UTILIZING THE VENUE SYSTEM:

"I have a Pro Tools HD|3 rig out with us; we're recording 54 tracks with 48 inputs from the stage, another four inputs from audience mics, and the stereo mix from the console for reference. It works great -- you can flip it to the Pro Tools inputs and it acts as the mic inputs from the stage, so you can do soundchecks



without the band in a matter of minutes. Flipping the console takes only a minute; you can play back last night's show and get a feel for what the stage will be like.

"I used the Yamaha PM1D before the VENUE; I've been working on digital consoles for the past four or five years. Before that it was an assortment — anything from Midas 4Ks to the Yamaha PM4000. I've used a bunch of different Soundcraft consoles, too. But I don't find myself doing many tours with analog desks anymore.

"One of the reasons I like the VENUE's sound so much is because the mic amps are actually on stage. The signal for the microphone only has to travel about 50 feet before it sees A/D conversion. We

work for the subs, and directing low frequency energy around is great. I've used XTA and older BSS stuff, but the one thing that the Lake does better than anything else is just sound good, and you don't have to work that hard at it. There are limitless amounts of filters that you can put onto a curve, and, like the VENUE, give someone a few minutes with it and they can figure out how to use it. Plus, it looks really cool! Half of the sound is how it

looks, right?

"The newest Sennheiser E Series microphones — the e902 and e904 — are great and have been a real improvement over the original Evolution stuff. I'm using them on bass drum and toms. Elsewhere, we use run of the mill stuff, but we have some Shure KSM 32 for overheads. You'd have to see the show, but we don't really want anything too expensive up there. Things tend to go flying!"



have digital snake to the console. It really hurts the signal to run it 300 - 400 feet. You lose a lot like that. Another reason why I prefer this console over anything else are the plug-ins. I've been using Pro Tools since the late '90s and I'm very familiar with many of the plug-ins.

ON THE BLURRED LINES BETWEEN LIVE AND STUDIO WORK:

"As far as a convergence is concerned, I started that way; I've been mixing both live and in the studio since 1982. I bring a lot of what I do in the studio to the live performance end of things. And, especially as far as full-band tracking is concerned, I've also brought my live experience into the studio. But I do know that this console makes all that easier."

ON PROCESSING, MICS, AND MORE:

"I've been using the Dolby Lake Processor with this rig, which I absolutely love. It's one of the best sounding speaker management systems out there. The user interface is really easy to get around on; getting into the different parameters, delay

THAT[®] ON BOARD?

If you've never taken a look inside your favorite audio gear, you may not know THAT Corporation's analog integrated circuits are used in some of the very best pieces of pro sound equipment. Our seventeen years of audio innovation manifests itself in the sound quality of your gear's I/O, amplification, and signal processing. So, if you've got THAT On Board, you know you're getting the best sound available. Our new InGenius[®] line receivers and OutSmarts[™] line drivers set the highest standard for audio excellence. Ask for them in your next piece of audio equipment. You can hear the difference!

InGenius[®]
LINE RECEIVERS

OutSmarts[™]
LINE DRIVERS

And other fine analog integrated circuits from

THAT Corporation

Analog ICs for Pro Audio[®]

www.thatcorp.com

Ed Pratt of Pratt Sound, Inc.

(prattsound.com), a Salt Lake City-based professional sound reinforcement company

ON MOVING FROM ANALOG TO DIGITAL LIVE MIXING:

"Being a long-term guy in the audio business, I was originally reluctant to go into the digital world. Now I just can't go back. I did a gig with David Sanborn a couple of years ago, and his engineer — whose name now escapes me — said, 'If I was a sound company owner, I would've already bought my last analog console.' At that point, it was true. It's not that there aren't great analog consoles out there and people prefer them for a number of reasons, just like people prefer a Fender Twin Reverb amp with tubes.

"I don't think that an analog console can be the best choice for people anymore, but I guess

that, in smaller tour situations, it may be okay. For instance, we have a couple Midas Venice 320 desks; they came out just a few years ago and were miraculous — here's a Midas console that can fit on a tabletop! In the first couple of years in having them, those that didn't want a lesser Yamaha or Soundcraft MH Series asked for the Midas: 'Gimme the little Midas; I'll do my opening act on that.' The lead console may have been an H3000 — they sound really similar.

"The analog thing will live on for a long time in small consoles. But for our situations — we do a lot of festivals with four or five bands on a stage — the digital thing and saving scenes is really, really valuable. Prior to this time, we were taking two house consoles and two monitor consoles and, if there were more than two bands, everybody was charting channels and it was very frustrating to keep every-

thing together. In a big venue situation, where you have upwards of 32 channels, or a 48- or 64-channel console, I see no advantage in having an analog console except that some people

prefer the sounds.

"Once you get digital chops and learn how to cut and paste, there's no going back. If you're in a rush, you can, for instance, cut and paste hi-hat EQs to overheads and so on, then adjust accordingly. With digital chops, you can be much faster than you can on the analog console. Always.

"I wasn't a proponent of this two and a half years ago. Then I bought my first Yamaha PM5D."

ON HIS DIMINISHING INTEREST IN OUTBOARD PROCESSING:

"I used to scan the pages of catalogs and web pages to see what's new in the way of digital EQs, effects devices, and so on. But because digital consoles have all that stuff contained, my interest in outboard rack stuff has diminished. It's not that I don't like a lot of the stuff that's out there, but I don't need it as much anymore.

"Two years ago I bought the dbx 160SL, a very cool little limiter. Since then I've used it twice. Last year when we did the Doobie Brothers, we took the 160X limiters because their engineer is an analog guy and we put some of those in the inserts of the PM5D. But the PM5D, with its effects and graphics, is all most people will need."



PERFORMANCE:

iDESIGN is a comprehensive series of arrayable loudspeakers... so modular in design, an installer can quickly and easily create nearly any system design imaginable.

Modules are engineered to fit and function together; you make the choice of what coverage patterns to build and what sonic intensity or tonal emphasis is desired.

Choice is the foundation of iDESIGN; the most options of how to mount, array and rig, and more significantly, the option to choose integrated power and processing or go with a conventional rackmount solution. Choose to install loudspeakers, as self-powered, unpowered, passive or any combination of the three!

EXTREME

Each multi-way iDESIGN module features a user-rotatable, beam-width optimized waveguide, offered in 60°x40°, 60°x60°, 90°x60°, 90°x90° or 120°x60° nominal coverage patterns.

In addition to iDESIGN's top performing 2-way and 3-way modules, installers have a range of complementary mid-low, low frequency and subwoofer modules available to create the perfect impact, coverage, and character of performance.

iDESIGN is choice. Call or click today to schedule a complete presentation.

Combine multiple iDESIGN modules...
...or install individually.

Mount or rig in any configuration with 14 picks, OmniMount™ support, and a range of factory brackets & frames.

Add optional integrated power & processing modules.

iDESIGN is CHOICE.

McCauley

s o u n d s

McCauley Sound, Inc. • 16607 Meridian Avenue East • Puyallup, WA 98375 • U.S.A.
Call Toll Free: 1.877.McCauley • fax 253.841.3050 • www.mccauley.com • www.linearray.com



BOXED IN? THINK OUTSIDE!

DREAM II

DIGITAL RECORDING, EDITING & MIXING

Do you feel boxed in by your current platform?

Fairlight has established a NEW paradigm and it's one that breaks the shackles by delivering the creative freedom you've been missing from all the other DSP platforms.

Think outside the box!

WE DID and have delivered you a media platform for the 21st century.

DREAM II is a family of integrated audio mixers, recorders, editors and HD video recorders. The groundbreaking Crystal Core engine used in DREAM II deploys cutting edge FPGA (Field-Programmable Gate Array) technology to redefine the price/performance ratio of digital audio production. With up to 230 super hi-resolution audio channels each equipped with 8 bands of EQ, 3 Stages of Dynamics and a fully integrated 192 track disk recorder, DREAM II puts the power back in your hands.

Call your Fairlight Business Partner today and ask for a demonstration.

USA and Canada Tel: +626 793 3940

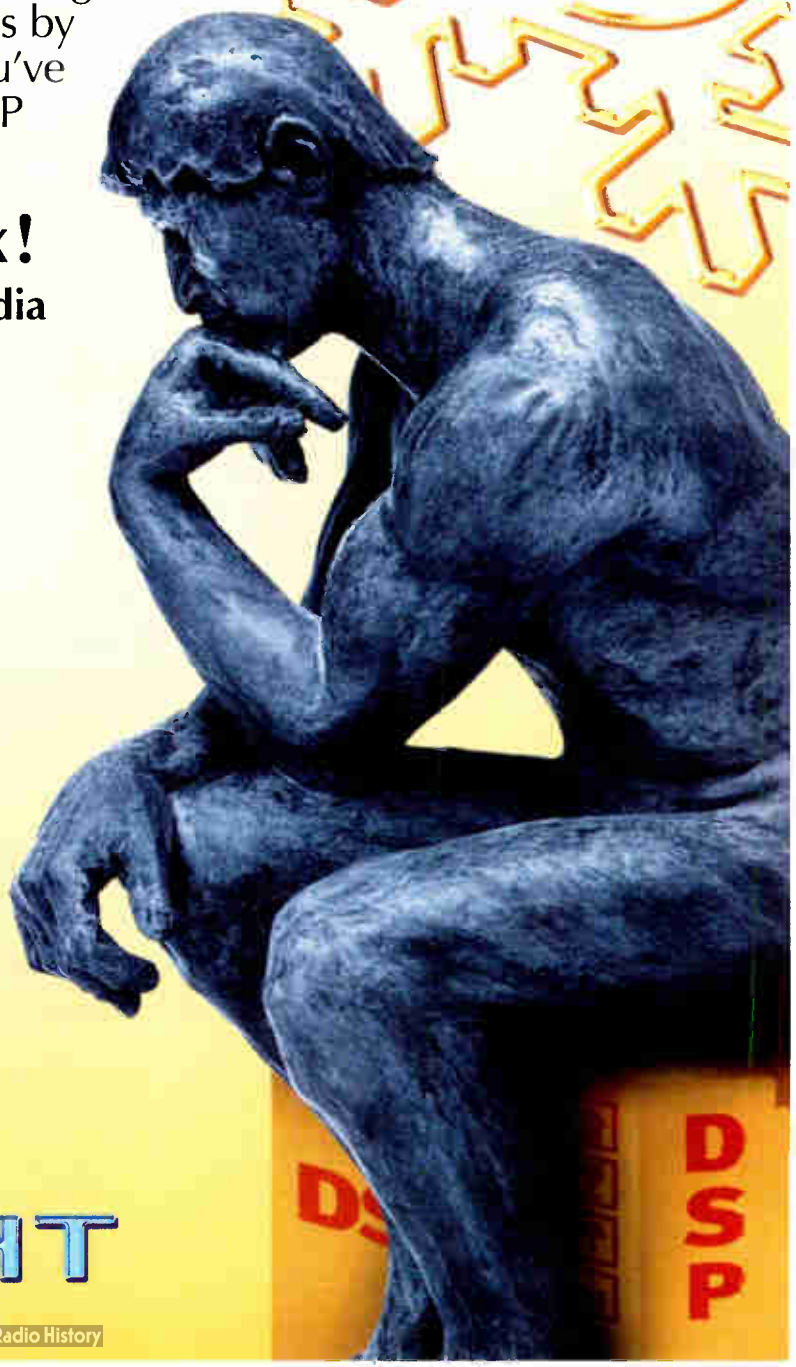
Central and South America Tel: +786 853 4612

Head Office Tel: +612 9975 1777

FAIRLIGHT

www.fairlightau.com

World Radio History



by Strother Bullins

The Power to Move You: Counting Crows and Lonestar on Tour With Furman Sound

Visit the smallest of clubs to the largest of stadiums and you will find discriminating audio engineers and musicians concerned with the audio gear that travels with them. Artists at all levels of commercial success sweat over what augments and amplifies the audio crafted via their voices, hands and feet. It's no surprise that engineers are highly concerned with their mixing desks, PA systems, processors, etc., while guitarists pour over their guitars and amplifiers. It stands to reason vocalists reach for their favorite microphones. It is rare and somewhat surprising, however, that you hear any of them discuss power — the force that allows each instrument and audio component to work its magic. After all, no power equals no sound.

This seems to be slowly changing, however, as folks such as Bill Thomson ("gear guru" for the sonically-eclectic pop-rock act Counting Crows) and Michael Britt (guitarist for multi-platinum modern country act Lonestar) make power conditioning and voltage regulation a priority for the crucial gear they use daily on the road. Both Thomson and Britt swear by Furman "power tools," and insist that the adding a wall of protection between sound source and power source is beneficial in many ways.

LOW, HIGH AND "JUST RIGHT" POWER

"It's critical," offers Thomson, regarding instrument/amplifier power conditioning. And he should certainly know: he has toured alongside various artists for 25 years before

landing full-time with the Crows in 1996.

"Tube amps — as well as digital controllers — can be so cranky with low power," Thomson continues. "We have a Bradshaw guitar rig, and when you get under 110 V it

on whether it is too low or too high, Thomson explains. "Low power can make your amp sound very uninteresting and lifeless. You'll lose definition. Levels of power too high may even sound great to some, but then it starts to overheat the amp, possibly making things 'sizzle' — basically noisy. High power levels will also negatively affect tube and amp life. Just remember that an amp just amplifies whatever's coming down the line, so if the power's dirty..."

Then power conditioning and voltage regulation is the solution? "Right," answers Thomson. "And the Furman stuff is great. I can definitely recommend it."

FOR LONESTAR'S GUITARS

Britt depends on a variety of high-end guitar amplifiers when on stage with Lonestar, and the sounds of those are of the utmost importance. "I sing a little background with the band, but my main job is to play guitar," he explains. "That's what I take a lot of pride in. I use four different amp heads for varying stages of gain, and a switcher that I control with a Bradshaw ground control setup. My

tone is very important. When you get a lot of nice amps, what you get out of them depends on what you put in.

"I use a Fender or a Diaz for my kind-of-clean sound, a Bogner Shiva for 'really clean' and 'really-dirty,' a Matchless HC-30 for a slight overdrive, then a Top Hat for my Marshall lead sounds," he continues. "I use a handful of pedals: an old Tube Screamer,

a Keely compressor, a Boss tremolo and a Voodoo Lab Sparkle Drive. For effects, I have a TC delay and a Line 6 Mod Pro for modulation."

In between all this and house-provided power — via reputable sound companies, of course — is the Furman Power Factor Pro R, a rack-mounted power conditioner featuring eight rear-panel outlets and one front-panel outlet.

"When I built my first rack, I needed some kind of power conditioner with multiple outlets on it," recalls Britt. "I don't remember the

FURMAN continues on page 26 ►



doesn't want to shift programs; things start shutting down. With amplifiers, it may be 'my tone sounds gritty today,' which will be because of power issues as long as the tubes are great."

What uneven power supplies will do varies



 PRODUCTION

THE PROFESSIONAL'S SOURCE



real world solutions from industry professionals!

 www.bhproaudio.com



800-947-1182 | 420 Ninth Ave. New York 10001 | We Ship Worldwide



model number of my very first Furman, but I knew it would be nice to have something with some power conditioning just in case there's some bad power somewhere. About six months ago, I had a guitar tech that had worked for Peter Frampton. As he was filling in with me, he told me about the Power Factor Pro from Furman. He said that was great for

Good power through a great sound company still doesn't eliminate all the potential power problems you could run into, even though power is much more stable because of [these companies]

tube amps in that it doesn't 'sag' so much; it keeps the power very consistent. I tried it, liked it, and have been using it ever since."

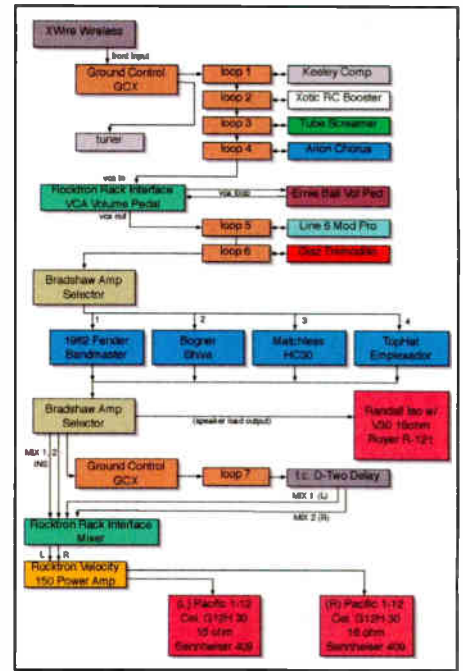
Britt can't exactly put his finger on major changes since switching to the Power Factor Pro for gig-to-gig amp performances, but he

has recognized some notable improvements. "It's hard to say because every gig is a little bit different," he offers. "But, with the Power Factor Pro, I've found that it has evened everything out. When you're listening on ear monitors as I do, you can detect even 4-volt fluctuations; amp sound will 'darken' your tone — especially with tube amps. This year and since I've started using my in-ear monitor mix, my guitar rig is a lot more consistent. Tube amps react so much differently to voltage variations, more so than other gear."

SOMETHING TO CROW ABOUT

Counting Crows uses a plethora of classic instruments and amplifiers on tour, and Furman units sit in between them and whatever the house happens to offer on any given night.

"There are all kinds of things up there," precludes Thomson, running down the Crows' onstage equipment. "There's a '60s Fender Pro Reverb, blackface Vibroluxes — one's a '65 and the other's a reissue — and a lot of old



Michael Britt's guitar amplification signal flow chart

guitars. A Bradshaw effects pedal rig has 20 pedals looped with true by-pass, and the other guys have pedal boards that I put together with Voodoo Labs power supplies. We use two Furman AR 1230 [30-Amp AC Line Voltage Regulators], and — on keyboards including a '63 Hammond B3 and a '70 Wurlitzer 200B — the AR Pro [30-Amp AC Line Voltage Regulator for worldwide usage]. We also have six PL-8 E II Plus [power conditioner] units on stage for all of our in-ear racks. Without this stuff — and even with great sound companies like ShowCo — you're still liable to have RF all over the place. Good power through a great sound company still doesn't eliminate all the potential power problems you could run into, even though power is much more stable because of [these companies]."

Thomson recommends that all club-gigging musicians with valued rigs pick up some kind of power conditioning unit for this very reason. "It really depends on what they can afford and where they're playing," he offers. "But it's funny; the ones that really need it the most are those playing the clubs. They need a power conditioner even more than we do. Clubs are where you run into the most inconsistent power. If you can't drag around a huge conditioner, getting a small unit — like a Furman AC-215 — would be great for that application. The thing is that, if you're on tour, you should protect yourself and your gear as much as you can."

Strother Bullins is the Features and Reviews Editor for Pro Audio Review.

We're Going Places

STAGEPAS 500... Yamaha's newest ultra-compact PA system follows closely in the footsteps of its smaller, market-leading counterpart, STAGEPAS 300. The differences, you ask? Higher power, more channels, additional features, and even greater sonic performance, for those more demanding applications.

Get the biggest possible sound out of the smallest possible system. Take STAGEPAS 500 along for the ride and lets go places together.



