

MIX[®]

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

BRING IT LIVE

OPTIMIZING THE P.A.

ON THE ROAD WITH

- Brad Paisley
- Fall Out Boy
- The Eels

Nail That Vocal

- Tips From Tracking To Mastering
- New Large-Diaphragm Condenser Mics

The Mix Interview

T Bone Burnett

The BOSS



*****AUTO**SCH 5-DIGIT 9132

|||||

MARK GANDER

JBL

8500 BALBOA BLVD

S0048

NORTHRIDGE CA 91329-0003

000230

00165

Integrated Studios,
NYC



Master DVD today,
HD media tomorrow.

Dolby® Media Producer

Introducing comprehensive software mastering tools for DVD, HD DVD, Blu-ray Disc, and beyond.

Dolby® Media Producer is the definitive suite of professional tools for mastering audio content for all of today's packaged media and future formats as well. This software suite comprises three separate applications that also work seamlessly together. It is built for Mac OS® X, version 10.4 and up.

Dolby Media Encoder

Professional non-real-time software encoder that encodes Dolby Digital Plus, Dolby Digital, Dolby TrueHD, and MLP Lossless™ formats. Includes three Media Encoder Clients, enabling operators to set up and submit jobs locally or over a network to a centralized server. Features an intuitive interface for job preparation and project level management, and also includes a preview playback decoder.

Dolby Media Decoder

Professional reference decoder provides decoding and monitoring of Dolby Digital Plus, Dolby Digital, Dolby TrueHD, and MLP Lossless formats. Supports consumer listening modes including Dolby Pro Logic®, Dolby Pro Logic II, Dolby Digital Surround EX™, and Dolby Headphone formats. Optimized to run locally on a single computer. Transport control provides for audio-to-video synchronization.

Dolby Media Tools

Invaluable utility program saves time and money on audio file preparation by enabling the repair and update of previously encoded disc files without reencoding. Features include meta-data editing, file trimming, timecode stripping, and file concatenation. Dolby Media Tools is optimized to run locally on a single computer.

For additional information and a demo of the Dolby Media Producer products contact your Dolby dealer or visit www.dolby.com.

Dolby Media Decoder now available.



Dolby, Pro Logic, and the double-D symbol are registered trademarks of Dolby Laboratories. MLP Lossless and Surround EX are trademarks of Dolby Laboratories. Mac OS is a trademark of Apple Computer, Inc. © 2006 Dolby Laboratories, Inc. All rights reserved. 506/17107/17262



"I'm proud to share my secret
presets with SSL 4000 users.
Waves SSL models are the best
I've ever heard."

Chris Lord-Alge

Mixing Engineer
Green Day, Sheryl Crow, All American Rejects

SSL 4000 Collection

Now Featuring the Chris Lord-Alge Presets



The SSL Sound. In the box.

Developed under license from Solid State Logic, three meticulously modeled plug-ins:

- E-Channel
- G-Master Buss Compressor
- G-Equalizer

SSL 4000 Collection is WAV and 7.1M and requires 2GB of RAM. www.waves.com



Superior Sound Tools

vienna instruments

VIENNA SYMPHONIC LIBRARY

The Power of 10.

- 10 Vienna Instruments, now shipping!
- 10 of the most powerful sample-based Virtual Instruments on the planet.
- 10 times faster than creating music with conventional samplers.
- 10 easy-to-use and intuitive software instruments with literally zero learning curve.
- 10 user-configurable interfaces for drag-and-drop Orchestra Creation.
- 10 real-time controls to trigger hundreds of articulations on a single MIDI channel.
- 10 "mind-reading" Performance Detection algorithms that switch automatically between articulations.
- 10 online Video Tutorials that show you how easy it is to achieve the dream.
- 10 Collections that make your computer the ultimate Orchestral Workstation.
- 10 years in the making.



10 reasons to get all 10 Vienna Instruments now, available separately or together in the Symphonic Cube.

SYMPHONIC CUBE



All 10 NOW SHIPPING!