- 10-input stereo powered mixer
- Dual 250W amplifiers
- 10" two-way loudspeakers
- Titanium high-frequency drivers
- Two input compressor/limiters
- Phantom power
- System weight under 57lbs

Shown with optional stands and YBSP500 roller cases

 **YAMAHA**

©2007 Yamaha Corporation of America. All rights reserved.
www.yamaha.com

CONTRACTING

The latest news and products

NEW PRODUCTS

QSC Self-Powered HR122i Loudspeaker



The RMX-amplified 500 W HPR122i cuts no corners, but with nine integral M10 suspension points it sure could fit in some. The HPR122i can be flown, used as a stage monitor or pole-mounted using a stand socket. Featuring a 12-inch low frequency driver, a 3-inch voice coil and neodymium magnet, this 27 x 14.5 x 15 inches/60 pounds two-way enclosure operates between 53 Hz – 20 kHz. The amplifier features a deeply finned aluminum heat sink to keep the signal-processed channels cooled when pushed to extremes.

PRICE: \$799.

CONTACT: QSC | ☎ 800-854-4079 ☞ www.qscaudio.com.

PEAVEY VSX 26 Loudspeaker Manager



VSX marks the spot for taking control of every facet of sound reinforcement. This two-input/six-output single rack-space loudspeaker management

system features DSP management technology, upgradeable software and functionality for single- or multi-zone applications. Incorporated is 48 kHz sample rate, 24-bit 256x oversampled Delta-Sigma A/D-D/A, two USB ports, 48 V phantom power plus XLR and AES-EBU inputs/XLR outputs. On each input is a 27-band Graphic EQ Autograph algorithm with compressor/limiter, delay. And on each output is crossover/bandpass filter (Butterworth, Bessel, Linkwitz-Riley), parametric EQ (five-band, high-pass, low-pass, notch, horn EQ, all-pass), compressor/limiter and delay with polarity inversion.

PRICE: \$559.99.

CONTACT: Peavey Electronics | ☎ 866-443-2333 ☞ www.peavey.com.

ALLEN & HEATH Xone:S2 Mixer



No matter how much a DJ enjoys clubbing they don't want to get so frustrated they want to club their gear. Allen & Heath's 19-inch rack-mounted 4U Xone:S2 installation mixer will remove that temptation by providing rock-solid flexibility in clubs and bars. Available with either removable 45 mm linear or rotary VCA channel faders, the Xone:S2 has four stereo dual-input channels, two mono mic/stereo

line channels, a USB audio interface and an array of additional features. Low-pass, band-pass and high-pass filters, three-band EQ/boost/kill per channel, a mic auto duck, effects loop, overload protection, output limiter, zone or sub-bass feed are included.

PRICE: \$1,999.

CONTACT: Allen & Heath | ☎ 800-431-2609 ☞ www.allen-heath.com.

BEYERDYNAMIC Revoluto Line Array Mic Station



A mic's loss of pick-up can make you want to ring a neck. But with beyerdynamic's Revoluto — the world's first line array microphone station and winner of a 2007 InAVation Award — there's one less neck to worry about. Revoluto, made for use with the MCS-D 200 conferencing system, utilizes multi-capsules to create omnidirectional sound reproduction and operates without a gooseneck microphone. Three models,

ranging from Basic to Graphic, offer varying function buttons and alphanumeric displays, and use the NetRateBus network of 54 available audio channels to transmit fully digital audio plus data management via the system's cable run.

PRICE: \$1,299 (delegate), \$1,349 (chairman).

CONTACT: Beyerdynamic | ☎ 631-293-3200 ☞ www.beyerdynamic-USA.com.

The latest installer of an Aviom personal monitor system is Houston's Fellowship of the Woodlands. The system consisted of an AN16i input module, AN-16D Pro Net Hub and several A-16il personal mixers.

The Midas XL8 is Broadway bound as it travels the nation handling mixing for the touring company of Sister Act, the Musical. In a whole different direction, the SaRang Community Church in Seoul has added an XL8 to control its performances.



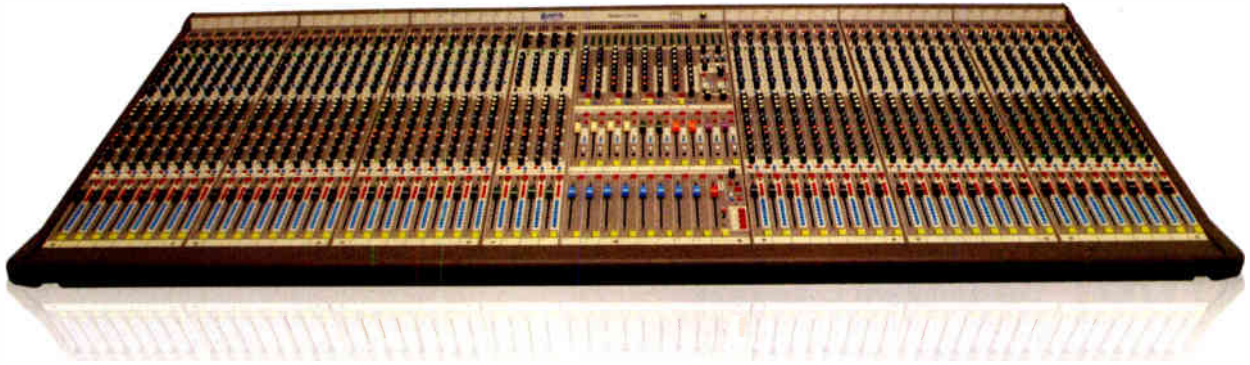
Community Loudspeakers took the stage at South Africa's Varing Musiek Festival with 12 SLS960 speakers and 12 TLF218 subwoofers for the front speaker configurations. SLS920s and TLF218s provided fill.

The two chambers of the Alabama State House in Montgomery can now talk to each other courtesy of a new Symetrix SymNet audio routing and processing system.

The Walt Disney Concert hall in Los Angeles has added Dolby Lake and Contour processors to its sound system. Bethesda, Maryland's Fourth Presbyterian Church has installed a Lake processor.

Helping the ponies sound better, the Hong Kong Jockey Club has installed a herd of Allen & Heath products. Included in the installation are iDR-8 digital processing mixers, iDR switchers, iDR output devices and PL-4 remote controllers.





IF YOU WANT AN ANALOG CONSOLE, THERE'S ONLY ONE CHOICE TO MAKE.

Spectra Series From APB-DynaSonics

Unmatched for sound quality, versatility and value in its price range, Spectra Series truly redefines the art of analog consoles.

All of our consoles feature high quality VCAs by THAT Corporation for the most precise control. Exceptional EQ, Burr-Brown mic pres and our unique design approach set us apart from other consoles in terms of sound and performance.

Sound quality, control and rugged modular construction. That's why there's been so much buzz* about the Spectra-C and Spectra-T consoles.

Spectra-C, Ci, T and Ti. A unique rethink that redefines the potential of analog consoles for audio professionals.

www.apb-dynasonics.com



Made in the U.S.A.

APB-DynaSonics, 20 West End Road, Totowa, NJ 07512

Art Of The Analog Console

*Read the reviews of Spectra on prosoundweb.com and fohonline.com

by Roger Williams III

Tannoy Power V6 Loudspeakers and Power VS10BP Subwoofer

This new fixed install set provides Dual Concentric drivers for your listening pleasure

Venerable audio manufacturer Tannoy — founded by Guy R. Fountain in the 1920s — is one of the UK's longest tenured and most respected loudspeaker companies. Fountain's initial effort was to create inexpensive chargers for re-charging early radio batteries. He created an electrolytic rectifier from a composition of tantalum and lead alloy; hence, the name Tannoy was born.

The company soon started developing loudspeakers with DC-energized magnets, which led to Tannoy's involvement with sound reinforcement. The company aimed to go to loggerheads with Western Electric and Marconi, the big players in Europe at the time. Tannoy thereafter became well known for its portable sound reinforcement solutions.

Fountain eventually engineered a complete line of high-quality speakers, amplifiers and microphones. During WWII — when battlefield communications systems



were urgently required — the company was heavily involved in electronics for the defense effort. Post-war directives included translation and conferencing equipment, and the development of precision broadcast/recording studio monitor speakers at the same time. The genesis of the Dual Concentric point-source design took place and became a mainstay of countless recording studios. The rest is history.

Tannoy came from sound reinforcement beginnings, and now the company continues its tradition with the Power V6 (\$1,489) and VS10BP (\$1,630) loudspeakers — aimed at the contractor looking for a distributed audio solution.

FEATURES

The PowerV series includes the V6, V8, V12, V12HP and V15 models. Subwoofers in the series are the V10BP and V15BP (the numerical indicators describe the primary

driver speaker diameter). My tests were with the V6 and VS10BP units. All speakers are powered (amplified).

The Power V6 is a full-range Dual Concentric speaker with an integrated Class D amplifier capable of delivering a claimed 200 W. The 6-inch coaxial driver in the vented cabinet has a listed frequency response of 80 Hz – 22 kHz in its full range setting or can be selected by switch to roll off below 110 Hz for use with the Power VS10BP subwoofer. An internal passive frequency-dividing network crosses over the 6-inch driver at 1.6 kHz.

The unit is constructed of MDF (Medium Density Fiberboard), and is available in textured black or white paint finish. A powder-coated steel grill protects the speaker up front. Trapezoidal cabinet design allows for arraying with multiple units at 30-degree angles. Unit dimensions and weight are 13.26 x 9.92 x 9.44 inches at 18.7 pounds respectively. Mounting options include yoke, cluster or pole. The rear panel interface/amplifier topology includes XLR signal input, XLR audio link for signal pass-through, A/B mode switch, level control, signal presence LED, limiter LED

and power indicator LED. Next to the LED's is a Neutrik Powercon locking AC mains connector, and above that a rocker-style power switch.

The Power V10BP band-pass powered subwoofer is manufacturer rated at 400 W output power with a listed frequency response of 35 Hz – 110 Hz (-3 dB) in the low pass filter position B, and 35 Hz – 80 Hz (-3 dB) in filter position A. It contains a single 10-inch low frequency driver. The enclosure is constructed from .6-inch multi-ply birch plywood. Dimensions run 14.37 x 13.98 x

FAST FACTS

APPLICATIONS

Installed and portable sound reinforcement

KEY FEATURES

Dual Concentric point-source drivers; Class-D high-speed switching amplifiers; multiple mounting options

PRICE

PowerV6 \$1,489 each;
PowerV10 BP \$1,630 each

CONTACT

Tannoy | ☎ 519-745-1158
🌐 www.tannoy.com

PRODUCTPOINTS

- Excellent sonics
- Quiet operation
- Numerous system protection features
- Switchable filtering

- Runs hot, needs ventilation

SCORE

Great sounding versatile speaker system

23.23 inches; weight is 70 pounds. Integral handles are cut into the sides of the unit. A Class-D power amplifier with high-speed switching power supply resides within. The rear panel of the V10BP has a set of features identical to the V6. Flypoints catering to eye-bolts are provided, and the V10BP comes in either black- or white-textured finish. An interesting design feature is the two "blanking" plates that can be switched to cover either the box-end bass ports or the side ports, depending on the cabinet's mounting position.

An auto-ranging power supply detects voltages between 100 and 240 V on the incoming AC line, and adjusts accordingly. There is auto-protection for the occurrence of brownouts and overvoltage, an inrush current limiting circuit for "soft" turn-on and, finally, peak limiters to protect drivers and the amplifier from excessive input signal transients.

IN USE

I initially set up the two V6's and V10BP in my project studio to test frequency response with my NFE 2010-EX analyzer and Marshall calibrated microphone. Since there was no response chart included in the manual I was interested to see what the analyzer revealed. I will typically power up units under test for a while to stabilize them before use. I found the PowerV's to heat up significantly at idle before applying signal. My digital thermometer applied to the rear amplifier panel read at 104 degrees after about a quarter-hour. It would seem that these speakers need ample room to breathe.

I confirmed the manufacturer's frequency response specifications of 80 Hz – 22 kHz after running pink noise through the units separately; the V6 in full-range mode showed 3 dB peaks at 200 Hz, 12 kHz and 16 kHz, plus a 3 dB dip at 6.4 kHz, while

steeply rolling off below 125 Hz down to 80 Hz. This is well within acceptable limits and shows the V6 to be a very linear speaker. The V10BP delivered satisfying results, with a slight (3 dB) dip at 80 Hz in the "B" mode setting.

I then inserted my Samsung DVD-R130 DVD recorder/player to listen to David Chesky's wide-ranging classical masterwork *Area 31* through the PowerV's. *Area 31* is a brilliant recording, and has exceptional dynamic range with a wide variety of instruments; it's a good test for any system, and I was very impressed with what I heard. Tom Chiu's violin was omnipresent yet not strident, and Wonjung Kim's soprano reproduced effortlessly. The orchestra's imaging was very true to life and quite natural.

I next utilized the V6's and V10BP in a small club setting for an acoustic trio (no drums), the front end of which was a Mackie 1402 VLZ mixer with a mix of Shure Beta 57A and 58B microphones on instruments and vocals. I found the speaker system needed scarcely any equalization to achieve a very likeable sound from sources including acoustic mandolin and dobro.

The PowerV's delivered the necessary headroom from a very small footprint. Between selections the system was very quiet, revealing an excellent dynamic range capability. One would expect a deliberate "sweet-spot" from such a system utilizing a point source design, but coverage was fairly even. The limiters on the PowerV's never engaged, and the rear panel temperature noted earlier never increased beyond what I measured at idle.

SUMMARY

I liked the PowerV system, and though I believe its primary use would be distributed fixed-install sound reinforcement it could be a good fit for portable and rental applications. Studio-quality sonics, quiet operation plus a compact footprint with numerous protection and mounting features all add up to an impressive design package.

Roger Williams III, a systems designer for MAS Audio, longtime NSCA, ICIA member and Syn-Aud-Con grad, is a regular contributor to Pro Audio Review.



**SONIC
MAXIMIZER**

What's in a name?
Depth. Detail. Definition. Clarity.
Get more with the push of a button.

BBE

bbesound.com

5381 Production Drive • Huntington Beach, CA 92649 • 714-897-6766

by **Dan Wothke**

Working In Audio, Working In Church



Photo credit: Doug Mann

The professional audio world has been through quite a paradigm shift over the last 10 years, thanks to the advent of equipment delivering quality results at a portion of the original, expected cost. Included in the long list of more affordable equipment are microphones, consoles, outboard gear and DAWs, plus all that they bring to the table. This trend has not only increasingly evened the playing field for home and budget recording enthusiasts, but similarly equalized other fringe industries. Now some of the largest benefactors of more affordable, quality gear are houses of wor-

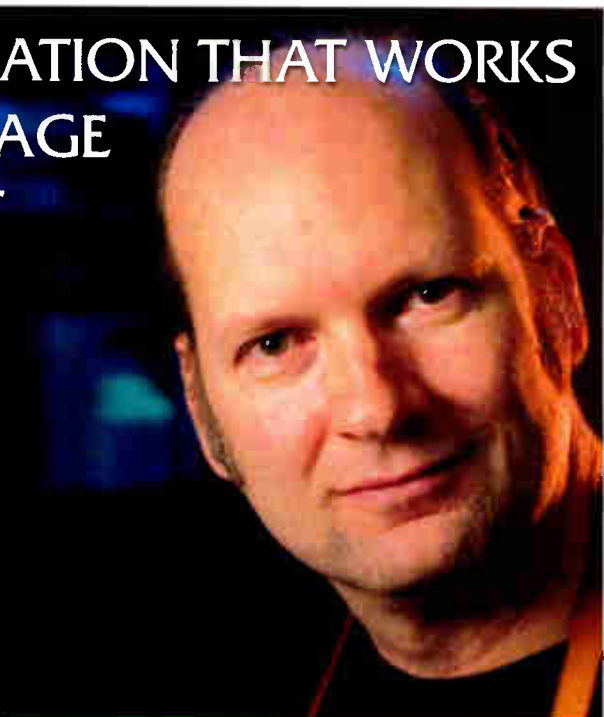
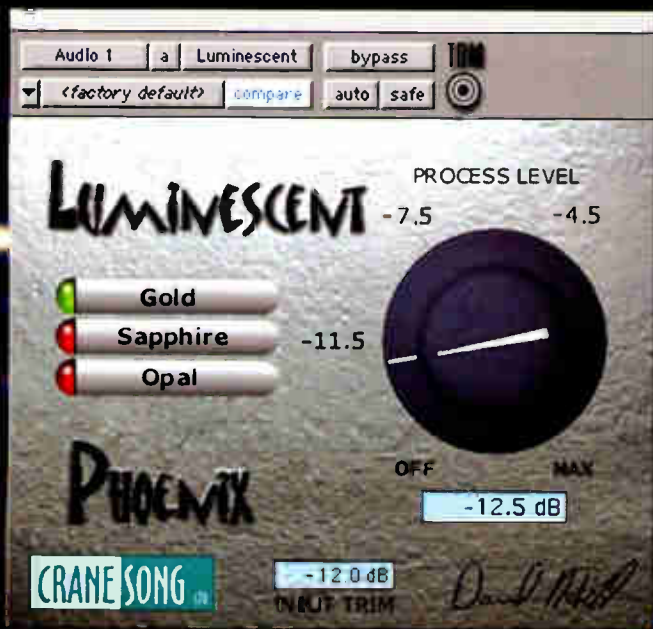


The Midas XL8, an installation at the Westover Church in Greensboro, North Carolina.

ship (HOW) — a.k.a. the Church. And with this, the birth of *PAR's* "Worship Audio" column, we begin to directly address how notable pro audio products are crucial to HOW-based pro audio users.

Those unfamiliar with modern audio-for-worship trends may very well envision a church's gear selection as being a podium microphone and a large house organ, and the majority of sound management handled by the acoustic design of the room. Although those churches are still among us — cranking out the hymns loud and clear (a situation with its own distinct challenges) — there has also been intentional growth for another arena of churches that are taking advantage of modern technology to deliver timeless messages. And in the middle splitting the difference are churches that work to offer both types of services on the same Sunday, all within a 30-minute turnaround.

TDM TAPE-ANALOG EMULATION THAT WORKS IN THE STUDIO, and ON STAGE NOW ----- TRY THE BEST



CRANE SONG LTD.

www.cranesong.com 715 398 3627
2117 E 5th St Superior WI USA

For all PT TDM systems

HIGH-QUALITY AUDIO PRODUCTION VALUE... SIMPLY

Today it is not uncommon for the local church to have a full-service, full-blown live sound system set up for optimal coverage and to accommodate high-production value worship services and concerts. These systems, however, are often simple enough that an audio volunteer can come in and get a nice, hot microphone piped in for a teaching event.

Another element tied into larger-scale HOW audio is comprehensive video capability. Video doesn't directly apply to *PAR* readers, but tying into a live video system while maintaining the sonic integrity of an audio system (including grounding, creating multiple mixes, etc.) does apply, and is a major concern.

THE IMPORTANCE OF AUDIO FOR WORSHIP

It is nearly impossible to grab the remote after a long day at work and channel surf without running across a church service being telecast. And nothing will turn a viewer away quicker than a distorted microphone or a copy of the board mix being sent to broadcast. Admit that we've all heard that at some point. Add in the ability to record in a studio housed by the church or tie in a third-party audio source via isolated splits just multiplies the possibilities (and the challenges) for all churches, both modern and traditional. These we will address.

LETTING THE SPIRIT MOVE YOU

The growth of church audio has also created a new income stream for those live and studio cats burned out on "the lifestyle," yet still passionate about their craft. It was over eight years ago that I left a paying gig at a prominent Nashville recording studio. I was provided the opportunity to serve top notch musicians, producers and engineers there, all while working on the best, latest equipment, as well as a good array of vintage gear. But I left to take on a job at a church where I split time between audio and IT. The church at the time was in the birthing stage of embracing and expanding on the latest technology for the purpose of media. I am still provided the same level of challenges and satisfaction today I had at the studio, but I get to go home at 5 p.m. each afternoon.

Church audio is not about the latest low-budget gear; in fact it can be — and is increasingly — quite the contrary. I reviewed the first Midas XL8 digital console installed in the US in the December 2006 issue of *PAR*, and that install was at Greensboro, NC's Westover Church. The review was specific to the Midas XL8 and did not even scratch the surface of things to reflect the vastness of the facility. Not only did this \$28 million complex house the XL8, but it boasts a

large collection of the best gear the pro audio industry has to offer. Their weekly productions resemble the Grammy Awards with communication systems, complex distribution, set changes and theatrical enhancements. They realized the importance of having the best technology for their church and to serve their community, thus quickly becoming the go-to location for local theatre productions in the Greensboro area. And Westover is not alone. This theme is proving to be a common one for many churches throughout the US.

This combination of services and varying levels of price points has created a unique niche in the pro audio industry. And, as with all industries, the bottom line is, well, the bottom line. Manufacturers are creating more products to meet this niche (although "niche" may be an understatement as there are over 65,000 active churches in the US) and they realize the demand to provide high-quality products at varying price points. The one thing all of the churches have in common — regardless of budget and



Colonial Baptist Church in Wichita Falls, Texas, which recently installed Yamaha's HOW-targeted digital console, the M7CL-48. CBC also features Aviom personal monitoring systems.

congregational size — is that they have a message to communicate through music, theatre and the spoken word. And it is the job of the audio engineer to make sure that message is heard clearly and hopefully recorded, split, edited, processed, distributed, equalized, mixed, tweaked and broadcasted ... well. That is what drives the passion for audio, after all.

Dan Wothke currently runs the gauntlet of all things media in his role as Media Director at Belmont Church in Nashville.

BBE[®] MAX-X3



BBE Sonic Maximizer and
3-way Crossover...
Two processors, one great unit.

BBE

bbesound.com

5381 Production Drive • Huntington Beach, CA 92649 • 714-897-6766

by Scott Burgess

Bose Panaray MA12 Modular Line Array Loudspeaker

Bose's high-quality line array solution does the job for an acoustically troubled hall

The year was 1877, and Thomas Edison played back "Mary Had a Little Lamb" on his newly created tinfoil recorder. That basic model of a transducer driving a horn has been the basis for sound reproduction system design ever since. The sound waves spread out in three dimensions, constrained only by the shape of the enclosure and the acoustics of the room.

A different paradigm emerged with the advent of line array loudspeakers. The line array emits sound from, well, a line instead of a point source. The cylindrical waves that are generated spread out in essentially two dimensions. The sound level consequently dies off far less over distance. The level doesn't have to be as hot in front to provide coverage in back, and there is significantly less interaction with the surrounding acoustics. So many drivers work in concert to provide coverage that no one driver is putting out as much energy as, say,

the tweeter in a traditional three-way system. This, coupled with the more controlled radiation pattern, means that the system is likely to be operating much further below the feedback point than a traditional system.

Line array loudspeakers and their variants have become a familiar sight in large concert venues for these reasons. And the subject of this review — the Bose Panaray MA12 Modular Line Array Loudspeaker brings this concept into a unit that is suitable for smaller PA applications, such as churches and concert halls.

| FEATURES

The MA12 is a loudspeaker using 12 2.2-inch drivers and handling up to 300 W continuous power. It offers a maximum acoustic output of 113 dB at one meter with a frequency range of 155 Hz - 12 kHz (-3 dB) and 100 Hz - 16 kHz (-10 dB). The MA12 — a true line array — has drivers radiating sound over 160 degrees in the horizontal plane, while providing vertical coverage in a band of constant height. They can be complemented by the MB4 Modular Bass Loudspeaker for more low end, and a variety of mounting options are offered.

MA12 loudspeakers are designed for use with the recommended loudspeaker EQ curve resident in the Bose Panaray system digital controller or Bose amps in conjunction with a MA12 speaker plug-in EQ card. Use of either the controller or EQ card allows crossover with a sub, such as the Bose Panaray MB4 bass cabinets.

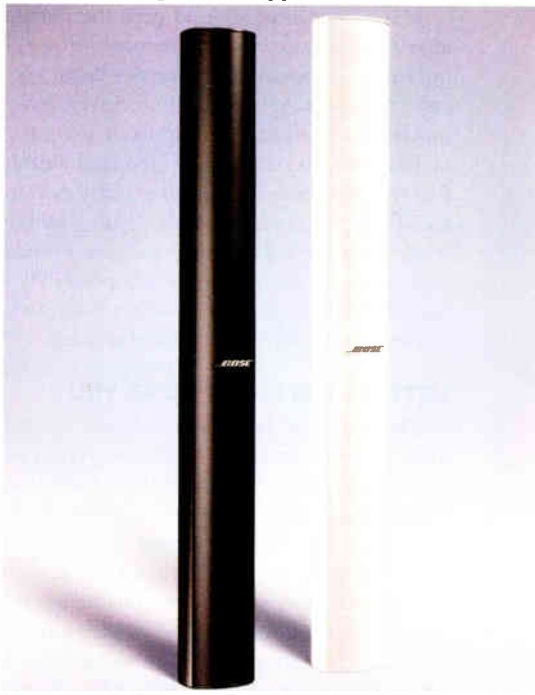
The MA12's aluminum enclosure measures 5.1 x by 4.2 x 38.7 inches and weighs 20 pounds per unit. Connection to source signal is provided by two parallel-wired NL4s and one two-position barrier strip. The MA12 is available in both white and black finishes.

| IN USE

I first heard the MA12 speakers at a church located in a recently renovated historic movie theater. There had thusly been problems get-

ting coverage of the seats nearest the stage from the loudspeakers that were flown overhead. The band had begun using in-ear monitors, and these seats were getting almost no direct sound at all. Two MA12 units, placed on either side of the stage, provided even coverage of the front rows at a reasonable sound level without unduly interfering with the sound from overhead. They even helped to localize the sound with the band at stage level.

It occurred to me that these might be a good solution to a problem that had vexed a recital hall. The room, with 500 seats, rarely requires PA for music, but occasionally needs amplification for lectures and other spoken commentary. The room's sound reinforcement system as originally specified had a pair of conventional speakers mounted at ceiling height (around 30 feet) between the acoustical clouds over the stage. This "hang-and-tilt" approach minimizes



the differences in speaker-audience distance from front to back, and is in widespread usage for installed sound. The hall, though, exhibited the two main shortfalls of this approach. Firstly, the wide dispersion of traditional speakers means much of the sound is not headed directly to the audience. Secondly, the sound tends to localize at the loudspeaker, which in this case was 30 feet above the stage. This is not the optimal state of affairs in a venue that is principally used for acoustic music.

Serendipitously, an overly exuberant experiment resulted in a couple of blown drivers, so we took the opportunity to mount the replacement speakers in the organ loft. This put them at the sides of the hall, only 12 feet from stage level. This helped to put the image back in line,

FAST FACTS

APPLICATIONS

Theaters, Houses of Worship, concert halls

KEY FEATURES

12 2.2-inch drivers; horizontal 160-degree dispersion range; 300 W continuous long-term power handling; designed for use with Bose Panaray digital controller or plug-in EQ card and subwoofers such as the Bose MB4

PRICE

Contact your dealer

CONTACT

Bose Professional Systems |
☎ 877-428-BOSE ☞ pro.bose.com

PRODUCTPOINTS



- Well-controlled dispersion pattern
- Clear, articulate reproduction



- Limited frequency range
- Requires subwoofer for normal music reproduction

SCORE

A quality implementation of the line array design for smaller venues

but we were still dissatisfied with the clarity of the spoken voice. Too much of the sound still went up into the space above the audience, causing reflections that complicated diction.

A local dealer offered the chance to try a pair of dual Bose MA12 speakers with the matching MB4 bass cabinets and the Bose Panaray System Digital Controller. They were set on stands at the sides of the stage, near the place where they would need to be mounted. They were then put to a most difficult test: two faculty with strong accents who just happened to draw a crowd with many older patrons.

The results were fantastic! Several patrons commented on being able to finally hear what the performers were saying. There were no complaints about the sound being too hot in front or too low in back. A permanent set were then installed and augmented by the Meyer Galileo 816 processor, since the system needed the additional I/O and the ability to control the unit over Ethernet.

Several options for mounting speakers of this unusual shape were considered. I thought that the tall, slender MA12's might be able to hide among the organ pipes, but I didn't push that idea too far. So they were mounted at the sides of the stage as planned. One word of caution is in order here: while these speakers are quite sleek in appearance, they are still heavy! The dual MA12 columns weigh a bit more than 40 pounds each, and their length produces a good bit of leverage against the mounting brackets.

The MA12 units were first tried by themselves, fed directly from the mixer. The speaker again was a foreign artist with a strong accent. And, again, the response was uniformly positive: "Best sound I've heard in a long time!" and "Every word was clear!"

The full system was then hooked up. The MB4 bass units were placed on the sides in the organ loft, where the former system was located, and wired in the Galileo. A few favorite CDs

were played to verify the filter settings and awaited the next test.

An annual jazz festival began two days later. This afforded the opportunity to try some music. The MB4s extend the system's frequency response down to 40 Hz, plenty enough for the reinforcement required by ensembles. The opening concert was a six-piece jazz combo and a seven-piece saxophone orchestra. The PA requirements for jazz are very much the same as for spoken voice — clarity and articulation are of primary importance, and I already knew that the MA12s could deliver.

One thing quickly became apparent: Localization was far more critical with less sound bouncing around the room. Introducing any significant level in the MA12s with an instrument on stage generating just about enough sound to be heard on its own pulled the image straight over to the loudspeakers. Time to set the delay! This setting proved to be far more critical than it had been with the previous conventional system. We eventually reached a setting that worked through most of the hall — keeping the image centered on the players where it ought to be — and sat back to listen.

That's when I made the most impressive dis-

covery: I was able to pan the soloist's sound with remarkable precision by properly setting delay. I consider jazz as essentially acoustic music, and I've always hoped to have the apparent size of the group mirror the actual size. This goal was achieved with the Panaray MA12 system.

| SUMMARY

It's true that localization will never be perfect for everyone in a room, whether it's five seats or 500. But the clarity of the Bose Panaray MA12 system and the limited interference from reflections bouncing around the hall allowed for a precision of imaging and placement that I had only dreamed of.

The lingering thought at the end of this evening of jazz was that this new PA system is truly something different. The sound is more controlled than our conventional system, and the clarity is remarkable. The Panaray MA12 system looks and sounds like the perfect solution for a troublesome hall.

Scott Burgess is the director of the Center for Creative Media at the Central Michigan University School of Music.

LOSSLESS COMPRESSION



MaxCom actually reveals sonic details lost with ordinary compressors.

BBE

bbesound.com

5381 Production Drive • Huntington Beach, CA 92649 • 714-897-6766

by Rob Tavaglione

From the Field: Audio for DC's TCT Scientific Conference

Thousands of cardiologists attend the TCT (Transcatheter Cardiovascular Therapeutics) Scientific Conference in Washington, DC each year. Leading international doctors have gathered there since 1996 to learn the latest techniques in interventional therapies of the cardiovascular system. These miraculous lifesaving techniques allow cardiologists to enter the patient's arterial system via a single small incision in the thigh and remove blockages from arteries and the heart. The doctors utilize a series of flexible catheter wires, scrapers, RF devices, lasers, ultrasound and X-rays to identify and clear out occlusions in clogged arterial passageways, keep them propped open with metallic stents and inject bursts of photosensitive dye to visually check for proper circulation through the repaired arteries and heart.

A NUMBER OF CHALLENGES

I've been involved as a freelance audio tech with Carolinas Medical Center (CMC) in Charlotte for two previous TCT events. CMC, under the guidance of Dr. Charles Simonton, is one of 27 participating hospitals from around the globe that performed the procedures and transmitted live video, audio and medical measurement equipment data to the conference in DC. Over 12,000 doctors in DC viewed the live procedures and became actively engaged through questions and comments.

Audio support during the sometimes-unpredictable procedures posed a number of challenges. A total of three operating rooms —

or cath labs — were used, with live switching between them needed at any given moment. Each lab had two cardiologists working in tandem, each requiring a mic and an in-ear IFB (interruptible foldback), as well as a loudspeaker in the event of an emergency requiring everyone in the room receive quick direction. There were three video cameras per room, as well as numerous other medical devices that posed potential EMI problems: an IVUS (intravascular ultrasound allowing images to be taken from inside the artery) and a fluoroscope (an X-ray machine that shoots moving pictures), among others.

Production at CMC was provided by MediLive, a German company with a tradition of excellence at such high-tech events. I had to present MediLive with a rock-solid audio system that would provide high-fidelity, quick interchangeability in the event of a doctor's need to move rooms. And all this without using any wireless, as RF mics were not approved for use in CMC's cath labs (much to the chagrin of MediLive's engineers, who reported great success with RF at European events).

I needed a mic, so I spec'ed the Countryman Isomax EarSet E6, an ultraminiature ear-worn condenser I had previously tried on a TV shoot with live audience and a loud PA. The E6 in these fairer conditions performed better than expected — flawlessly, even. Its omni pattern allowed leakage to be pleasant and natural, with a very natural EQ curve requiring only a little top boost and bottom cut. I requested small sub-mixers for each cath lab in order to

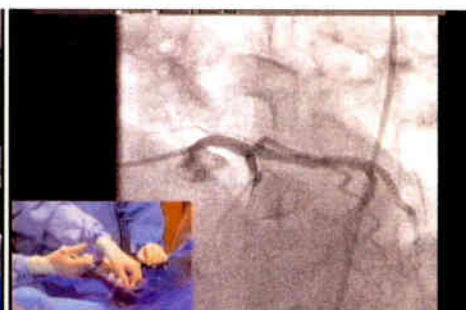
avoid any EMI or RF problems. This additionally allowed stable phantom power very close to the condenser mics (without troublesome patches or extensions), the use of a high-pass filter early in the signal path, and the ability to get signals up to line level as quickly as possible (in what I consider to be a very "audio hostile" environment). A humble Mackie 1604 back in the control room took in the cath labs' signals with nary a ground buzz or hum, and little or no gain required., the mixed mic signals, after a bit of gentle 3:1 compression and protection limiting via a dbx 166 compressor, were immediately converted to fiber-optic via CMC's ample communications center, and connected with the local cable provider, who accessed the nationwide VYVX fiber-optic network and connected to TCT in DC.

AUDIO INCOMING

Incoming questions from DC were handled via a Gentner telephone hybrid and the 1604. The doctor's IFB mix included the hybrid's output and a director's mic for instructions and countdowns; it was then transformer-split three ways with Whirlwind splitters (eliminating any grounding issues and feeding all three cath labs). A separate but similar feed was setup for the active foldback speakers, but fed from a different mixer aux send to facilitate optional monitoring of the director. Doctors monitored their IFB send via personal monitor amps from Rolls that provided ample gain, but unfortunately needed AC power. Eighteen-foot, 1/8-inch mini-plug extensions had to be used for the IFB earpieces to avoid wall-warts, significantly lowering fidelity but allowing doctor mobility.

The event was a total success with extensive participation from Washington, concise direction and shooting, difficult but successful procedures at CMC, and clean, consistent audio quality throughout. The Isomax mics in particular proved to be ideally applied in concert with the choice of submixers in each lab, which provided cleaner signals and more intelligibility than I recall from previous events. MediLive's veteran director even commented that the audio was

TCT continues on page 63 ▶



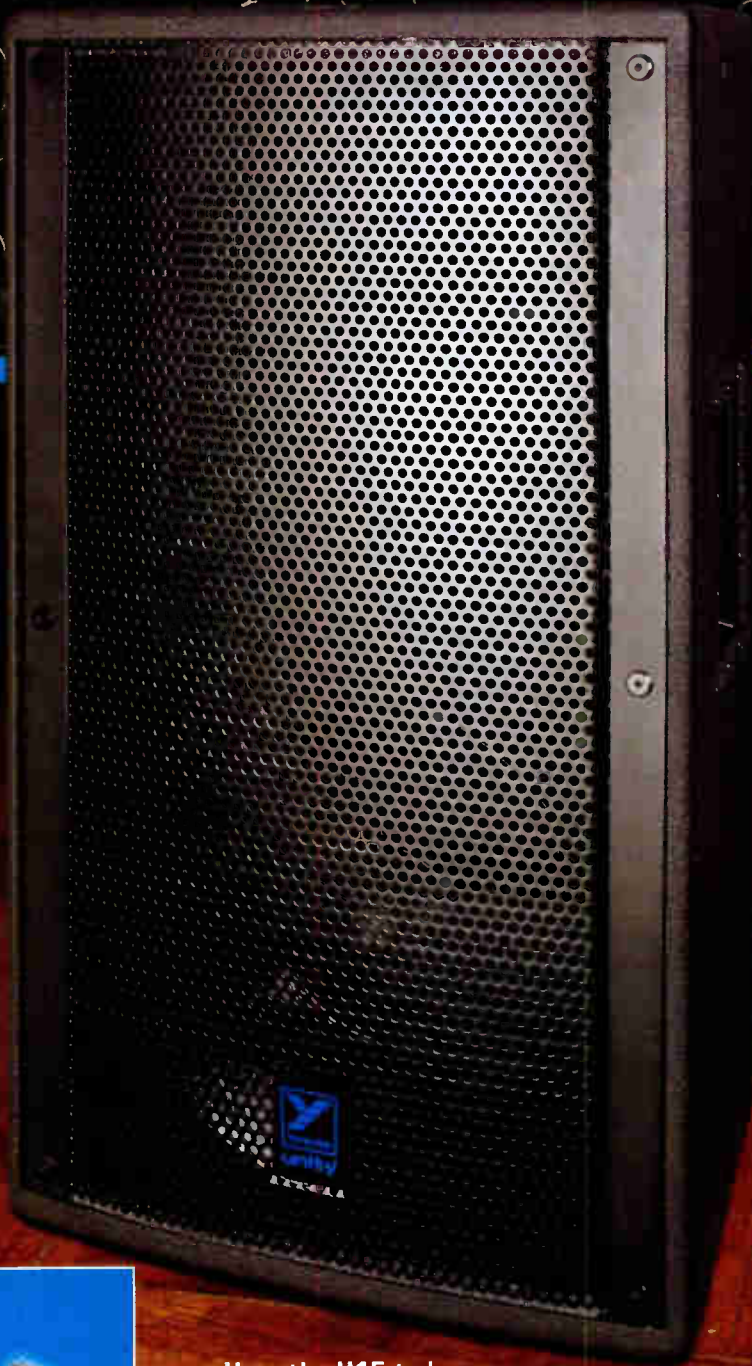
TCT procedures at Carolinas Medical Center are broadcast live to thousands of cardiologists worldwide by MediLive, a German medical A/V webcast company; Tavaglione captures the crucial audio.



Clearly Superior...

Ever wonder why high efficiency professional PA systems never sound as clear and concise as a studio monitor? Well so did we... until now.