AU (OS X and Mac Intel)
VST (OS X and Win XP)

Version 1.06 now ready
for download!

VIENNA SYMPHONIC LIBRARY
www.vsl.co.at

ILIO
ilio.com

Grooves. Solos.

Sometimes the music
goes to magical places.
When that happens, make
sure the fans feel it.

AKG® WMS 4000 Galactic is known for being musically adventurous with its funk/fusion style. That's why AKG offers products like the WMS 4000. A wireless mic system for vocals or instruments that's simply unrivaled for audio quality and reliability. It captures those unexpected moments with very expected clarity. When the music is going places, make sure your equipment is worthy of the journey.

Visit www.ake.com/us to find your nearest AKG distributor or dealer.
Catch the band on tour: www.galacticfunk.com



Believe In Your Passion™

think inside the box



From the maker of the world's first digital audio product, and whose legendary reverbs are found in the world's best studios, comes the world's first stand-alone reverb that's also a hardware plug-in: **the MX200 Dual Reverb/Effects Processor.**

All the control and automation you want from a software plug-in, with the uncompromising quality you expect in a dedicated hardware box from Lexicon®.

Make the connection, and start thinking inside the box.



MX200 Dual Reverb
Effects Processor



lexiconpro.com

lexicon

A Harman International Company

World Radio History



USHER IN THE NEW ERA.

When Usher and his team set about designing their new studio last year, the one thing they knew from the start was that their console would be the new Digital X Bus from Mackie.

"We're all about perfection. We won't accept second-best anything," says Usher. "The Digital X Bus is the newest addition to the collection of Mackie gear we've been relying on for many years."

With dual 15" touch screens, an upgradeable 192kHz mix engine, built-in VST plug-in support, FireWire streaming, and 72 channels of I/O—as well as control capabilities for all major audio software—the Digital X Bus gives Usher everything he needs, now and in the future. Visit www.mackie.com/digitalxbus to learn more.



DIGITAL X BUS: DUAL TOUCH SCREENS, VST PLUG-INS, FIREWIRE STREAMING AND MORE. PLUG IN TO THE NEW.



www.mackie.com ☎ 425 487 4333 (Outside U.S.) ☎ 800 898 3211 (Toll free within U.S.)

MACKIE®

©2006 LOUD TECHNOLOGIES INC. ALL RIGHTS RESERVED. 'MACKIE' AND THE 'RUNNING MAN' ARE REGISTERED TRADEMARKS OF LOUD TECHNOLOGIES INC. ALL OTHER TRADEMARKS ARE PROPERTY OF THEIR RESPECTIVE OWNERS.

World Radio History

Why pay less?

I'm amazed at the recent price drop of entry level condenser microphones.

Is the \$1.99 microphone coming?

Are they any good? Well the short answer is yes!

Today, there are many cheap guitars, drums and keys for sale. These novice instruments serve a purpose by allowing kids and those who want to begin to experience music, to do so at a relatively low cost. If they don't continue playing, they haven't lost a lot of money. The cheap microphone does the same thing for recording.

The NT1-A was not designed for this purpose!

The NT1-A is studio quality microphone designed for people who are serious about their music. This is a creative tool that can be relied upon to capture your art.

Thousands of serious musicians and engineers have invested in this microphone, thus making it an industry standard.

While the NT1-A isn't the lowest cost microphone available, it's worth every penny and continues to win prestigious awards for quality and performance.

Please listen to the NT1-A before you buy any microphone, and you too will hear why you should invest just a little more for the real thing.