The new Unity™ Series U15 from Yorkville is a radical new loudspeaker design with ultra clear reproduction, exceptional linear frequency response, and extremely low distortion. We combined a single compression driver with three sealed back midrange drivers on a patented Unity™ horn. This single point source assembly combines well with a high efficiency Neodymium woofer to redefine the boundaries of affordable professional PA.



The Unity™ Horn

Hear the U15 today
at your Yorkville dealer
or find out more on
the web at
www.yorkville.com/unity

Canada: YORKVILLE SOUND 550 Granite Court, Pickering, Ontario L1W 3Y8 • Phone: 905-837-8481 • Fax: 905-839-5776
USA: YORKVILLE SOUND INC. 4625 Witmer Industrial Estate, Niagara Falls, NY 14305 • Phone: 716-297-2920 • Fax: 716-297-3689



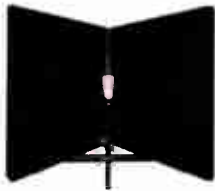
yorkville.com
Real Gear. Real People.

STUDIO

The latest news and products

NEW PRODUCTS

REALTRAPS Portable Vocal Booth



Just because you want your recording heard in every room doesn't mean you want every room heard in your recording. So those looking to minimize the intrusion of acoustically hostile spaces while recording vocals or spoken narration can look to the RealTraps Portable Vocal Booth. Featuring 2-foot x 2-foot absorbing panels in an adjustable V shape, this easily portable acoustic solution sits on any surface or attaches on any microphone stand and works to block unwanted coloration of your recording.

PRICE: \$299.99.

CONTACT: RealTraps | ☎ 866-732-5872 ↪ www.realtraps.com.

APOGEE Symphony Mobile Multi-Channel ExpressCard



If a professional, state-of-the-art native audio workstation for the MacBook Pro is the apple in your eye, then Apogee's Symphony Mobile is just what you've awaited. The Symphony Mobile installs directly into Apple's MacBook Pro, and then connects by a single PCI-32 cable to Apogee's X-Series or Rosetta Series converters. This allows for up to 32 bidirectional channels of 24-bit 192 kHz I/O and less than 1.6 mS of latency at 96 kHz. Compatibility with CoreAudio and Apogee's VBus plus Maestro software allow advanced control, routing and applications realizing professional laptop audio production.

PRICE: \$595.

CONTACT: Apogee | ☎ 310-584-9394 ↪ www.apogeedigital.com/symphonymobile/.

RUPERT NEVE DESIGNS

Portico 5016 Duo Mic Preamp/Variable Phase DI



An embedded microphone preamplifier and a DI with Phase-Rotate control lend the two-channel, half-rack Portico 5016 the kind of flexibility you wish everyone you recorded had. The Variable Phase allows exact coherent alignment, up to 30

dB of gain and wide-range phase rotation; when combined with Phase Reverse, maniacal control over recording is yours. The linkable preamp section (identical to the 5012) offers accurate control, a high-pass filter and "Silk" presence. Phantom power at 48 V can be switched off, leaving high quality input with 10,000 ohms impedance.

PRICE: \$1,195.

CONTACT: Rupert Neve Designs | ☎ 512-847-3013 ↪ www.rupertneve.com.

KRK SYSTEMS Exposé Monitor



The continually compounding waves of audio need a flagship, and KRK Systems offers that in the Exposé E8B closefield studio monitor. The Exposé is built on the 20-year legacy of KRK, and so much more. A beryllium/aluminum tweeter (AlbeMet) offers smooth, lightning fast transient response, a multi-layer Kevlar/Rohacell woofer dampens unwanted resonance and dual discrete Class A/AB amplifiers (120 W HF, 140 W LF) achieve detail matched only by the cabinet's rigid, non-parallel walls. The result is accurate, transparent, "truthful" sound; the only vibrations with this monitor are good ones.

PRICE: \$5,995 a pair.

CONTACT: KRK Systems | ☎ 954-316-1500 ↪ www.krksys.com.

Royer Labs R-121, R-122 and SF-24 microphones were used by engineer Ethan Mates on the new Linkin Park album. A Mojave Audio MA-200 mic was also used.

London-based engineer Paul Turner has used an A-Designs REDDI DI box on several sessions – studio and live – including some with Jamiroquai.



The University of Massachusetts at Lowell has installed a 48-track API Vision console. It will be used by the Sound and Recording Technology Department.

Producer David Fridmann won a Grammy for his work on The Flaming Lips' At War with the Mystics album. He used a Prism Sound ADA-8XR converter and a Prism Maselec MEA-2EQ equalizer and MLA-2 compressor on the album.

Grammy-winning engineer/producer Robert Carranza has used a Dangerous Music 2-BUS summing amp on several recent projects.

Klein + Hummel O 300D active three-way and O 110 passive monitors have been added to the mix at Haunted Hollow Studios in Charlottesville, Virginia.

An ATC 5.1 surround monitoring system is part of the new control room for the new recital hall at the Cleveland Institute of Music. SCM1/15 subwoofers along with SCM150 ASL were part of the package.

Dolph Ramseur used a Soundfield Mark V surround microphone system for Martin Stephenson's latest Album, Hell's Half Acre. Below, Ramseur and guitarist Stephenson on Ramseur's front porch in Midland, North Carolina (where the album was recorded).



THE NEW STANDARD



A new standard in location recording

A new standard has been added to the 4006 family. The 4006-TL offers extended bass response and higher sensitivity. The precise reproduction, total transparency, high resolution and natural sounding clarity of these microphones continue to make the 4006 family the best microphones in their class.

Upgrade your 4006 to 4006-TL specification

4006 microphones can be upgraded to 4006-TL specification. Undertaken at the DPA factory, the upgrade consists of a new preamplifier, a Close-miking grid, a calibration chart and a new mic case. Visit www.dpamicrophones.com for full details.



DPA 4006-TL

The microphones for sound professionals with uncompromising demands for musical accuracy

DPA 
MICROPHONES

www.dpamicrophones.com

by Alex Oana

Crane Song Phoenix Tape Emulation Plug-In Suite

This TDM plug-in delivers compelling shades of analog tape to PTIHD DAWs

I used to record on tape. I used to mix through desks. I now mix on a desk with tape on my sore mouse finger. I love mixing in the box, but digital mixing is in its infancy compared to the evolved and perfected analog technology it has heretofore been prematurely judged against. I need plug-ins that supply what I miss about the analog world.

Enter the Phoenix, a meticulously modeled \$450 TDM tape machine emulation plug-in suite released by Crane Song and designed by Dave Hill (who also builds fancy tape electronics). It is from this standard of fidelity that Phoenix takes its inspiration.

Real tape adds harmonics, varying equalization, and dynamics ranging from compression to overdrive depending on the machine, the alignment, the tape formulation and how hard you hit it. Phoenix's sound has been accurately described as subtle, but one must understand it's not trying to be a glorified distortion effect. Think of Phoenix as a well-behaved two-track deck; you can insert on one track, the two-mix, or all your tracks.

FAST FACTS

APPLICATIONS

Studio, mastering, live (with Digidesign VENUE)

KEY FEATURES

Five types of high-quality tape machine emulation; up to 192 kHz; TDM/Pro Tools only

PRICE

\$450

CONTACT

Crane Song | 715-398-3627
plug-ins@cranesong.net



FEATURES

Phoenix has five types, each a separate plug-in. Even Crane Song found it difficult to describe their sounds, as evinced by these given names: "Iridescent," "Luminescent," "Dark Essence," "Luster" and "Radiant."

Phoenix has three buttons, one big knob and one hidden control for input gain. The three buttons have names more cryptic than the actual plug-ins and work like three fixed bias and EQ settings on a tape machine. They are:

- Gold - Normal, properly aligned and biased, flat frequency response. Harmonics increase equally across the spectrum.
- Sapphire - Underbiased, bright EQ curve. Shiny and light on its feet with extra high-frequency harmonics.
- Opal - Overbiased, dark and meaty EQ curve. Emphasizes low frequency harmonics. Can get quite thick.
- The big knob - Determines how much "Phoenix process" blends in your signal.

Adjusting the input trim is akin to "how hard you hit the tape." This makes a world of difference, and I wish its control weren't so obscured. There is no obvious GUI control, such as a knob or fader, for this parameter. It took me

a long while to realize I could change the input gain by clicking on the words "Input Gain" and moving my mouse up and down.

Analog behaves the opposite of digital, distorting less when the signal level is lower. It's also usually noisier. The Phoenix does not add noise at any level, like it or not, nor does it introduce wow and flutter or phase distortion. You can put Phoenix on a duplicated track, for example, and blend the two together with no smearing — an important consideration for advanced ITB mixers.

I get the feeling from the looks of the Phoenix's crackled silver faceplate and its MacDraw font that Dave hasn't left Crane Song HQ in Superior, Wisconsin since the 1990s, when fashion trends of the 1980s finally trickled north. We end users benefit sonically, if not aesthetically, from his hermetic dedication.

IN USE

I just finished mixing a record by Romantica, a Minneapolis band that was recorded (except for the drums) with one microphone and one preamp by the band themselves. Every acoustic and electric guitar, accordion, violin and vocal were committed to hard disk with one Millennia TD-1 — the clearest, fastest preamp I've ever heard — and a Neumann TLM-103, the most popular entry-level Neumann with a clear and bright signature of its own. These, combined with the band's Digi 002 front-end, made for a mix window full of highly dynamic (no compressor was used in tracking), shiny tracks. I needed a way to give these tracks some girth and some harmonic individuality.

A violin — with its sustained, distinct timbre — is the perfect source to highlight the harmonic contribution of each of the five Phoenix variations. It wasn't until I tried injecting some warmth into Romantica's violin tracks that my ear came to fully understand the Phoenix, though I had previously used it for a year.

What is "warmth" and why would I use the Phoenix to get it? To answer this question is to explain the popularity of digital recreations of classic analog gear. Those analog artifacts, those impurities, those distortions infected into amplified voltages — once just innocent sound waves in a room or oscillations in a synth — gave the sound more than clinical electronic conversion and storage; they added harmonics which translated into punch, grit, luster, attitude, radiance, dark essence...

Oh, I get it, Dave. This theme of reanimating the analog in a digital world is the new black when it comes to plug-in fashion.

I noticed as I tried each of the Phoenix types on the violin that the harmonic and EQ emphasis changed radically. I generally think of the Phoenix variations like choosing microphones

or preamps: I'll use the same type if I want symmetry. I'll use different types of Phoenix if tracks need help gaining distinction from one another.

I ultimately chose "Luminescent" on the violin to bring out some fatness, mellow out some brashness, sustain its body, and to make it more distinct from the other tracks. Yes, one plug in did all that, yet its dynamics remained well intact. I chose "Dark Essence" for the pedal steel of Eric Heywood (Sun Volt, Ray LaMontagne) to provide continuous presence in the low mids. and to set it apart from the electric six-string. Acoustic instruments benefit from Phoenix's tendency to add upward compression, the technique of blending in a compressed signal with an uncompressed signal of the same source.

The website mentions "Dark Essence" is great at reducing sibilance "by increasing the apparent loudness of the rest of the signal." I put that advice to use on a mix, and it worked perfectly without making the vocal too heavy. Please be careful, though; I've found it easy to badly distort sibilance using the Phoenix as the final insert in a series, especially when preceded by compression and high frequency enhancement. The solution is to heavily de-ess or to reduce the input trim, which is a fair compromise. I just wish I could get more overall "tape saturation" without this obvious HF distortion, which is exactly what Dolby HX Pro does.

A broad palette of sounds can be achieved with a real live spinning tape deck as you change tape brand, the ips, how hard you hit it, etc., and you'll hear Phoenix operating within a safer range of these possibilities. A stunning example of "slamming the tape" is found in Roy Thomas Baker's vocal production on Queen's Bohemian Rhapsody. Legend has it he forced the engineer to cover the VU meters and just turn it up until it sounded good. You can hear Rich Costey quoting this technique on Muse's Starlight. One must also understand that, because of track width, a multitrack may saturate like this more readily than half-inch two-track.

My suggestion to improve the Phoenix would be the addition of a knob for the input gain control. I don't know why this feature is so hidden when the website espouses, "Phoenix's color is dependent on signal level." Additionally, I could imagine a Phoenix "Fire Edition" (killer name, huh?), offering a drive control to really slam the tape followed by an output trim. Maybe they could name it "Evanescence."

The Phoenix sound is interactive, and authentically non-linear. At first I couldn't help but want it to be more aggressive, more explosive, more rad. But, then again, when applied to a recording full of acoustic instruments its overall effect is radical.

Phoenix is great at re-injecting some thickness into attacky snare drums, and will smoothly saturate clean Wurli. I often flip through the Phoenix varieties on electric guitars when I'm in search of more presence in some part of their spectrum. Bass gets bigger. Kicks get fuller, but not necessarily punchier. One approach suggested by Crane Song is to put a Phoenix on every track — an approach made realistic by its high DSP efficiency. Many times when I thought a mix was almost "there" I'd still be having troubles. So I'd put a Phoenix on and things would fall into place.

| SUMMARY

I'd been mixing exclusively ITB for a year — always in search of magic ingredients that would make DAW mixing come to life — before I downloaded the Phoenix. I have come to realize the DAW platform — in its current state of the art, no matter what analog emulation plug-ins or summing box you add — is never going to sound the same as mixing through a desk or onto tape. Yet a quality plug-in like the Phoenix is a step toward making in-the-box mixing more musical and more fun.

Phoenix will change your world, in a very positive, sometimes subtle, sometimes dramatic way. Phoenix shines in a number of situations, and, unlike a physical tape machine, will allow you to place a tape-like effect at any point in your plug-in chain creating opportu-

CRANE SONG continues on page 63 ►

1nV Low Noise Dual JFET



Noise - En (nV/Hz)

Frequency

LSK 389 Series

LINEAR SYSTEMS

LSK389

LSK389

Low Noise < 1nV
Monolithic Dual
Tighter Idss Matching
Narrow Idss Grades
Low Capacitance: 20pf
Functional Replacement for 2SK389

www.linearsystems.com 800-359-4023

Anyone who has heard it knows . . .

NEW



VT-7 Vacuum Tube Compression Amplifier

D.W. FEARN

www.dwfearn.com

610-793-2526
P.O. Box 57 • Pocopson, PA • 19366 • U.S.A.

by Paul Richards

Groove Tubes Glory Compressor

This impressive valve comp may prompt
'hallelujahs' in studios nationwide

"Glory" control. The Glory Compressor offers ratio, threshold, attack, release, input and output controls, as well as side-chained

of compression, achieving 5dB of maximum gain reduction. The part was mostly the root note of the guitar chords, so adding in the Glory control set about halfway to the "Heaven" side seemed to thicken the bass and allow it to occupy the bottom of the mix without sounding muddy. The compressor did not sonically tap you on the shoulder to announce its presence, even with 5 dB of gain reduction.

The Glory Compressor on drums was placed on an omni-directional modified C12-type tube condenser being used as a room mic. The Glory Compressor — placed about six feet in front of the kick and raised to be level with the toms — handled the transient attacks of the cymbals with ease,

In collaboration with the Conservatory of Recording Arts and Sciences, one of the country's leading pro audio teaching facilities, PAR has introduced a regular series of in-depth reviews conducted at the Conservatory's state-of-the-art teaching facility in Phoenix.

Audition:

The father of a high school friend was one of the production team members for the Dodge Viper. One day he took my friend and me each out for a ride in one of the prototypes. It gave me a sense the Viper was more than a car; it was part art and part advanced technology. I had not had that feeling in years until I opened up the Groove Tubes Glory Compressor (\$3,499). The Glory Compressor is a single-channel, three rack-space tube compressor with a feature palette that could keep even the most compressor-savvy engineer discovering new tonal possibilities for as long as they use the processor.

FEATURES

The Glory Compressor packs an impressive seven tubes into its all-tube-from-input-to-output design. It weighs in at 37 pounds and, due to the heat generated by the tubes, requests being housed in five rack spaces, one both above and below the unit for ventilation. It offers both 1/4-inch TRS and XLR jacks for both program input and output. It connects to power through a standard IEC connector. The Glory Compressor offers the standard parameter controls on most compressors, as well as numerous other features.

One of the first things that struck me upon opening the review unit was the number of knobs on the "older military-issue"-style front panel: fully balanced multideck ceramic switches for most of the functions, plus potentiometers for input, output and

EQ options from either an internal or external source, a thorough nine-position meter selection knob and the feature behind the name, the "Glory" control. The Glory knob, variably selectable between "Earth" and "Heaven," introduces low-order even harmonics into the post-compressed signal. The harmonic bandwidth operates on fundamental frequencies between 40 - 700 Hz.

IN USE

I had the opportunity to test the Glory Compressor over three different sessions on bass, drums, acoustic guitar and vocals. It was a welcome guest in every instance. I first used the Glory Compressor on a '80s-style rock bass part. The bass ran direct into an OSA MP1A mic preamp, then into the Glory Compressor. Because of the nature of the song I wanted to get a medium amount

and the sound coming from the unit's output was "the mix," according to the artist. The Glory control again thickened up the kick drum and floor tom, while, due to harmonic bandwidth, leaving the snare and the cymbals mostly alone.

The Glory control took the spotlight on the bass and drums, but other features stood out on acoustic guitar and vocals. The ratio options as well as the side chain EQ came in handy while tracking a Tacoma Jumbo Koa that had been freshly restrung. The Glory Compressor, unlike most compressors that offer whole increment ratios, offers 1/4 dB changes between the 1:1 and 2:1 settings and a half dB step between 2:1 and 3:1. This meant a wildly dynamic performance could be captured with very subtle changes to the signal peaks; a very impressive level of control, to say the least. The side-chain EQ are



fixed shelves at 50 Hz and 10 kHz with low-Q contours and +/- 10 dB in adjustment. This means the side chain EQ instead of acting as a de-esser was included to work on signals "overly rich in low or high band edge content." The compressor became more sensitive to high frequency content by setting the 10 kHz adjustment counterclockwise into the negative setting. Finger squeaks were still present for the acoustic guitar, but less bright and forward in the performance.

I recorded vocals with a BLUE Bottle through a Neve VR preamp and the Glory Compressor across the insert. Using a ratio of 1.5:1 with a low threshold resulted in a very controlled signal, with the compressor consistently engaged while obtaining a low overall amount of gain reduction. Groove Tubes pulled out all the stops to provide a compressor that allows for tremendous flexibility in controlling signal. The singer, in a similar manner to my drummer, stated the Glory Compressor gave his vocals a very "finished" quality.

Another item that deserves recognition is the user manual for the Glory Compressor. The version I received was still a "preliminary" version, but I found it to be very useful; it combined enough technical info for the experienced engineer with very basic descriptions of functions and features in a step-by-step guide for newer users. Something I found interesting and

unique in a processor of this style and caliber was that although the all-tube design screams analog the manual referenced samples in digital recorders when addressing how to use the attack control.

| SUMMARY

I give the Glory Compressor two very big thumbs up for quality of build, design, features, and performance. It deserves mention alongside the top compressors in

pro audio, both today and from the time when tube designs reigned. It would certainly be more than a welcomed addition to my setup; it would become a featured processor on many different tracks.

Paul Richards is the Audio Recording and Production Instructor at the Conservatory of Recording Arts and Sciences. He has recently opened his own mobile audio services company, Small Planet Audio.

| SECOND OPINION

"In all situations, the Glory Compressor imparted a smooth, strong character. I could not shake the feeling I was hearing a classic compressor."

— Phil Nichols,
Assistant Director of Projects
Conservatory of Recording Arts and
Sciences

"The Glory Compressor made the drums sound huge in the room without sounding overly compressed. Normally, I am not a fan of room mics, but with the Glory Compressor I would use a room mic every time."

— CJ Vallely,
Session Drummer

"The Glory control gives the sound a subtle, but unmistakable thickness that made the bass a solid foundation for the song. To say the Glory Compressor is simply a compressor sells it way short — its awesome."

— James Smith,
Bassist and Assistant Engineer



The Signature of Excellence

The Portico 5014: Stereo Field Editor



The all-analogue 5014 transcends the boundaries of traditional two-channel recording and playback. By using its intuitive and powerful controls, you can breathe new life and dimension into your stereo mixes. List \$1795

The Portico 5016: Duo Mic Pre/Variable Phase DI



The 5016 combines the same renowned Portico Series mic pre with all-new DI circuitry that allows input signals to be accurately rotated to minimize phase cancellations. Two channels of uncompromising quality for under \$1200.

Tel: 512-847-3013

www.rupertneve.com

by Rob Tavaglione

Universal Audio UAD-1 Ultra PAK Plug-Ins and Card

This hardware/software PAK's a punch

Universal Audio (UA) has created — and recreated — some of the finest audio processing hardware around, so I was intrigued to check out the UAD-1 Ultra PAK (\$1,495). Combining a suite of 24 virtual compressors, limiters, EQs, reverbs and such with a DSP-powered PCI card, the UAD-1 provides processing to free your computer's resources.

FEATURES

The UAD-1 — with a single, un-partitioned processor on its PCI card — can handle 32-192 kHz sample rates with zero host load on your CPU. The number of instances to be expected depends on the exact plug-ins used, but ranges from a minimum of two with the Nigel Guitar Processor (a suite unto itself) to as many as 28 with the 1176SE vintage compressor (both at 44.1 kHz). This set of plugs contains the expected emulations plus a number of original "stock" plugs including the Cambridge EQ, Nigel Guitar Processor, CS-1 Channel Strip, RealVerb, DreamVerb and the acclaimed Plate 140. Additionally, UA presents its Precision

Mastering Series with the Precision Limiter and Precision Equalizer, both claiming the highest possible quality signal processing for mastering applications.

The UAD-1 is both Mac- and PC-compatible, although newer Intel-Mac owners will want the UAD-1e for compatibility with their PCIe (PCI Express) slots. All platforms require 98 MB of disk space, at least 256 MB of RAM (512 recommended) and Internet access for registration purposes. Windows machines require Windows XP, 2000 or Server 2003, plus VST-compatible host application software. Mac machines require OS X 10.3.9 or higher and either a VST or Audio Units compatible host. Pro Tools 6.x and 7.0 are supported for OS X and XP; RTAS is also supported.

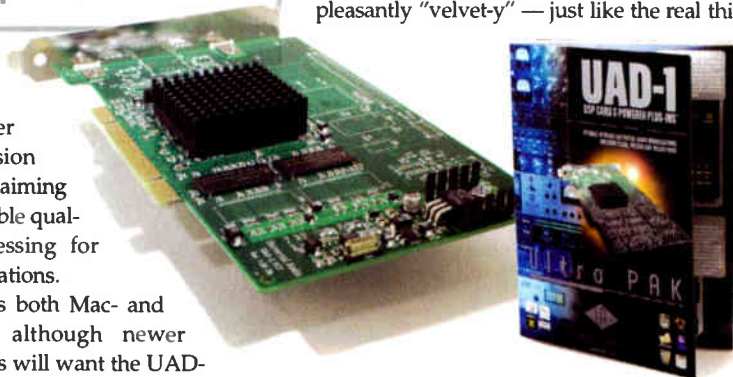
IN USE

Installation was trouble free and smooth, although not exactly convenient. One installs the UAD-1 DSP card into a PCI slot, then installs the software from a CD and locates registration at the UA website. The UAD-1 Ultra PAK includes most everything UA offers except the Neve 1081 and 1073 EQs, the Neve 33609 compressor, a few classic Roland emulations, as well as UA's own multiband compressor (mastering grade).

My first test was to see how many instances could be instantiated for the various plugs, and I was pleasantly surprised. I typically got exactly the number of instances that UA indicated I should before my handy UAD Performance Meter showed I was out of DSP power. I found myself constantly eyeing the UA meter — far more accurate than my Digital Performer 5.1 CPU meter — as I auditioned various plugs, noting the changes in overall usage and only occasionally going over the top and being notified that another

plug-in had been disabled for my indiscretion. The most CPU-intensive were the Precision Mastering Series and the DreamVerb (with only five stereo instances at 44.1 kHz), but UA recommends up to four UAD-1 cards per computer for high-powered mixing prowess.

The 1176 LN compressor was quite authentic and just like a classic blackface (yes, you can push down all ratios at once for super-squeezing). But the 1176 SE (silverface style) with its limited DSP usage wasn't as much to my liking for being a bit strident. The Teletronix LA-2A leveling amplifier was straightforward and pleasantly "velvety" — just like the real thing



— and therefore it excels on vocals.

Pultec EQs were recreated exactly and offered that renowned "silkeness" and pleasant extreme boost. Musical and smooth, but gobbling up DSP, the Pultec Pro offers some serious power. In addition to the EQP-1A's low- and high-band, the three mid-bands from the MEQ-5 are added — a "peak" from 200-1000 Hz, a "dip" from 200 Hz-7 kHz, and another "peak" from 1.5-5 kHz. Sexy stuff!

The Fairchild 670 compressor was quite laden with character and authentically complicated, but powerful and flexible. I found the Precision Limiter to be quite a workhorse, too. I really liked this plug with its clean, straightforward design and magnificent metering. I found them nearly equal in limiting transparency during a side-by-side mastering test against my Waves L2 limiter, with the UAD limiter sounding just a tad bit smoother and the Waves sounding a bit more forward.

All of the UAD stock plugs were useful and adequate, but not necessarily stellar. Plate 140 offers three distinct and smooth plate verbs (all quite nice), while Nigel had my favorite module: the Preflex. It offers this instant trash drum sound that is very nasty and quite likable. With compression, EQ, distortion and "Bent," this is one fun plug for many kinds of mangled modern rock and pop tracks. DreamVerb and Realverb Pro are both already popular and widely used verbs, both eating up DSP but delivering smooth tails and abundant parameter control.

UNIVERSAL AUDIO continues on page 63 ►

FAST FACTS

APPLICATIONS

Studio

KEY FEATURES

Signal processing for Mac/PC with vintage compression, limiting, EQ, reverb and more emulations; on-board DSP; 1176s, LA-2As, Pultecs, mastering grade processors, more

PRICE

\$1,495

CONTACT

Universal Audio | ☎ 877-698-2834
 ☞ www.uaudio.com

Virtual. Perfection.



StrobeSoft™

StrobeSoft Software Strobe Tuner for Mac / PC

Perfect tuning for instruments or samples can be made with razor-sharp precision using StrobeSoft's 0.1 cent accuracy borrowed from our legendary hardware tuner line.

Take advantage of over 30 preset Sweetened Tunings™ that compensate for certain instruments' design flaws and optimize their sound. Use the integrated Buzz Feiten Tuning System® presets for your BF-equipped instruments.

Standard chromatic tuning mode and innovative 'Instrument Mode' provide professional tools for quick tuning or complete instrument set-ups.

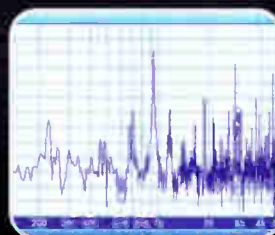
With more than 50 preset alternate tunings and unlimited capability to store your own presets, quickly dial in the tuning you need or compile play lists for studio sessions or your live shows.



Note/Octave window offers real-time response and multi-window (below) provides cent offset, Hertz value, and MIDI note number.



Store unlimited presets for all your instruments or create a preset for each song in your set to compile a set list for studio reference or tonight's gig!



Use the spectrum analyzer to view the fundamental note and its harmonics, view noise floors, or to help you isolate tuning issues. Oscilloscope also included.

Legendary, Peterson 0.1 cent accuracy / 52 preset alternate tunings / 26 Instrument presets / Over 30 exclusive Sweetened™ Tunings / 12 selectable temperaments / Buzz Feiten open and intonation presets / Intonate Mode / 96kHz support / 20Hz-5kHz range

VST plug-in available July 2007.

Free 1.22 update to registered customers.

Check it out today at www.strobesoft.com

peterson
STROBE TUNERS
- Industry Standard for 59 Years



World Radio History

by Rob Tavaglione

Rupert Neve Designs Portico 5042 'True Tape' Emulation and Line Driver

The ideal of analog tape in a small, neat box

Rupert Neve is legendary. The Portico series is already widely respected. The pedigree of the 5042 "True Tape" Emulation and Line Driver is undeniable. Yet, still the question remains whether this little \$1,795 box sounds like a tape machine.

FEATURES

According to RupertNeve.com, "The Portico 5042 incorporates an actual tape drive circuit that feeds a tiny magnetic 'head' which, in turn, is coupled to a correctly equalized, replay amplifier."

Sounds good, so here are the specs. The 5042: Half-rack size. XLR I/O; custom-designed transformers I/O. Quality build; rugged chassis. Input level control: +12 to -12 dB. Saturation control. 7.5 or 15 IPS selectors. Eight-segment LED metering. Dual mono.

Line amp specs are as follows: Noise (measured at the main output, un-weighted, 400 Hz – 22 kHz, terminated at 40 Ohms balanced) with gain at unity is better than -100 dBu. Frequency

response (measured at +10 dBu, unity) for the main output is -0.5 dB at 10 Hz, -3 dB at 160 kHz. Maximum output level is +25 dBu; THD + Noise is better than .0015 percent at 1 kHz and typically .025 percent (+20 dBu output level, no load).

Tape FX specs include a maximum output level of +25 dBu and +6 dBu (gain trim at unity, saturation at minimum

and maximum, respectively). THD + Noise with the "tape" engaged is approximately 1-2 percent, second and third harmonic below 1 kHz. At the 7.5 IPS setting, frequency response is -3 dB at 16 kHz; at 15 IPS it is -3 dB at 20 kHz.

IN USE

I'm fond of squeezing, shaping and smoothing some of my mixes through a nice Ampex 1/2-inch two-track. So I began testing by passing some digital mixes through the 5042 on the way to my DAW. The inherent dichotomy upon engaging the 5042 was immediately apparent: this box is quite subtle, and yet it profoundly changes mixes. I first noticed the kick drum gaining heft, weight and size with some indie rock mixes and the 15 IPS setting selected — there was more roundness, sustain and physical presence. Cymbals showed a slight dulling, but lost that nasty "digitalsis" that condensers and digital tracking often bring. Guitars were nicely "averaged," with the occasional loud overdub settling down into the mix and secondary parts seeming to hold their own a bit better. Sibilance was tamed somewhat, much like a tape recorder, and low mids were filled out as the vocals lost that irri-

tating harshness on hard, loud consonants. Bass guitar lost some transients and definition, gaining low-mid saturation — questionable qualities in this mix — but could be just perfect for more traditional bass sounds that are less mid-rangey and more bubbly.

I retried all of the above with the 7.5 IPS setting and found myself perplexed. I found 7.5 was chunkier and duller and 15 was tighter and clearer, while minor changes in the saturation control revealed a multitude of subtle variations. I found myself needing to try both settings and then choose sometimes radically different amounts of saturation. Such flexibility may confuse beginners, but it is this versatility that pro users will prefer.

I had the band (Charlotte indie rockers Safe Return Doubtful) do a blind test of their mixes with the 5042's process, and I received some



interesting comments.

The bassist said, "The guitar and vocals sound a lot better to me, clearer and louder. The drums sound good and I noticed the cymbals more, they have more definition to them ... the volume of the bass has not seemed to change, but I can't hear runs and licks as well. Overall, it sounds more like a finished product."

The guitarist said, "On passages where we purposefully cranked the guitars they sound more pleasing and 'glued in' to the mix, as opposed to leaping from it. This isn't compression, is it? Because I still hear all the dynamics, but everything seems smoother and 'congealed,' almost a vintage sound ... very, very subtle, but I prefer it."

Next up was some testing with the 5042 used as a buss insert. The 5042 here made me instantly satisfied, with both 7.5 and 15 IPS settings. Drums responded the best in this manner, with delightful low-end presence, smoothness and character. My kick nicely owned the bottom, with snare gaining gravitas and punch, but it was my toms and cymbals that really improved. Here was the depth and fullness my toms had lacked and my cymbals got their

RUPERT NEVE continues on page 48 ▶

FAST FACTS

APPLICATIONS

Studio; "Tape-style" signal processing for tracking, mixing, buss processing and mastering

KEY FEATURES

7.5 or 15 "IPS" operation, transformer balanced inputs and outputs, saturation control, bus connections for connecting to other Portico units

PRICE

\$1,795

CONTACT

Rupert Neve | ☎ 512-847-3013
 ☞ www.rupertneve.com

DON'T TAKE OUR WORD FOR IT...

Here is what the PRO'S are saying about the latest microphone from **MXL**:

The **MXL V69M Mogami Edition** large diaphragm, Tube microphone, has a classic sound that will enhance vocal and instrument performances in any recording environment. The extremely low noise FET output circuitry, wide dynamic range and warm, airy, tube sound makes the V69M a perfect complement to all analog and digital recording devices. The MXL V69M comes housed in a deluxe flight case with a pop filter, shock mount, and dedicated power supply. The V69M is internally wired with Mogami cable and is supplied with Mogami Tube and low-noise studio microphone cables. All at a price that's unbelievable! Audition one today at your local music or pro-audio retailer. You will not believe your ears.

"It was detailed throughout the frequency spectrum, and from a near-whisper to a wail, the V69 caught every nuance. The Marshall MXL V69 Mogami edition is an excellent microphone, and when you factor in the low, low price, the price performance becomes downright amazing."

Scott Burgess Pro Audio Review

"So, we tested the V69 against - count 'em - 11 other popular condensers, ranging in price from \$169 to \$5,000 list... both the engineer/producer and the singer picked the V69 over the other 11 mics. None of them had the same combination of classic tube warmth and top-end air of the V69."

Fett, Songwriter Magazine

"If you're looking for a mic that performs like it costs a bunch more, give the V69 a very close look. You'll be thrilled at how little money you have to shell out, and you'll be even happier at how well it does it's job."

Mitch Gallagher, Editor Eq Magazine

"Soundwise, I was very impressed that the V69 could hold its own against an industry standard like the U47. It struck me as very versatile and of higher quality than other budget tube condensers."

Pete Weiss Tape Op Magazine



MXL

Tel.: (310) 333-0606
Toll Free: (800) 800-6608
www.MXLMics.com

“body” back, now fitting into the mix loudly without intruding on other tracks. I found buss compression to be ideal on bass and keys as well (adding color and fine grit), but more hit or

PRODUCTPOINTS



- Sounds very much like tape
- Extremely convenient
- Quality construction



- Limited metering
- Lacking legend or parameter values

SCORE

An ideal solution for warming up digital audio

miss on guitars and vox.

Channel insertion was the next obvious move, and the results were startling. I had been using the effect control so far between 7 and 10 o'clock (no measure or legend is given), which

isn't a lot of the process. But the results were still dramatic. I found with the 5042 inserted on individual channels I was using both 15 and 7.5 IPS at settings between 12 and 3 o'clock! This worked miracles on kick, snare, bass guitar and vocals (15 IPS best), imparting all of the above with mild compression, saturated low-mids and pleasantly tamed high-end transients. Be forewarned, however: This process is intoxicating and easy to overuse — use a little less of the effect than initially dialed in and apply it judiciously for subtle textural contrast, much like hitting tape hard or slamming a compressor. I would not hesitate to track trouble sources like drum overheads, tambo's and soprano vocals with the 5042 as a preventive measure, and then massage subgroups of drums, instruments or vocals in the mix, too.

The 5042 in bypass mode becomes a transformer-balanced line driver, and its wonderful windings deserve mention here. Old-timers often pass strident audio through a tape machines electronics to gain its very subtle fullness and warming characteristics. The 5042

did just that; anything passed through it sounded slightly more analog and a little less modern. This box is anything but neutral, yet after all that is its “raison d'être”.

SUMMARY

I often find the number of analog tape variables (tape speed, brand of tape, hi and low repro levels, overbiasing, reference level) to be both my creative luxury and a bit of a burden, as well. The 5042 isn't that different; it's almost as flexible as tape, it can be misused like tape — with about one-tenth of the effort! But it doesn't sound like any one particular tape machine, this is most certainly the vibe of tape. This processor may require finesse and careful judgment on your part, but is obscenely convenient. My trusty Ampex may still be the ultimate painter's palette, but there's a new kid in town and he's a lot easier to play with.

Rob Tavaglione is owner of Catalyst Recording in Charlotte NC (specializing in independent music production), teacher of college level audio courses and mixer for the NBA's Charlotte Bobcats. Contact him at rob@catalystrecording.com.

alphatrack

One Fader To Rule Them All

MIX

EDIT

AUTOMATE

RULE



FRONTIER



Finally, a control surface that fits your desktop and the way you work.

Touch-sensitive, 100mm motorized high resolution fader • Touch-sensitive parameter and effects knobs
Touch sensitive jog and shuttle strip • 32 character backlit LCD • Foot-switch jack • USB interface

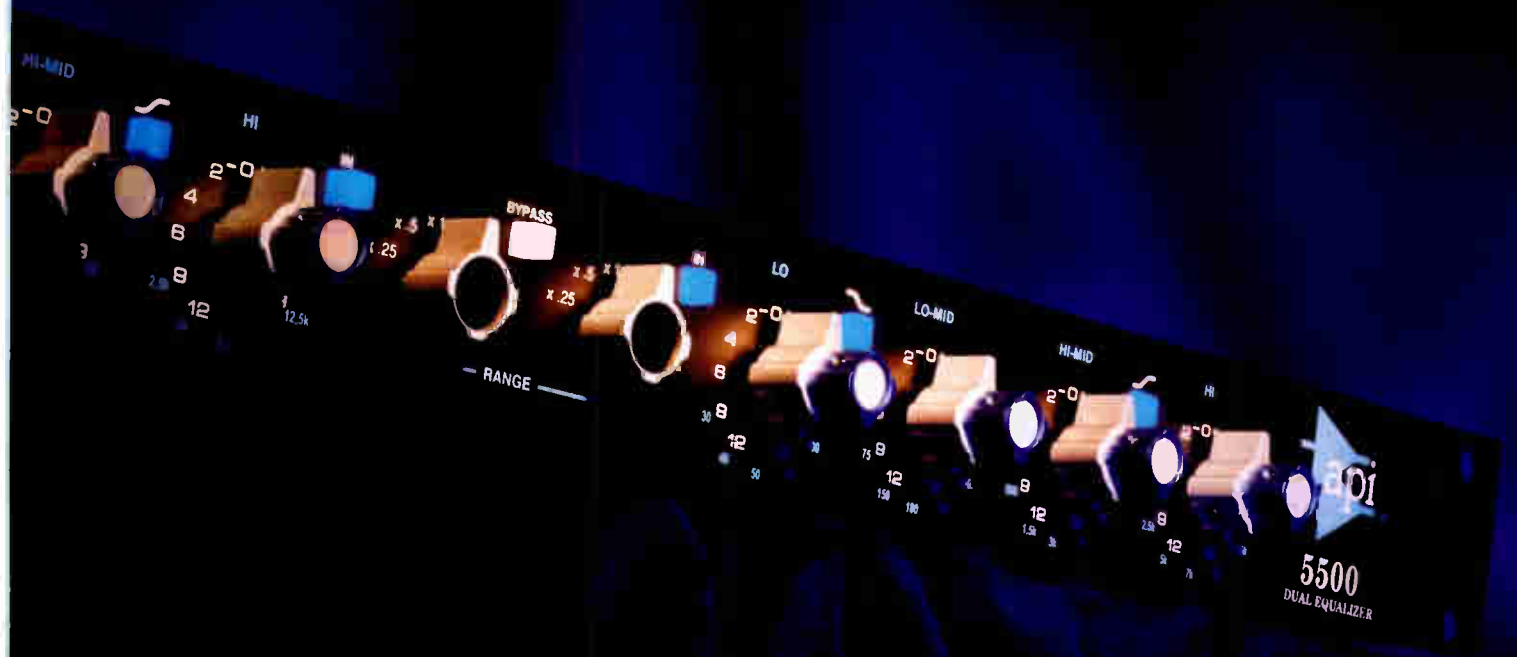
FRONTIER
DESIGN GROUP

www.frontierdesign.com

See the
Online Demo



Fine Tuning.