Peter Freedman
President - Rode Microphones

Proudly designed and manufactured in Australia

www.rodemic.com



International

RØDE Microphones, 107 Carnarvon Street
SILVERWATER, NSW 2128 Australia
Ph: 61 2 9648 5855 Fax: 61 2 9648 2455

USA RØDE LLC

P.O. Box 3279 Torrance CA 90510-3279
Ph: 877 328 7456 (Toll Free within the U.S.)
Ph: 310 328 7456 Fax: 310 328 7180

Technical Support

For information and technical support questions in the United States and Puerto Rico, contact:

usasupport@rodemic.com, or
call: 877 328 7456 (toll free), or
310 328 7456

RØDE[®]
MICROPHONES

X2

**Sample
Twist
Morph
Generate
Transform**

EmulatorX2

E-MU's new Emulator X2 is a 24-bit/192kHz Software Sampler for PC that gives you the sonic tools to create any sound imaginable. Whether playing and tweaking sounds from E-MU's diverse expansion library, importing your favorite sounds (Giga, Akai, REX2 and more), or creating your own samples, Emulator X2 is an all-in-one sampler, synthesizer and sound module that lets you twist, morph, generate and transform your sounds like nothing else.

X2 software upgrades for existing Emulator X and Proteus X users at www.emu.com

SynthSwipe
EX2
Automated Sampling

Twista
LOOP
Real-time Audio Manipulator

Z-Plane
Filters
over 50 types of morphing filters

Multi-Function
GENERATOR

TRANSFORM
MULTIPLY

CREATIVE
PROFESSIONAL

www.emu.com

Toll-free
888-372-1372

E-MU

© 2006 E-MU Systems, Inc. E-MU is a registered trademark of E-MU Systems, Inc. in the US and other countries. All other brand names are the property of their respective owners.

World Radio History

MIX

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

JULY 2006, VOLUME 30, NUMBER 7



PAGE 32



PAGE 40



PAGE 46



PAGE 56

On the Cover: Integrated, New York City's latest TriBeCa studio, fuses audio, video and style. A collaboration of PAD and Walters-Storyk Design Group, Integrated has an SSL 9000 J, surround monitoring and numerous outboard goodies. Photo: Courtney Spencer. Inset: Steve Jennings.



features

32 Follow That Vocal

Getting a great vocal take can be one of the most challenging parts of a recording project. We share advice from top engineers and producers, covering each stage of the process, from auditioning mics all the way through mastering.

40 Supersize My Mic

When it comes to microphones, good things come in both big and small packages. This month, we take a look at the advantages offered by the newest crop of large-diaphragm condensers.

46 Tuning Your P.A.

An optimized P.A. system—one that avoids phase problems while increasing clarity, efficiency and dynamic range—can mean the difference between adequate sound and great sound. Make sure you've got the basic—and the not-so-basic—tips down before you head off to the next show.

56 2006 TEC Awards Nominees

At this year's Technical Excellence & Creativity Awards in San Francisco, Remote Recording's David Hewitt will be inducted into the TEC Hall of Fame. Find out the rest of this year's nominees in the Technical and Creative Achievement categories.

Farewell Fast Lane

Since the passing of "The Fast Lane" columnist Stephen St.Croix in May, letters have streamed in from friends, colleagues and readers—some poignant, some surprising and some hilarious. We've woven parts of them together with memorable "The Fast Lane" excerpts as a final tribute to our friend. See page 24.



Check Out Mix Online! <http://www.mixonline.com>

[Volume 30, Number 7] is ©2006 by PRISM Business Media, 9800 Metcalf Ave., Overland Park, KS 66212. Mix (ISSN 0164-9957) is published monthly. One-year (12 issues) subscription is \$35. Canada is \$40. All other international is \$50. POSTMASTER: Send address changes to Mix, P.O. Box 638, Mt. Morris, IL 61054. Periodicals Postage Paid at Shawnee Mission, KS and at additional mailing offices. This publication may not be reproduced or quoted in whole or in part by printed or electronic means without written permission of the publishers. Printed in the USA. Canadian GST #129597951; Canada Post Publications Mail Agreement #40597023. Canada return address: DP Global Mail, 4960-2 Walker Rd., Windsor, ON N9A 6J5.