Two channels of four band EQ
with multi-position range control

The 5500 Dual Equalizer.

All Discrete from API

www.apiaudio.com
301.776.7879



Phat's good.

by Stephen Murphy

Lucid GENx192 Master Clock

Respected master clock builder offers flexible performance, high-quality at a low price

Imagine, if you will, that you have been magically transported back in time — back to a time when the monstrous Ampex Rex and Otariaptor ruled the vast studio lands. Relegated to stalking the basement caves was the diminutive, four-tracked TASCAM-asaurus, with its plaintive hiss and irksome flutter (and wow). Then the mighty Digidactyl swoops...

Right, that's enough prehistory. What I'm getting at is this: The gulf between professional and home studio recording decks in the analog days was vast and clearly defined — often by a tens-of-decibels noise increase and disturbing quantities of intermodulation distortion. This gulf has been bridged if not completely filled in in the nearly exclusive digital-recording age (I'm talking about the recording system — not rooms, mic collections, talent, experience...).

A last remaining area separating prosumer from professional digital gear is the quality of audio converters and, of equal import, the

clocks that drive them. And with so many products using the same or equivalent converter chips, the stability and manner of synchronization can be a top defining difference between digital recording systems.



FEATURES

Since its formation, the Lucid brand of Symetrix has earned healthy respect from the recording community for its high-quality audio converters and clocks, including the popular SSG192 Studio Sync Generator (which I ultimately chose over several contenders for my studio master clock). Lucid's latest entry into this highly specialized and competitive market is the single rack-space GENx192 Ultra Low Jitter Studio Master Clock (\$879).

At over \$600 less than the SSG192, the GENx192 understandably lacks some of the higher-end features found on its bigger brother, including Superclock support and NTSC/PAL video house sync generation with pull-up/down correction. At the same time, the new GENx192 boasts interesting features that make this SSG192 owner jealous. First the basics...

The GENx192 Master Clock provides 14 sync outputs (almost twice that of the SSG) on its rear panel. Sync outputs include eight standard word clock outputs (on BNC), four AES-3/AES-11 audio/sync outputs (XLR-M) and two S/PDIF (unbalanced AES-3/11 on RCA) outputs. All outputs are evenly divided into two separate banks labeled A and B. For syncing to external sources, the GENx192 provides two inputs, one for standard word clock (BNC) and one for AES-3/AES-11 sources (XLR-F).

The GENx192's front panel features a straightforward control set of just three selector switches (Sync Source, A Outputs, and B Outputs) and a block of eight green LEDs —

one to indicate lock status and the remaining to indicate current sample rate (at the usual stops between 32 - 192 kHz). The two bank controls allow each bank of eight outputs to operate on different clock multiples simultaneously. Internal clock frequency is selectable from 44.1 - 192 kHz, and the unit can receive and redistribute incoming clock frequencies from 28 - 216 kHz.

IN USE

Jitter is the ugly stepchild of digital recording. Every digital system has some, and it's not known for playing nice.

To oversimplify, jitter is any of several unwanted variations in that which should never vary, namely the square-wave pulse synchronizing digital devices. This pulse also tells converters when to load and ingest (A-D) or

spit out (D-A) the next sample. Any clock variation causes distortions in how an analog signal is sampled or reconstructed. Depending on the jitter type and amount, degradation can be heard in clarity, stereo separation, intra-channel separation/depth and what can subjectively be described as overall ease of listening.

Use of a multi-output master clock, such as the Lucid GENx192, is the first and best step you can take to reduce jitter. Mirror-image, individual clock outputs from a high-quality dedicated clock (instead of a long daisy chain through disparate gear, some with potentially questionable implementation), coupled with connections through high-quality 75-ohm cables will go miles on the road to reducing jitter.

The GENx192 comes with some innovative features that will help home and pro studio engineers alike get further down that road. My favorite of these is the set of nine tri-state "Termination" LEDs, one for each word clock output and one for the single input. These helpful little guys provide confirmation of termination status — invaluable information to ensure good clocking conditions. An amber light indicates an overvoltage/underterminated condition (or absence of connection on the outputs), and a red light indicates an undervoltage/overterminated condition (or absence of connection on the input). A green light indicates proper voltage and termination conditions. A termination switch is provided for the word clock input.

When syncing to an incoming clock, instead

LUCID continues on page 53 ►

FAST FACTS

APPLICATIONS

Studio, mastering, audio-for-broadcast, audio post

KEY FEATURES

8 word clock outputs; 4 AES-3/11 outputs; 2 S/PDIF (unbalanced AES-3/11) outputs; can act as 1x4 AES distributor; 1 AES-3/11 and 1 word clock input; clock outputs divided between two banks allowing different clock multiples to be output simultaneously; automatic termination sensing and indication

PRICE

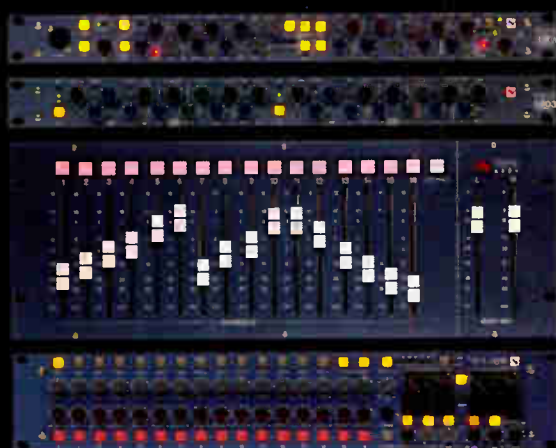
\$879

CONTACT

Lucid Audio | ☎ 425-778-7728
 ☞ www.lucidaudio.com



Toys are never as good as the real thing.



Introducing the Modular 88 Series Outboard Range.

For over four decades Neve has designed, developed and built the world's premier recording consoles. Now, for the first time, you can build your own classic Neve studio, piece by piece, with elements from the 88 Series—widely regarded as the world's best-sounding music console.

8801: Channel Strip

8803: Dual EQ

8804: Fader Pack

8816: Summing Mixer

Visit your nearest authorized Neve dealer for an in-person demo.

Don't Settle for Less than Genuine Neve.

AMS Neve Ltd products are distributed in the Americas by Audio Agent LLC.
155 108th Ave NE, Suite 210, Bellevue, WA 98004 | www.audio-agent.com

Authorised dealers include Guitar Center Pro, Sonic Circus, Vintage King, West L.A. Music and Westlake Audio.



Neve

by Stephen Murphy

Aphex Systems 240 Dual-Channel Gated Compressor

Aphex's affordable dual comp/gate for quality-conscious, Easyrider-craving engineers

Hardware audio processors struggle to find relevance in the increasingly virtual studio world, but dynamics processors such as Aphex Systems' Model 240 enjoy a strong demand from the live production and broadcast markets. Competition among manufacturers

send/return configuration) for adding an equalizer before the threshold detector circuit or inputting an external key source

Each channel consists of a Logic-Assisted Gate section followed by an Easyrider Compressor section. Gate controls include

talized for 20-plus years (and worship for their stalwart performance), I have the utmost respect for Aphex products. The Compellor became one of my all-time favorite pieces of gear at my commercial facility; all of the Compellors (and the excellent 612 and 622 gates) continue to function flawlessly, despite constant use for more than 15 years.

The Aphex 240 continues the Aphex track record with a confidence-inspiring build quality and, as I have found with all Aphex pro-level products, an impeccably clean signal path. Logical control placement and some of the best front-panel labeling I have ever seen made learning and operating the 240 a quick and intuitive affair. In high-pressure situations, these are essential qualities - qualities that were sorely lacking on a competitor's product I recently used at a broadcast facility. It's always gratifying to experience something done right immediately after toiling with something just the opposite.

Most compressor/gate combo units I have used invariably give the short shrift to one processor or the

other (and sometimes both). Although there are a few obvious controls that would have been included on a single-purpose processor, Aphex pulls off the dual-channel compressor/gate trick far more seamlessly and with greater flexibility than any other similarly equipped unit I have used.

This success is due in part to Aphex Systems' established Logic-Assisted Gate and

remains stiff within these markets, however.

Aphex Systems has traditionally aimed to differentiate its products from the old industry standbys and inexpensive imports through its sound quality, reliability and innovative features. This review sees whether the Aphex Systems Model 240 gated compressor (\$599) meets these goals.

FEATURES

The Model 240 is a single-space rack-mount analog dynamics processor featuring two channels of compression and gating. The two channels can be operated independently or linked for stereo program use. The 240 combines Aphex's patented and award-winning Logic-Assisted Gate and Easyrider Compressor technology, and links them together in a unique, interdependent relationship (more on this later).

Each channel has XLR and TRS 1/4-inch inputs (in parallel) and outputs (independent, impedance balanced). All input connectors can be fed balanced or unbalanced signals; the impedance-balanced XLR outputs can feed balanced or unbalanced destinations, while the 1/4-inch outputs are for unbalanced use only.

The operating level for each channel is selectable between +4 dBu and -10 dBv via rear panel switches. Also on the rear panel are two 1/4-inch key insert points (TRS

threshold (-60 dB - 20 dB), attack (4 μ S - 100 mS), hold (5 mS - 500 mS), release (100 mS - 1 S) and depth (2 dB - 80 dB). The fixed-threshold, program-adaptive Easyrider compressor section features a 3:1 ratio with a medium - hard knee. Its simplified set of controls includes Drive (compressor section input gain), Speed (basal time constant adjust; effectively, release time) and Output level.

Other front panel features include power, stereo link and processing bypass (per channel) buttons. A unique metering scheme simultaneously displays a channel's gate gain-reduction status (downward-moving dot) and compressor gain-reduction status (downward-moving red bar) on a single 10-segment LED meter.

IN USE

My first encounter with Aphex products was, like many engineers of a certain vintage, the ubiquitous Aural Exciter. The company and the novel product became fused to many (say it with me now: "aphexauralexiter"). As the company expanded into high-quality, innovative dynamics processors and pre-amps, a lingering association with the original Aural Exciter may have led to the belief that the company was a one-trick pony.

That erroneous perception is hopefully long in the company's past. Like the several Bryston power amps I have owned and bru-



FAST FACTS

APPLICATIONS

Studio, broadcast, live

KEY FEATURES

Dual-channel gate and compressor; XLR and 1/4-insert I/O; flexible balanced or unbalanced operation; patented Logic-Assisted gate and Easyrider compressor technology; external key insert

PRICE

\$599

CONTACT

Aphex Systems | 818-767-2929
www.aphex.com

program-adaptive Easyrider Compressor technology, and in part to the unique manner in which the two processors are linked. Instead of two processors ignorant of the other's existence, Aphex has joined its processors in a cooperative gate/compressor marriage (legal in most states), avoiding the common and wholly unwanted situation where the gate is closing (reducing the signal level) at the same time that the compressor is releasing (increasing the level). Aphex achieves cooperation between the processors by intelligently "freezing" the compressor's operation whenever the gate is closing or closed. The 240 gate/compressor combo performed better in this respect than my usual path of two single-function processors in series.

If you haven't used an Aphex product equipped with a Logic-Assisted gate, you will be impressed with both its ease of operation (especially in setting a proper threshold) and flexibility. In a nutshell,

Like the several Bryston power amps I have owned and brutalized for 20-plus years (and worship for their stalwart performance), I have the utmost respect for Aphex products

the Logic-Assisted gate ensures that once the threshold is reached, it triggers the full attack-hold-release cycle. This has the ultimate effect of consistent gating performance without incidents of chatter, late or early closings and other misfirings.

Compared to typical gate/compressor combos, the 240's gate section provides a generous set of controls, including an all-important depth control. This makes the 240 suitable for anything from full-on gating to subtle downward expansion for reducing unwanted ambience and/or noise (perfect for TV studios and less-than-perfect locations).

I would be remiss if I didn't lament the omission of a built-in key filter control, for which I would gladly sacrifice the key insert point. Of course, then someone else will complain there's no external key insert...

The compressor section of the Model 240 seems woefully lacking at first glance, considering that it consists of just three controls, two of which are input and output gain. But I found to my surprise the compressor section quite effective for most applications. Between the program-adaptive Easyrider technology and the unified Speed knob, it was extremely easy to dial up appropriate settings and tweaks. Its fixed 3:1 ratio combined with a reasonably hard knee proved to be a good design choice for covering the greatest range of uses. It should be noted, especially for on-air use, that the fixed threshold nature of the compressor requires a bit more care (and two hands) to increase or decrease gain reduction without noticeably affecting output volume.

| SUMMARY

Aphex Systems has made some of the finest products I have used in studio and broadcast applications. The Aphex 1100 is second only to APIs as my first-call high-end mic preamps, and I have yet to find any products that rival the transparent leveling of the Aphex Compellor or flexibility of the 622 gate. The Aphex Systems Model 240 inherits many of its predecessors' traits and technologies and links them together in an effective package that's sure to impress demanding broadcast, live and studio engineers.

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

STUDIO

| Review

LUCID Continued From Page 50

of using the common practice of synthesizing a new signal, the GENx192 uses jitter input filtering, which converts the input signal to a DC control voltage that directly drives the VCOs. In testing, I managed to drive the input with a purposefully crappy cable and source of questionable quality, and experienced no noticeable problems, audible or otherwise, clocking my digital gear downstream.

I found two other features of the GENx192 to be particularly (and potentially) useful. One is its freewheel ability, whereby if an incoming clock is interrupted or stopped, the internal clock takes over seamlessly. The other is its ability to act as a one-to-four AES audio distribution box.

| SUMMARY

Good clocks — ya gotta love 'em. The Lucid GENx192 fits the bill not only in its performance as a high-quality master clock, but also in its high-count output complement, flexibility and innovative feature set. I simply couldn't find fault with the box with the exception of its lack of Superclock support. What I did find was a lot to like about GENx192 — especially at a street price as low as \$650.

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.

Vocal Magic

Elvio Fernandes
Songwriter/Producer

Lawson Inc.
Relive the Magic™
USA Crafted Mics Since 1981
LawsonMics.com • 615-269-5542

Ace Young
American Idol
Contestant 2006

"The Lawson L251 instantly worked its magic the minute we started tracking Ace's vocal. Its open, airy sound was perfect for the track and I didn't need any eq at all!!! That's never happened with any other mic I've ever used!! The best mic I've heard in a long time!!" —Elvio

PEAVEY Kosmos V2



FEATURES: Subharmonic and stereo image enhancement; phasing technology to manipulate low/high frequencies; damping control; crossover disable; cut subs from main switch; mono sum switch on outputs, TRS-balanced sub output; front-panel rotary controls; single-rack space.

PRICE: \$299.99.

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

RANE RPM 88 Programmable Multiprocessor



FEATURES: Drag-and-drop configurable DSP-based device using Drag Net PC software over 10Base-T Ethernet; eight balanced analog inputs (selectable mic/line); eight balanced analog outputs; two digital AES3 inputs/outputs; software-controllable mic preamps with EIN of -128 dBu; 48 V phantom power; 106 dB dynamic range; 24-bit converters; 48-bit internal DSP processing.

PRICE: \$3,649.

CONTACT: Rane at 425-355-6000, www.rane.com.

WHEATSTONE VORSIS HD-P3 Multi-Band Digital Processor



FEATURES: Three-band processing; four-band parametric EQ; variable frequency de-esser; expansion, multiband compression; high-, low-pass and notch filter; AGC; HD latency FM delay; adjustable crossover points; AES, analog inputs, analog/digital outputs; GPI, Ethernet preset trigger; 44.1 kHz, 48 kHz sample rates; de-correlator; PC graphic interface; single-rack space.

PRICE: \$1,995.

CONTACT: Wheatstone/Vorsis at 252-638-7000, www.vorsis.com.

MILLENNIA MEDIA STT-1 Twin Topology Recording Channel



FEATURES: Twin Topology tube/discrete solid state circuitry for mic preamps, parametric EQs; tube, solid state and passive Opto

compressor/limiter paths; tube/solid state Opto de-esser paths; tube/solid state line level paths; adjustment; Class A; 1/4-inch tube DI input.

PRICE: \$3,149.

CONTACT: Millennia Media at 530-647-0750, www.mil-media.com.

ELECTRO-VOICE Dx38 Digital Sound System Processor

FEATURES: Two inputs, four outputs; 24-bit A/D-D/A; parametric EQ; shelving, pass filters; delay; compressor, limiter per output channel; onboard presets for EV X-Array and other speakers; RS232 port; LED meters.

PRICE: \$1,590.

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

TL AUDIO Ivory 2 Series 5051 Mono Valve Processor

FEATURES: One-channel; tube preamplifier, compressor/limiter, four-band tube EQ with sweepable mids; 30 dB pad; high-pass filter; phase reverse; stereo link; bypass; VU meter; optional 24-bit digital output.

PRICE: \$975.

CONTACT: TL Audio/Quiretec Designs at 877-784-7383, www.quiretec.com.

TC ELECTRONIC C300 Dual Stereo Gate Compressor



FEATURES: Dual-engine; analog/digital I/O; combinations of parallel, serial link modes; full-band, multi-band algorithms; 16 compression/limiter presets; 16 gate/expander source-based presets; single-rack space.

PRICE: \$249.

CONTACT: TC Electronic at 818-665-4900, www.tcelectronic.com.

CHANDLER LIMITED EMI TG12345 Curve Bender

FEATURES: Two-channel; four-band EQ; high-pass, low-pass; bell or shelf selection; bypass.

PRICE: \$5,000.

CONTACT: Chandler Limited at 319-885-4200, www.chandlerlimited.com.

CEDAR DNS1000 Dynamic Noise Suppressor

FEATURES: 24-bit A/D-D/A; 40-bit internal processing; onboard DSP; 32 kHz, 44.1 kHz, 48 kHz sample rates; faders.

PRICE: \$6,974.

CONTACT: CEDAR Audio USA/Independent Audio at 207-773-2424, www.independentaudio.com.