ABSOLUTE ACCURACY



The **DPA 4061** miniature microphone is designed to mount directly onto virtually any acoustical instrument and produce a highly articulate, accurate and natural sound. The 4061's versatility is based on a combination of its low noise floor, wide, flat frequency response and ability to handle sound pressure levels up to 144 dB before clipping.

The **IMK 4061** Instrument Microphone Kit contains the DPA 4061 microphone plus mounting accessories for drums, wind and string instruments. With the DPA 4061, you're guaranteed absolutely accurate sound - whatever instrument you play.



IMK 4061

The microphones for sound professionals with uncompromising demands for musical accuracy

DPA 
MICROPHONES

www.dpamicrophones.com

contents

sections

SOUND FOR PICTURE

- 66 **Cars** by Blair Jackson
- 67 **Superman Returns** by Blair Jackson

LIVE MIX

- 72 **Live Mix News**
- 76 **All Access:** Bruce Springsteen & The Seeger Sessions Band by Steve Jennings
- 80 **Tour Profile:** Fall Out Boy by Keith Clark
- 84 **Tour Profile:** Brad Paisley by David John Farinella



PAGE 84

- 88 **Tour Profile:** The Eels by Heather Johnson
- 90 **Local Crew:** Allstar Audio, Smyrna, Tenn. by Rick Clark
- 92 **New Sound Reinforcement Products**

RECORDING NOTES

- 116 **Tool's 10,000 Days** by Jeff Forlenza



PAGE 116

- 117 **Rascal Flatts** by Elianne Halbersberg
- 118 **Classic Tracks:** Willie Nelson's "On the Road Again" by Barbara Schultz

COAST TO COAST

- 124 **L.A. Grapevine** by Bud Scoppa
- 124 **Nashville Skyline** by Rick Clark
- 125 **N.Y. Metro Report** by David Weiss
- 126 **Sessions & Studio News** by Barbara Schultz

technology

- 98 **Tools of the Trade**
- 102 **Field Test:** Eventide H7600 Ultra-Harmonizer Processor



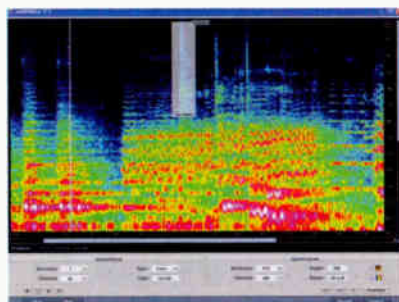
PAGE 102

- 106 **Field Test:** Sony PCM-D1 Handheld Recorder



PAGE 112

- 108 **Field Test:** Waves MaxxBCL Signal Processor
- 112 **Field Test:** IK Multimedia Classik Studio Reverb
- 114 **Field Test:** Algorithmix ReNOVAator Spectral Editor



PAGE 114

- 152 **Power Tools:** Native Instruments Guitar Rig 2 by Gerry Basserman

columns

- 24 **Fast Lane Remembered**
- 28 **Insider Audio:** Two Hearts—Do Musicians and Audiences Beat As One? by Paul D. Lehman



PAGE 28

- 58 **Mix Interview:** T Bone Burnett by Blair Jackson



PAGE 58

- 64 **Project Studio:** David Paich's ATS by Gary Eskow
- 94 **Tech's Files:** Bias Voltages and Tube Amp Maintenance by Eddie Ciletti

departments

- 12 **From the Editor**
- 16 **Feedback**
- 18 **Current**
- 22 **On the Cover:** Integrated Studios, New York City by David Weiss
- 134 **Ad Index**
- 135 **Mix Marketplace**
- 142 **Classifieds**



The Voice of Experience



KSM9

H A N D H E L D
C O N D E N S E R
M I C R O P H O N E

Live Performance Mastery. Engineered to exacting standards, KSM9 unites the best of studio and stage. With its dual diaphragm design and switchable polar patterns, KSM9 reveals nuance and subtlety in a microphone optimized for the most demanding live environments.

The choice for the world's most accomplished vocal performances.

SHURE®

It's Your Sound®

www.shure.com

©2006, Shure Inc.

World Radio History



Get it Live!

A simple musical performance can change your life. In the summer of '68, I went with a couple of friends to Rome for a weekend to check out some hip venues in the Eternal City. We weren't jetsetters—we played in bands and lived in Naples, about 100 miles away. At the Piper Club (essentially Italy's equivalent of The Fillmore), we saw R&B singer Ben E. King and UK soul band The Senate. King was amazing, but we were floored by The Senate's tight funk, featuring a young Robbie McIntosh (pre-Average White Band) on drums and Alex Ligertwood (later of AWB and Santana) on vocals. Wowed by the experience, my friends and I spent the next year playing soul and funk.

Music is a powerful force, particularly in the magic that happens when players get together to create. Yet that same vibe can be lost in the studio's "perform in a fishbowl" environment. And sometimes that loss is simply a case of technology getting in the way. Used to performing onstage, singers often feel uncomfortable when placed alone in a room, listening over headphones and standing in front of a huge microphone. There are tricks to help the situation—such as dimming the lights, compressing the cue mix or adding a bit of reverb in the 'phones—but how much emotion is lost in our quest for perfect isolation and control over each track?

The same applies to rhythm tracks. Beyond the ensemble feel of live tracking, a well-oiled rhythm section will often come up with nuances and small touches that make a track jump. The Beatles recorded their first album in a day (it sold pretty well, too), but has tracking a well-rehearsed band in a couple of days become a lost art?

Maybe no. The live approach seems to be on the upswing. Steely Dan—known for its meticulous assembly of tracks during months and years—returned to live tracking on its latest album (and on Fagen's recent *Morph the Cat* CD). In this issue, T Bone Burnett talks about his new album, cut entirely live with minimal overdubs. And our own Nashville editor, Rick Clark, just returned from New York, where he produced Death Cab for Cutie—cut live to 2-inch 16-track in the big room at Sear Sound.

Perhaps today's mega-tracking DAWs push delayed decision-making to an extreme. When we spend more time editing tom fills than writing the song, something's terribly wrong. But let's not jump to indict nontraditional music creation, which is ideal for everything from hip hop to electronica to avante garde. Yet even in these styles, there's an increase in the use of live players, especially in solos and rhythm overdubs.

While nobody wants to return to the "good old days" of 1/2/3/4/8-track recording, a little more live feel in your productions is a good thing. There's no mystery here: Add some great audio, great players and a great song, and you've got a hit.

Speaking of live, this month veteran writer Steve La Cerra (he's currently on tour mixing FOH for Blue Öyster Cult) joins the *Mix* staff as our new sound reinforcement editor. Welcome aboard!

George Petersen
Editorial Director

MIX[®]