XTA DP 448



FEATURES: Four-input, eight-output; 28-band graphic EQ; eight selectable filters; built-in delay; multiple 48 dB crossover slopes; outputs with polarity switching, high/low-pass filtering, delay and nine filters; sample rates up to 192 kHz; AudioCore PC software; AES/EBU inputs; front-panel LEDs.

PRICE: \$5,795.

CONTACT: XTA/Group One at 516-249-1399, www.xta.co.uk.

DBX 4800 DriveRack Loudspeaker Management System



FEATURES: Four input channels; eight output channels; 48 kHz, 96 kHz sample rates; crossover controls; 31-band graphic EQ; six-band parametric EQ; notch filters; cluster/driver alignment; delay; real time analyzer; limiter; Ethernet; LCD screen; LED meters; Windows remote software.

PRICE: \$3,995.

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

SMART RESEARCH C2 Stereo Compressor



FEATURES: Two-channel; threshold, ratio, attack, release, makeup controls per channel; crush frequency enhancement mode; link; side chain.

PRICE: \$2,995.

CONTACT: Smart Research/Sunset Sound at 323-469-1186, www.smartresearch.co.uk.

BUYER'S GUIDE continues on page 56 ►



DESKTOP
AUDIO

THE PROFESSIONAL'S SOURCE



real world solutions from industry professionals!

www.bhproaudio.com



800-947-1182 | 420 Ninth Ave, New York 10001 | We Ship Worldwide



Continued From Page 54

RUPERT NEVE DESIGNS 5014 Stereo Field Editor

FEATURES: Two-channel; custom input/output transformers; level; phase; stereo width; stereo depth; difference channel insert; difference channel EQ; LED meters.



PRICE: \$1,795

CONTACT: Rupert Neve Designs at 512-847-3013, www.rupertneve.com.

KLARK TEKNIK DN9848E Loudspeaker Multiprocessor



FEATURES: Crossover/system processor; four inputs, eight outputs; parametric EQ; delay; compressor; limiter; Butterworth, Linkwitz-Riley, Bessel filters; memory; factory presets; security lockout.

PRICE: \$5,250.

CONTACT: Klark Teknik at 800-392-3497, www.klarkteknik.com.

TC-HELICON VoiceWorksPlus Real-time Voice and Harmony Processor



FEATURES: Intelligent harmony processing; Voice Modeling, μ Mod; MIDI control; expanded humanization; energy, portamento and pitch-smoothing values ported from VoiceDoubler; Burr Brown preamp chip; VST-compatible software editor (PC/MAC).

PRICE: \$995.

CONTACT: TC Helicon at 818-665-4900, www.tc-helicon.com.

EVENTIDE H7600 Ultra-Harmonizer



FEATURES: 1,000 presets; onboard 174-second sampler; 230 stereo effects modules; editable presets; PC/Mac software; keypad; PCMCIA slot. **PRICE:** \$4,495.

CONTACT: Eventide at 201-641-1200, www.eventide.com.

SUMMIT AUDIO FeQ-50 Parametric EQ

FEATURES: Single-channel; four-band; six frequencies per



band; peak/shelf, wide/narrow switches; high-pass filter (80 Hz); tube and solid state signal paths; iron-based circuitry; bypass.

PRICE: \$995.

CONTACT: Summit Audio at 775-782-8838, www.summitaudio.com.

OMNIA CD

FEATURES: Six-band limiter; five AGC bands; 24-bit; 96 kHz sample rate; stereo effects; Ethernet;



Dorrough meters; PCMCIA slots.

PRICE: \$12,980.

CONTACT: Omnia/Telos at 216-241-7225, www.omniaaudio.com.

FOCUSRITE Liquid Mix

FEATURES: 20 EQs/40 compressors from Dynamic Convolution emulation technology; 32 mono channels; constructible seven-band "super EQ";



onboard DSP; VST, AU, RTAS-wrapped VST operation within compatible hosts; large-format LED meters; optional expansion card; FireWire.

PRICE: \$1,099.99.

CONTACT: Focusrite/Digidesign at 866-474-7711, www.focusrite.com.

DOLBY LAKE Processor LPD

FEATURES: 24 bit, 96 kHz; linear phase crossovers; Ideal Graphic EQ; parametric EQ; "Mesa" filter; LimiterMax; digital I/O in AES/EBU format; S/PDIF I/O; 4 x 12 loudspeaker and 8 x 8 EQ applications; Portal metering; Ethernet; Windows software; wireless touchscreen remote control.



PRICE: \$4,990.

CONTACT: Dolby LiveSound Group at 415-645-4601, www.dolby.com/livesound/.

NADY SYSTEMS SDR-260 Stereo Digital Reverberator

FEATURES: Two-channel; 24-bit A/D-D/A; 44.1 kHz sampling rate; 20 Hz – 20 kHz response; 120 effects (60 presets, 60 user



editable); two inputs/two outputs; MIDI.

PRICE: \$199.95.

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

ASHLY AUDIO Protea System II 3.24CL Digital Crossover/ System Processor



FEATURES: Three-input, six-output; crossover, EQ, delay, limiter functions; 24-bit A/D-D/A; 48 kHz; Linkwitz-Riley, Bessel and Butterworth Filters; 12, 18, 24 and 48 dB/octave slopes; parametric EQ; individual input/output metering; XLR connections.

PRICE: \$2,599.

CONTACT: Ashly Audio at 716-872-0010, www.ashly.com.

PURPLE AUDIO MC77 Mono FET Compressor/Limiter

FEATURES: Single-channel; Class A; custom input attenuator; attack, release, input, output controls; selectable 4:1, 8:1, 12:1, 20:1 compression ratios; true bypass via sealed relay; stereo linking; side chain insert loop; buffered VU meter; LED meters.



PRICE: \$1,650.

CONTACT: Purple Audio LLC at 718-482-8494, www.purpleaudio.com.

BEHRINGER Tube Composer T1952

FEATURES: IKA program-adaptive compression; IRC expander/gate; IGC peak-limiting; "Interactive Knee" or "Hard Knee" modes; switchable automatic attack, release time adjustment; "Warmth" dial for effect dosage; RMS stereo link; switchable side chain input, monitor, high-pass filter; bypass.



PRICE: \$189.99.

CONTACT: Behringer at 425-672-0816, www.behringer.com.

SABINE Navigator NAV4802 System Processor



FEATURES: Four-input, eight-output; six-band EQ per I/O; parametric, shelving, high- and low-pass; multiple crossovers with three filters and slopes to 48 dB; gain management; routing & delay; 96 kHz; 32-bit (40-bit extended) DSP; 24-bit A/D-D/A converters; 30 program save-and-recall; Ethernet; USB; RS232.

PRICE: \$2,149.95.

CONTACT: Sabine Adaptive Audio at 904-418-2000, www.sabine.com.

BUYER'S GUIDE continues on page 58 ►

THE MIXING INSTRUMENT

Launching V2 software for Logic Pro7

**As a producer you want to spend less time thinking about the interface, and more time focusing on the music. The Smart Console is a radical departure from traditional digital console design meaning that finally you can control a 100+ channel mix...
- like playing an instrument.**

INSTRUMENT CONTROL

Full control of audio instruments. Use the touch screen, eight dual concentric touch sensitive encoders or the motorised knob to tweak out and automate your instruments.

DIGIDESIGN HARDWARE SUPPORT

Core Audio or DAE and DTDM channels can all be seamlessly controlled together.

SURROUND CAPABLE

Use the Joystick to pan signals in the surround field. Each channel also features a dedicated pan knob which displays surround position. Handle complex surround mixes with ease.

3RD PARTY EQ PLUG-INS ON EVERY CHANNEL STRIP

V2 software allows you to control your favourite third party EQ plug-in from the dedicated EQ controls on every console channel strip.

PLUG-INS CONTROL

Grab a channel, add a plug-in and start tweaking. Logic, AU, third party or even Pro Tools plug-ins (when using DAE channels) can all be controlled from the console.

MONITORING CONTROL

The Smart Console's monitor section integrates with an easily importable Logic environment - giving you dedicated controls for a 12 source, up to 5.1 wide, 3 speaker set monitoring system.

No other controller gives you the power, and integrates as tightly with Logic Pro 7, as a Smart Console.

www.smartav.net/logic



BUYER'S GUIDE | Processors

Continued From Page 56

TOA ELECTRONICS DP-K1 Modular Digital Mixer/Processor

FEATURES: Eight mic/line inputs, eight line outputs; gain, equalizer, crossover, compressor, noise gate, matrix, delay; Automatic Resonance Control (ARC) function to measure and process complex acoustic environments and provide compensatory parameter settings to improve speech, sound intelligibility; 16 user-created configurations; eight bus matrix; network interface; PC software for offsite programming; preset knob lock; I/O channel indicators; three-rack space.

PRICE: \$3,156.

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

AMS NEVE 8803 Dual EQ

FEATURES: Two-channel; EQ, 12 dB octave filters; +/- 20 dB of trim; frequency selection from 33 – 440 Hz, 120 Hz – 2 kHz, 0.8 kHz – 9 kHz, 1.5 kHz – 18 kHz; Q; recallable settings; USB port; utility program; single-rack space.

PRICE: \$2,200.

CONTACT: AMS Neve/Audio Agent at 425-605-0658, www.ams-neve.com.

A-DESIGNS EM-PEQ

FEATURES: One-channel; Pultec EQP-1A inspired EQ; discrete Class AB amplifier; nickel core output transformer; Grayhill rotary switches; Wima caps; hard bypass; custom-wound tapped inductor; 500 Series module frame size.

PRICE: \$1,500.

CONTACT: A-Designs Audio at 818-716-4153, www.adesignsaudio.com.

BUZZ AUDIO ARC 1.1 Analog Recording Channel

FEATURES: One-channel; mic/line preamp, EQ, compressor, limiter; Class A amplifiers, padless input circuit with +15 dB gain boost switch for mic gain range of +9 - +65 dB; mic load control; line gain from 0 - +40 dB plus a -10 dB pad; +10 dB output gain; phase reverse; high-pass filter; four-band parametric EQ with high-, low-shelf;

sweepable mids; 2:1, 5:1, 10:1, 20:1 compression ratio with soft knee; I/O meter select.

PRICE: \$3,500.

CONTACT: Buzz Audio at 866-235-0953, www.buzzaudio.com.

EAW UX8800 Dual-Mode Digital Signal Processor

FEATURES: Four-input, eight-output; sound reinforcement system, loudspeaker digital processing; 24 bit/96 kHz; Gunness Focusing with loudspeaker model for each input, assignable channel for each loudspeaker amplifier subsystem; adjustable gain, maximum voltage ratings to calculate output limiter; distance, humidity dependent air-loss pre-emphasis filter; crossover, EQ, alignment, limiting processing; user adjustable EQ, level, delay, polarity; back-lit LCD panel; EAWPilot PC software; Ethernet.

PRICE: \$3,325.

CONTACT: EAW at 800-234-6158, www.eaw.com.

**IF GROOVE TUBES MICROPHONES ARE PRO AUDIO'S BEST KEPT SECRET,
OUR SECRET KEEPERS AREN'T DOING A VERY GOOD JOB.**



GREG LADANYI:

"I turn to GT mics every day in the studio."



MICHAEL WAGENER

"GT mics have become an essential part of my setup."



NEWMAN SCORING STAGE

GT tube and FET microphones in use every day for orchestral scoring sessions.

Don't miss out on the secret mic of the world's best engineers and studios!
GT microphones are available at the best pro audio dealers around the world.

www.groovetubes.com

Hear the Difference™



RUPERT NEVE DESIGNS

Portico 5043 Compressor-Limiter Duo

FEATURES: Two-channel, custom input/output transformers, independent ratio, threshold, attack, release feed-forward/Feed-Back Switching, Stereo Link, gain make up, LED Metering.

PRICE: \$1,895.

CONTACT: Rupert Neve Designs at 512-847-3013, www.rupertneve.com.

D.W. FEARN

VT-7 Compression Amplifier

FEATURES: Two-channel; threshold, attack, release, gain, curve controls; Class A; stereo link; VU meters.

PRICE: \$4,400.

CONTACT: D.W. Fearn at 610-793-2526, www.dwfearn.com.

GROOVE TUBES Glory Comp

FEATURES: Single-channel; attack, release, threshold controls; logarithmic, linear release; side chain; two 6550 tubes; switchable VU meter.

PRICE: \$3,499.

CONTACT: Groove Tubes at 818-361-4500, www.groovetubes.com.

DYNACORD

DSP 244 Sound System Processor

FEATURES: Crossover system processor; two inputs/four outputs; 24-bit; delay; crossover controls; compressor/limiter; 50 factory presets; 30 user preset slots; Butterworth, Linkwitz-Riley, Bessel filters.

PRICE: \$1,599.

CONTACT: Dynacord at 800-392-3497, www.dynacord.com.

AMS NEVE 8801 Channel Strip

FEATURES: One-channel; mic preamp, four-band EQ; high-, low-pass filter; compressor; gate; user-tailorable 88R-style dynamics side chain and insert point; Recall software (Mac/PC); optional A/D converter supporting sample rates to 192 kHz and direct-to-DSD conversion.

PRICE: \$2,995.

CONTACT: AMS Neve/Audio Agent at 425-605-0658, www.ams-neve.com.

CRANE SONG HEDD 192

FEATURES: Two-channel; 24-bit A/D-D/A; 44.1, 48, 8.2, 96, 176.4, 192 kHz sample

rates; triode, pentode, tape emulation controls; word clock; bypass; LED meter.

PRICE: \$3,495.

CONTACT: Crane Song at 715-398-3627, www.cranesong.com.

DIGITAL DOMAIN

Model DD-2 K-Stereo Processor

FEATURES: 24-bit; 96 kHz; K-Stereo

process; two shelf filters; POW-r dither; high-pass filter; low-pass filter; presets; bypass.

PRICE: \$3,500.

CONTACT: Digital Domain at 407-831-0233, www.digido.com.

BUYER'S GUIDE continues on page 60 ►

MORE THAN JUST A LOUDSPEAKER

A STAND ALONE 3 CHANNEL SYSTEM

LM12A/LM15A REAR PANEL

Neodymium drivers | 3 channel mixer | 350w Blamp

The LM series loudspeakers are specifically designed to outperform the competition while providing musicians with a versatile, lightweight and affordable powered loudspeaker.

EASILY CONVERTS TO A MONITOR

CARVIN

12 MONTHS ZERO INTEREST

USA

CE

FE

Pod is a registered Trade Mark of Apple Inc.

CARVIN.COM/PROSOUND DIRECT SALES 800-854-2235 • FREE CATALOG • FREE DVD "CARVIN, 60 YEARS IN THE MAKING"

JOEMEER oneQ Master Channel

FEATURES: Single-channel preamp/EQ/opto-compressor; threshold, ratio, attack, release controls for compressor; four-band EQ; "Iron" switch; high-pass filter; S/PDIF digital output.

PRICE: \$859.

CONTACT: Joemeek/PMI Audio at 877-563-6335, www.joemeek.com.

TOFT AUDIO Designs AFC-2

FEATURES: Two-channel preamp/EQ; four-band EQ; 48V phantom power; phase reverse; low-pass filter; 1/4-inch front panel instrument input; bypasses; VU meter.

PRICE: \$859.

CONTACT: Toft Audio Designs/PMI Audio at 877-563-6335, www.toftaudio.com.

CREST AUDIO IPro Two

FEATURES: Two-channel; gain, pan controls; 48V phantom power; phase reverse; 20 dB pad; low-cut filter; two-band parametric EQ; SmarTube tube emulation; compressor/expander; limiter; LED meters.

PRICE: \$679.

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

YAMAHA SPX2000 Multi-Effects Processor

FEATURES: Two-channel; 24-bit; 96 kHz sample rate; REV-X reverb algorithm; 25 "classic" presets; 99 user presets; reverb, pitch, flange, tremolo, decay, compressor, expander, pan, exciter.

PRICE: \$1,249.

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

PENDULUM AUDIO Quartet II Mercenary Edition

FEATURES: Single-channel; preamp/EQ/Delta-mu compressor/limiter/FET peak limiter; 48V phantom power; 20 dB pad; three-band passive inductor EQ; JFET/MOSFET modes for limiter; linkable sections; VU meter.

PRICE: \$5,250.

CONTACT: Pendulum Audio at 908-665-9333, www.pendulumaudio.com.

MANLEY LABORATORIES SLAM!

FEATURES: Two-channel; input, optical limiter; FET limiter, release, output controls; onboard mic preamps with 48V and phase reverse; linkable; VU meters; optional digital

interface (\$2,500).

PRICE: \$6,600.

CONTACT: Manley Laboratories at 909-627-4256, www.manleylabs.com.

ELECTRO-HARMONIX NY-2A Compressor

FEATURES: Two-channel; pre-gain, compress, post gain controls; light source switch; squash, attack switches; tubes; bypass; switchable VU meters.

PRICE: \$2,995.

CONTACT: Electro-Harmonix at 718-937-8300, www.ehx.com.

MERCURY RECORDING EQUIPMENT EQP1

FEATURES: Single-channel; two-band; Pultec-style; frequency, boost, attenuate controls; transformer bypass; EQ bypass.

PRICE: \$2,400.

CONTACT: Mercury Recording Equipment at 510-581-3817, www.mercury-rec.com.

M-AUDIO TAMPA

FEATURES: Preamp/compressor/converter; single-channel; threshold, attack, ratio, release controls for compressor; 24-bit; up to 96 kHz sample rate; 20 dB pad; low-cut filter; VU meters.

PRICE: \$499.95.

CONTACT: M-Audio at 626-633-9050, www.m-audio.com.

API 2500 Stereo Bus Compressor

FEATURES: Threshold, attack, release, ratio controls; soft, medium, hard knee compression; compression knee type switch; makeup gain, output controls; link; VU meter.

PRICE: \$2,995.

CONTACT: API/ATI Group at 301-776-7879, www.apiaudio.com.

MERCURY RECORDING EQUIPMENT EQ-P Program Equalizer

FEATURES: Pultec-style; two-band; separate boost, attenuation controls per band; sharp/broad switch; attenuation selector; 12AX7, 12AU7 tubes; bypass.

PRICE: \$2,899.

CONTACT: Mercury Recording Equipment at 510-581-3817, www.mercury-rec.com.

DRAWMER 1968 Mercenary Edition

FEATURES: Two-channel compressor;

threshold, attack, release, gain controls per channel; "big" processor switch; stereo link; bypass; switchable VU meters.

PRICE: \$2,150.

CONTACT: Drawmer/TransAudio Group at 702-365-5155, www.transaudiogroup.com.

SHURE DFR22 Audio Processor

FEATURES: Two-channel; 24-bit; 48 kHz sample rate; gate, expander, compressor, limiter, 10-band parametric EQ, 30-band graphic EQ; delay; high, low-pass filters; lockout function; Windows software.

PRICE: \$999.

CONTACT: Shure at 847-600-2000, www.shure.com.

SOLID STATE LOGIC XLogic X-Rack

FEATURES: Module dock for Xlogic X-Rack modules; SuperAnalogue preamp module; four-band parametric EQ with sweepable mids module; XL9000 K Series compressor/limiter/gate module.

PRICE: starts at \$2,425.

CONTACT: Solid State Logic at 212-315-1111, www.solid-state-logic.com.