EDITORIAL DIRECTOR George Petersen gpetersen@prism2b.com

EDITOR Tom Kenney tkenny@prism2b.com

SENIOR EDITOR Blair Jackson blair@blairjackson.com

SENIOR EDITOR/FEATURES Sarah Jones sjones@prism2b.com

TECHNICAL EDITOR Kevin Becka kbecka@earthlink.net

MANAGING EDITOR Sarah Benzuly sbenzuly@prism2b.com

ASSISTANT EDITORS Barbara Schultz bschultz@prism2b.com

Matt Gallagher mgallagher@prism2b.com

LOS ANGELES EDITOR Bud Scoppa bs7777@aol.com

NEW YORK EDITOR David Weiss david@edwards.com

NASHVILLE EDITOR Rick Clark rmburge@mac.com

FILM SOUND EDITOR Larry Blake swelltone@aol.com

SOUND REINFORCEMENT EDITOR Steve La Cerra

CONSULTING EDITOR Paul D. Lehman lehman@pan.com

ONLINE AUDIENCE DEVELOPMENT MANAGER Tami Needham

needham@prism2b.com

CONTRIBUTING EDITORS Michael Cooper Heather Johnson

Eddie Giletti Oliver Masciarotte Gary Eskow Barry Rudolph

SENIOR ART DIRECTOR Dmitry Panich dpanich@prism2b.com

ART DIRECTOR Kay Marshall kmarshall@prism2b.com

ASSOCIATE ART DIRECTOR Lizabeth Heaven

PHOTOGRAPHY Steve Jennings

INFORMATIONAL GRAPHICS Chuck Deimer

SENIOR VICE PRESIDENT Pete May pmay@prism2b.com

PUBLISHER Dave Reik dreik@prism2b.com

ASSOCIATE PUBLISHER Erika Lopez elopez@prism2b.com

EASTERN ADVERTISING DIRECTOR Michele Kanatous mkanatous@prism2b.com

NORTHWEST/MIDWEST ADVERTISING MANAGER Greg Sutton

gsutton@prism2b.com

SOUTHWEST ADVERTISING MANAGER Albert Margolis amargolis@prism2b.com

prism2b.com

CLASSIFIEDS/MARKETPLACE ADVERTISING DIRECTOR

Robin Boyce-Trubitt rboyce@prism2b.com

CLASSIFIEDS/SPECIALTY SALES MANAGER

Kevin Blackford kblackford@prism2b.com

MARKETING DIRECTOR Christen Pocock cpocock@prism2b.com

SALES & MARKETING COORDINATOR Clarina Raydmanov

craydmanov@prism2b.com

MARKETING & EVENTS COORDINATOR Jennifer Smith

jsmith@prism2b.com

ONLINE SALES AND MARKETING DIRECTOR Samatha Kahn skahn@prism2b.com

prism2b.com

DIRECTOR, SPECIAL PROJECTS Hillel Resner hresner@prism2b.com

VICE PRESIDENT, PRODUCTION Lisa Parks lparks@prism2b.com

GROUP PRODUCTION MANAGER Melissa Langstaff mlangstaff@prism2b.com

prism2b.com

PRODUCTION MANAGER Liz Turner lturner@prism2b.com

CLASSIFIED PRODUCTION COORDINATOR Jennifer Kneebone-Laurie

jkneebone@prism2b.com

VICE PRESIDENT, AUDIENCE MARKETING Jerry Okabe jokabe@prism2b.com

prism2b.com

DIRECTOR, AUDIENCE MARKETING John Rockwell jrockwell@prism2b.com

prism2b.com

OFFICE MANAGER Lara Duchnick lduchnick@prism2b.com

ADMINISTRATIVE ASSISTANT Karen Carter kcarter@prism2b.com

COPYRIGHT 2006

Prism Business Media

ALL RIGHTS RESERVED.

FOUNDED IN 1977 BY DAVID SCHWARTZ AND PENNY RIKER

MIX[®] MAGAZINE IS AFFILIATED WITH



In a world filled with suppliers Sweetwater's staff always stands out. Although I am a small customer I always feel they CARE about my business.

Jack Dastoli

LOST IN THE MIX?

CALL SWEETWATER

A GREAT MIX OF GEAR

With today's gear choices finding the perfect setup can be overwhelming. Analog or digital, hardware or software, Sweetwater will launch your creativity by finding the gear that's right for you.

THE BEST PRICES *and* FAST, FREE SHIPPING

Shop around, you'll find the best prices are at Sweetwater. On top of that, we give you the best FREE shipping deal you'll ever find — and nobody ships faster than we do! After all, it's easier to make music when you're not waiting for a delivery truck.

UNPARALLELED TECH SUPPORT

Having a problem? Online or on the phone, our tech support is unmatched. Hardware, software, or repairs, we can get you back doing what you do best — making music.



FREE SHIPPING
NO MINIMUM PURCHASE*



TO FIND OUT MORE, CALL SWEETWATER TODAY

1-800-222-4700

www.sweetwater.com

Sweetwater
music technology direct™



available now



16 channels, 4 band Series 80 EQ \$3500
meterbridge \$1100 extra (other frame sizes 24 & 32 NOW available)

SPECIAL DISCOUNTS NOW AVAILABLE !!

incredible legendary Trident sonics

made in england

by the original Trident designer

**TRIDENT® SERIES 8T
CONSOLES**

details from: mix8T@tridentaudio.co.uk

011 44 147 481 5300

www.tridentaudio.co.uk

WWW.MIXONLINE.COM

PRISM
BUSINESS MEDIA™

President/Chief Executive Officer John French ffrench@prism2b.com

Chief Operating Officer/Chief Financial Officer Andrea Parsley aparsley@prism2b.com

Sr. Vice President, Business Development Eric Jacobson ejacobson@prism2b.com

Vice President, Human Resources Kurt Nelson knelson@prism2b.com

Chief Information Officer Kris Paper kpaper@prism2b.com

Vice President, General Counsel Bob Feinberg bfeinberg@prism2b.com

SUBSCRIBER CUSTOMER SERVICE: To subscribe, change your address or check on your current account status, go to www.mixonline.com and click on "Customer Service" for fastest service. Or, e-mail miam@xcable.com, call toll-free 800/532-8190 or 815/734-1216, or write to P.O. Box 638, Mt. Morris, IL 61054.

BACK ISSUES: Back issues are available for \$10 each by calling 800/532-8190 or 815/734-1216.

POSTMASTER: Send address changes to *Mix* magazine, P.O. Box 638, Mt. Morris, IL 61054.

PHOTOCOPIES: Authorization to photocopy articles for internal corporate, personal or instructional use may be obtained from the Copyright Clearance Center (CCC) at 978/750-8400. Obtain further information at copyright.com.

REPRINTS: Contact FosteReprints to purchase quality custom reprints or e-reprints of articles appearing in this publication at 866/436-8366 (219/879-8366 outside the U.S. and Canada). Instant reprints and permissions may be purchased directly from our Website; look for the KSI/copyright tag appended to the end of each article.

ARCHIVES AND MICROFORM: This magazine is available for research and retrieval of selected archived articles from leading electronic databases and online search services, including Factiva, LexisNexis and ProQuest. For microform availability, contact National Archive Publishing Company at 800/521-0600 or 734/761-4700, or search the Serials in Microform listings at nopubco.com.

PRIVACY POLICY: Your privacy is a priority to us. For a detailed policy statement about privacy and information dissemination practices related to Prism Business Media products, please visit our Website at www.prism2b.com.

LIST RENTAL: Marie Briganti marie.briganti@vwaterkort.infousa.com

MAILING LISTS: Prism Business Media makes portions of our magazine subscriber lists available to carefully selected companies that offer products and services directly related to the industries we cover. Subscribers who do not wish to receive such mailings should contact the Prism Business Media subscriber services at 800/532-8190 or 740/382-3322.

CORPORATE OFFICE: Prism Business Media, 9800 Metcalf, Overland Park, KS 66212, 913/341-1300, www.prism2b.com.

NATIONAL EDITORIAL, ADVERTISING AND BUSINESS OFFICES, 6400 Hollis St., Suite 12, Emeryville, CA 94608; 510/653-3307; fax 510/653-5142; Website: www.mixonline.com. **PHOTOCOPY RIGHTS:** Authorization to photocopy items for internal or personal use of specific clients is granted by Prism Business Media, provided that the base fee of U.S. \$2.25 per copy, plus U.S. \$0.00 per page is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. The fee code for users of this Transactional Reporting Service is ISSN 0164-9957/2000 \$2.25 + \$0.00. For those organizations that have been granted a photocopying license by CCC, a separate system of payment has been arranged. Before photocopying items for educational classroom use, please contact CCC at 978/750-8400.

Here's something new to get

AMPED

about.



POWERED BY
EVENSTAR™
SIGMA DELTA AMPLIFIER
TECHNOLOGY

Introducing our new PS8R, a biamplified, stand alone, nearfield monitor that's sure to turn the audio industry on its ear. Quincy Jones, Sting, Santana and Neil Young have already discovered how our patent pending ribbon technology delivers unequalled clarity and definition. Hear what they hear. The pure sound of SLS.

www.slsloudspeakers.com



SUPERIOR
SPEAKING SYSTEMS
AUDIO CLARITY REDEFINED



Ear Candy.