INTER-M GEQ-2231 Digital Graphic Equalizer

FEATURES: Two-channel; 31-band graphic EQ; high-cut, low-cut filters; peak limiter; 24-bit A/D-D/A; 64 kHz sample rate; bypass.

PRICE: \$868.

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

DAKING FET Compressor II

FEATURES: Single-channel; threshold, attack, release, makeup gain controls; vintage compressor settings; Class A; bypass; switchable VU meter.

PRICE: \$1,995.

CONTACT: Daking/TransAudio Group at 702-365-5155, www.transaudiogroup.com. 702-365-5155, www.transaudiogroup.com.

GEORGE MASSENBURG LABS Model 2032

FEATURES: Single-channel; preamp, four-band parametric EQ, 48V phantom power; high-pass filter; gain, trim controls; phase reverse; bypass.

PRICE: \$3,000.

CONTACT: GML/TransAudio Group at 702-365-5155, www.transaudiogroup.com.

TUBE-TECH MMC 1A Multiband Compressor/Preamplifier

FEATURES: Single-channel; three-band opto compressor; gain, threshold, frequency, attack and release controls per band; band crossover controls; 48V phantom power; phase reverse; 20 dB pad.

PRICE: \$3,995.

CONTACT: Tube-Tech/TC Electronic at 818-665-4900.

DEMETER Amplification Realverb

FEATURES: Two-channel; spring reverb; input, output, mix level controls per channel; high-pass filters; phase; delay; stereo link.

PRICE: \$649.

CONTACT: Demeter Amplification at 805-461-4100, www.demeteramps.com.

BSS AUDIO FDS-336T Speaker Control System

FEATURES: Two inputs, six outputs; three-way; crossover; 60 parametric filters; delay; limiter; trim controls; WHISEworks-NTM filters; 60 user programs; output matrix; security lockout.

PRICE: \$1,500.

CONTACT: BSS Audio at 615-360-0451; www.bss.co.uk.

SYMETRIX 565E Dual Compressor/Limiter/Expander

FEATURES: Two-channel; threshold, release expander controls; threshold, release, ratio compressor controls; threshold limiter control; output gain controls; stereo link; bypass; side chain.

PRICE: \$399.

CONTACT: Symetrix at 425-787-3222, www.symetrixaudio.com.

PRISM MEDIA MLA-2 Stereo Precision Compressor

FEATURES: Two-channel; input gain, output gain, ratio, attack, release controls per channel; dynamic auto-adjustment; 96 kHz compatible; ImageLink stereo link; bypass; switchable VU meters.

PRICE: \$3,170.

CONTACT: Prism Media at 973-983-9577, www.prismsound.com.

BBE SOUND 862 Sonic Maximizer

FEATURES: Two-channel; contour, process controls; bypass.

PRICE: \$599.

CONTACT: BBE Sound at 714-897-6766, www.bbesound.com.

UNIVERSAL AUDIO 6176

FEATURES: Single-channel; UA 2-160 mic preamp; UA 1176 limiter; input, output controls; attack, release controls; 15 dB pad; switchable VU meter.

PRICE: \$2,495.

CONTACT: Universal Audio at 831-466-3737, www.uaudio.com.

ART DI/O Preamp System

FEATURES: Two-channel; Variable Valve Voicing; 12AX7A tube; gain, output controls; Output Protection Limiter; up to 96 kHz A/D; analog meters.

PRICE: \$249.

CONTACT: Applied Research and Technology at 716-436-2720, www.artproaudio.com.

A-Line Acoustics

"It's a no brainer!"

Phil Papatnik 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?

Get the whole story at www.a-lineacoustics.com

A-Line Acoustics Corry, PA, USA
814-663-0600

Made in USA

FREE HD AT NAB2007

Introducing a series of free HD technology and management presentations at NAB2007 in the North Hall.

Come, listen and learn about top innovations being unveiled for HD audio and HD radio broadcast. Presenting radio companies will discuss everything from applications for emerging revenue opportunities to managing your HD assets along with great new product demonstrations.

Many audio companies are pushing the aural envelope with ultra-high bit rates and latest digital audio formats for recording, storage and surround sound. You won't want to miss this opportunity to learn what tools and techniques are available today, putting you at competitive advantage. Get beyond the buzz with information you can use now and see what's on the horizon.

The Radio & Audio Stage will be open for morning and afternoon segments Monday through Wednesday and a morning-only segment on Thursday. Best of all, these presentations are free and you'll never have to leave the show floor. Be sure to make this your HD destination at NAB2007!

**NORTH HALL
Booth N6330**

E for **EVERYONE**
SCHEDULE OF PRESENTATIONS

MONDAY April 16, 9:30 AM - 4:30 PM
TUESDAY April 17, 9:30 AM - 4:30 PM
WEDNESDAY April 18, 9:30 AM - 4:30 PM
THURSDAY April 19, 9:30 AM - 11:30 AM

THE RADIO & AUDIO STAGE

An HD Destination

NAB2007
THE WORLD'S LARGEST ELECTRONIC MEDIA SHOW

Brought to you by the National Association of Broadcasters in cooperation with the publishers of Pro Audio Review, Audio Media and Radio World.

World Radio History

CONTRACTING

| Feature

TCT Continued From Page 36

cleaner than in any other of the worldwide events on which he has worked!

These events can be tense and nerve-wracking by nature, but the excitement of knowing that lives are in the balance (both in the cath labs and in the future by the hands of the cardiologists who are learning) is both humbling and clarifying. It's nice to know that we audio engineers can make a difference in unexpected ways, even if sometimes it's far behind the scenes. There's talk of going to Germany for a similar event there; if so, I'll keep you posted on any new techniques and, hopefully, the addition of wireless mics and IFBs, as well.

Rob Tavaglione is owner of Catalyst Recording in Charlotte, NC.

STUDIO

| Review

CRANE SONG Continued From Page 41

nities for limitless trickery.

The excitement and realism of Phoenix may not always break the fourth wall of digital, but of the many tape emulation plug-ins Phoenix is undoubtedly the most mature, pristine and well-mannered. Dave Hill, being a very clever man, probably named his first plug-in after the phoenix hoping that it would resurrect digital mixes and digitally immortalize the sound of the tape machine. He has accomplished both to the extent Pro Tools will allow.

Alex Oana is an 11-time Minnesota Music Award winner, including three for Producer of the Year. So he got too big for his britches and moved to LA, where they slapped some sense into him. Contact him at www.alexoana.com.

STUDIO

| Review

UNIVERSAL AUDIO Continued From Page 44

| SUMMARY

These premium plugs sound great and offers most of the processing needed for mixing, post, and mastering. The vintage emulations are professional quality and faithful, even if some stock plugs are a bit pedestrian (though useful). The thing that hooked me was that the onboard DSP really worked. Every plug I tested delivered exactly the instances promised: performance not realized in comparable "hardware-accelerated plug-in sets" I have previously tried. With authentic emulations, great interfaces and DSP that delivers, this bundle should delight all but the most discriminating of pro users.

Rob Tavaglione is owner of Catalyst Recording in Charlotte, NC.

PRODUCTS & SERVICES

ProAudio Review

The USB-to-XLR Solution!

Eliminate soundcard headaches! The **USB Matchbox** makes PC audio clean, reliable, and easy.

- Burr-Brown ADC/DAC for superb audio
- True pro levels with lots of headroom
- Stereo record and play on XLRs
- USB powered, plug and play

*In stock at all Henry dealers.
Visit www.henryeng.com
for full specs*



We Build Solutions
626.355.3656



NOW HEAR THIS!

ProAudio Review

Gear & Software Reviews For The End-User

**PRO AUDIO REVIEW'S
Product Showcase is a cost
efficient and effective method
to sell your products and services.**

**For more information, call
Tina Therp at
970-728-8376 • Fax 970-728-8356
Email: Tinatharp1@aol.com**

AUDIO EQUIPMENT EXCHANGE

ProAudio Review

ACOUSTICS

AcousticsFirst™
 Toll-Free Number: **888-765-2900**
 Full product line for sound control and noise elimination.
 Web: <http://www.acousticsfirst.com>

RPG
 RPG DIFFUSOR SYSTEMS, INC.
 Listen To The Music,
 Not The Room...
 Absorption, Diffusion & Total Room Solution Packages.
 Find an Authorized Dealer @ www.rpginc.com/proaudio

2006 **Total Sound Control Catalog**
Auralex acoustics
 The essential acoustics reference guide with a great introduction to sound control and packed with stunning installation photos and room design ideas.
 To Request a **FREE** Catalog visit Auralex.com or Call **(800) 959-3343**

CASES

Case Specialists
www.NewYorkcasecompany.com
 We Will Beat ANY Price!
 1-877-692-2738

Custom Reprints **ProAudio Review**
 Reprints are highly effective when you use them to:

- Develop direct-mail campaigns
- Provide product/service literature
- Create trade show materials
- Present information at conferences and seminars
- Train and educate key personnel, new employees
- Enhance media kits

For more information, contact Emily Wilson at 703-790-7900 ext. 110 or fax 703-671-7409 • Email ewilson@magcube.com

CONTROL PANELS

CUSTOM PANELS METALWORK

Custom panels in Aluminum, Steel, Stainless & Brass. Wide choice of finishes. Silk screened or engraved graphics. Custom wood mounting systems & desktop consoles.

PANEL AUTHORITY INC.

PHONE 815.838.0488 | FAX 815.838.7852 | www.panelauthority.com

EQUIPMENT

ALAN SMART COMPRESSORS



- C1, C2 & Multi-Channel Versions
- Smart 2 Tools - SSL to Pro Tools Interfaces
- Smart D.I. Boxes

All Exclusively Distributed by:
 323-469-1186 • SunsetSound.com

Get the Inside Scoop in Gear Technology!

Single Slice: Whitney Houston's Breakout Hit, "One of Those Days"

PRO AUDIO REVIEW
 The Industry's Equipment Authority

Award Winning Gear and Software 2002

Capturing the Essence of Recording

Two Systems P2 Analog Mic Preamp

On Tour With The Big Board!

Incredible Sounding 24-bit 96 kHz DAC

Single Slice: Norah Jones' Hit "Don't Know Why"

PRO AUDIO REVIEW
 The Industry's Equipment Authority

Digital Workstations/Plug-Ins issue

Outstanding DSD

Single Slice: Avril Lavigne's Chart Topper, "SK8ER BOI"

PRO AUDIO REVIEW
 The Industry's Equipment Authority

High-Resolution Recording Special Section

Better Than The Originals Laws in L251 Classic

Live Sound

ADVERTISER INDEX

*This listing is provided for the convenience of our readers.
Pro Audio Review assumes no liability for inaccuracy.*

Page No.	Advertiser	Website
26	AcousticsFirst Corp	www.acousticsfirst.com
61	A-Line Acoustics	www.a-lineacoustics.com
51	AMS Neve/Audio Agent	www.audioagent.com
29	APB Dynasonics	www.apb-dynasonics.com
49	API - Automated Processes, Inc	www.apiaudio.com
2	Audio-Technica U.S. Inc	www.audio-technica.com
15	Aviom, Inc.	www.aviom.com
25	B&H Pro Audio	www.bhproaudio.com
55	B&H Pro Audio	www.bhproaudio.com
31	BBE Sound	www.bbesound.com
33	BBE Sound	www.bbesound.com
35	BBE Sound	www.bbesound.com
5	Bosch Communications	www.boschcommunications.com
59	Carvin Corporation	www.carvin.com
14	Conservatory Of Recording Arts & Sciences	www.cras.org/pro_audio.html
32	Crane Song	www.cranesong.com
41	D.W. Fearn	www.dwfearn.com
39	DPA Microphones, Inc.	www.dpamicrophones.com
23	Fairlight AU PTY Ltd	www.fairlightau.com
48	Frontier Design Group, LLC	www.frontierdesign.com
58	Groove Tubes, LLC	www.groovetubes.com
11	Hear Technologies	www.heartechnologies.com
63	Henry Engineering	www.henryeng.com
68	Holophone	www.holophone.com
53	Lawson, Inc.	www.lawsonmicrophones.com
41	Linear Systems	www.linearsystems.com
47	Marshall Electronics	www.lcdracks.com
22	McCauley Sound, Inc.	www.mccauley.com
45	Peterson Electro-Musical Products	www.petersontuners.com or www.strobosoft.com
9	QSC Audio Products, Inc	www.qscaudio.com
13	Rane Corporation	www.rane.com
43	Rupert Neve Designs	www.rupertneve.com
57	Smart AV Ltd	www.smartav.net
7	Studio Projects	www.studioprojects.com
21	THAT Corporation	www.thatcorp.com
67	Universal Audio	www.uaudio.com
3	Yamaha Commercial Audio Systems, Inc	www.yamaha.com
19	Yamaha Commercial Audio Systems, Inc	www.yamaha.com
27	Yamaha Corp Of America	www.yamaha.com/proaudio
37	Yorkville Group	www.yorkville.com

Space Available

call

Tina @ 970-728-8376

2007 CLASSIFIED ADVERTISING RATES

	1x	3x	6x	12x
1-9 Colmn Inch	\$105	\$100	\$95	\$90
10-19 Colmn Inch	\$100	\$95	\$90	\$85
Distributor Directory	\$165	\$150	\$145	\$140
Professional Card	\$115	\$110	\$105	\$100

Advertising Sales Representatives

U.S. & Canada

Matt Rubenstein

mrubenstein@imaspub.com

P/ 914-524-5045

F/ 914-524-5046

Europe, Middle East,
Australia & New Zealand

John Gatski

jgatski@aol.com

P/ 703-998-7600 x119

F/ 703-671-7409

Japan

Eiji Yoshikawa

callem@world.odn.ne.jp

P/ +81-3-3327-5756

F/ +81-3-3322-7933

China, Hong Kong & Southern Asia/Pacific

Wengong Wang

wwg@imaschina.com

P/ +86-755-578-5161

F/ +86-755-578-5160

Product Showcases & Classifieds

Tina Tharp

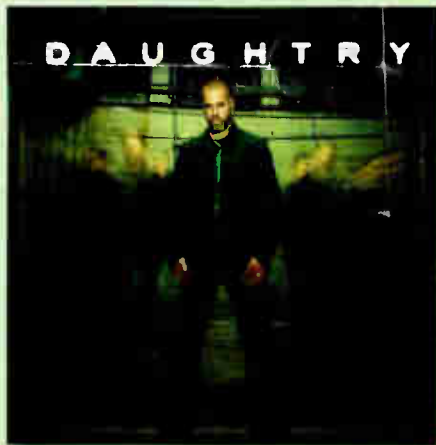
tinatharp1@aol.com

P/ 970-728-8376

F/ 970-728-8356



“It’s Not Over” | Daughtry



SINGLE: “It’s Not Over”
ALBUM: Daughtry (RCA)
DATES RECORDED: Recorded September - October 2006 at Bay 7 Studios in Valley Village, CA
SINGLE PRODUCERS: Howard Benson
SINGLE ENGINEERS: Mike Plotnikoff
ASSISTANT ENGINEERS: Hatsukazu “Hatch” Inagaki and Keith Armstrong
DIGITAL EDITING: Paul DeCarli
SINGLE MIXER: Chris Lord-Alge
MASTERING: Ted Jensen at Sterling Sound in New York City
OTHER PROJECTS: Prolific producer Howard Benson has worked with such artists as Hoobastank, Saosin, P.O.D., My Chemical Romance, The All-American Rejects, Papa Roach, The Used, Santana, Sepultura, Motorhead and many more.
SINGLE SONGWRITERS: Chris Daughtry, Gregg Wattenberg, Mark Wilkerson and Brett Young
CONSOLE: Bay 7 Studio A’s Neve 8058 (basic tracking)
RECORDER: Pro Tools|HD
MONITORS: Yamaha NS-10
VOCAL MICROPHONE: Sony C-800G
VOCAL PRE-AMPLIFIER: Quad-Eight mic preamp
VOCAL PROCESSING (IN TRACKING): Tube Tech CL 1B compressor

ENGINEER’S DIARY

Producer Howard Benson became acquainted with Chris Daughtry just like the rest of the country did: while watching American Idol with his family. “I could tell that he could really sing,” recalls Benson of Daughtry, a hard-rocking AI contestant. “Then — while I was halfway paying attention — he was voted off. My wife was distraught. I thought, wow, this guy really affects people. My wife turned to me and said, ‘You know, they’re going to call you to produce him.’ Lo and behold, three months later I get a call from his A&R guys who said, ‘You’re at the top of the list.’”

Benson and Daughtry immediately hit it off when, during their initial meeting, Idol’s first-ever “rock star” belted out a self-penned ballad. “He said to me, ‘I wrote a song called ‘Home,’” details Benson. “It was one of the best ballads I’d heard all year; it was so real and heartfelt. I told him, ‘Yeah, I want to work with you. Let’s do this. It’s going to be great.’”

Daughtry is finally a winner in the eyes of America today, confirmed by the massive commercial appeal of his first single, “It’s Not Over.” The rocker from Greensboro, North Carolina has the honor of having the fastest-selling debut rock album in Soundscan history following the release of Daughtry; the release sold more than one million copies after just five weeks.

Benson’s immediate choice for Chris’ distinctive vocal was his trusty Sony C-800G large-diaphragm condenser, which he coupled with a classic Quad-Eight mic preamp and a sparingly-utilized Tube Tech CL 1B compressor recorded straight to Pro Tools|HD. “It’s a great pop vocal mic with a lot of top end and brightness,” explains Benson of his mic selection. “I use that mic a lot. We’ve gone through so many shootouts that we’ve got it down to two microphones: it’s almost always a (Telefunken) 251 or the Sony. With mic preamps, we go back and forth between the Neve 1081 when we want a warmer sound and the Quad because it’s very present.”

Benson insists that, especially for vocals geared toward pop radio airplay, the Sony simplifies the job of his mixers. “I know Chris Lord-Alge (the mixer for Daughtry), Tom Lord-Alge and Andy Wallace — when these albums are mixed, they go for the sibilance. I give it to them so they don’t have to EQ it in.”

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



Howard Benson and Chris Daughtry

UAD

"The UAD-1 is possibly the best value of any product available for a DAW."

-Mike Clute, Pro Sound News



UAD-Xpander



UAD-1



UAD-1e
NEW Extreme PAK

Powered Plug-Ins™



Chorus & Delay

Equalizers

Compressors & Limiters

Reverbs

Guitar & Channel Strip



analog ears | digital minds



www.uaudio.com • Customer Service & Tech Support: 877-MY-UAUDIO • Business, Sales & Marketing: 1-866-UAD-1176

350 Emerald St • Santa Cruz, CA • 95060-2101 • USA • voice: 831-466-3137 • fax: 831-466-3175 • info@uaudio.com • ©2007 Universal Audio, Inc. All rights reserved. Universal Audio, the Universal Audio logo, UAD-1, UAD-1e, and "Analog Ears Digital Minds" are trademarks or registered trademarks of Universal Audio, Inc. All features and specifications subject to change without notice. Awards for UAD-1 and/or Powered Plug-Ins, Neve is a registered trademark of AMS-NEVE Ltd. used under license. Roland and Boss are trademarks of Roland, Inc., used under license.

World Radio History



(Egg-salad)



Visit us at
NAB
booth number
#N6034



(Egg-cellent...!)

AWARD WINNING PRODUCTS



HOLOPHONE[®]
Surround Sound Microphone Systems
www.holophone.com  01.416.362.7790

World Radio History