Two 312 discrete mic preamps
plus our new analog to digital converter.

The A²D from API.

It's a sight for sore ears.

www.apiaudio.com
301.776.7879



Letters to Mix



MORE RESOLUTION ON PROJECT

I would like to respond to Merrick Fleisher's letter to *Mix* (January 2006) regarding *The Resolution Project* (October 2005), which I produced. As he found some things puzzling, I'll try to shed some light on his issues.

He states "...it's fair to say that most engineers are recording content in a minimum of 24-bit/48kHz resolution with 24-bit/96kHz becoming more and more the de facto standard (at least where the goal is published content)." If he is referring to CD-published content, the wise engineer records at the release media sample rate or an even multiple to avoid destructive transcoding. That means 44.1 or 88.2 kHz, not 48 or 96 kHz. Because I did not want to transcode anything (except the lossy formats, of course), I chose to record one of the disc's resolutions directly at the CD sample rate, which accurately reflects how MP3, WMA and AAC content is encoded.

Also, any small gain made by recording to 48 kHz is completely nullified by the damage from transcoding from 48 kHz to 44.1 kHz. He adds "...but his result was a less-than-true representation of what is really happening on the street." It seems to me that everyone ripping their music to "street" portable players is doing so from CDs. If they rip tunes from digital videotape, I guess 48 kHz is more accurate.

He questions my choice of 64 kilobit/second as the MP3/WMA/AAC encoding rate. Actually, most people download at this data rate, according to my research, not the 128-kilobit/second rate. The goal was to present the widest range of audio resolution choices, not to favor one format over the other.

And in a side note, Fleisher questions my choice of jazz and classical as the music forms recorded for *The Resolution Project*. He writes, "While this is quite understandable to show the full sonic advantage, I have relied on showing my clients the differences between DVD-A, CD and

MP3 using rock 'n' roll." Let me describe for him the process necessary to correctly use rock as a music form for this type of project. (And for the record, my Gold and Platinum albums are for rock 'n' roll.) To make a completely accurate representation of any resolution differences (remember, the goal is to show only differences in digital resolution formats), all three formats must be recorded in sample-accurate sync from identical electrical sources—all basic tracks, all overdubs, all effects, all editing and all mixing—under the control of a single remote. (Got to punch in exactly the same on all three formats, right?)

Because it is currently impossible to run sample accurate—synchronized recorders (either stand-alone or computer-based) simultaneously at 44.1/96/192kHz sample rates, a true format-only representation is not possible when recording rock using current production methods. Recording in analog multitrack format and mixing to different resolutions doesn't present an accurate representation of different digital resolutions either, as it's—obviously—pre-recorded in a format that lends its own signature to the sound. Recording rock in a live venue would add main and monitor sound systems issues, as well as typical live microphone choices into the equation.

Jazz and classical music forms were recorded for *The Resolution Project* because it was possible to do so in single continuous takes from identical electrical sources and without the need for sample-accurate sync. The complex tonalities and phase differences that occur naturally within the music and the recording space highlight real and valid differences between resolutions, which, again, was the goal. Perhaps Fleisher should widen his musical horizons, at least for the purposes of judging correctly recorded format comparisons.

Fleisher somewhat condescendingly stated, "All in all, I think *The Resolution Project* is a great idea and helps bring a higher-fidelity awareness to the consumer." I must say, though, that this project was conceived primarily as a method for audio professionals to accurately hear for themselves the differences in resolutions, and while the public shows occasional interest, it is the pro audio community that can gain the most from this disc, if they care to. So much of the talk about hi-res is from people who have yet to actually hear—or produce—a valid comparison.

Free discs may still be available from *The Resolution Project* participants: DPA Microphones, Monster Cable, Genex, Steinberg, Dolby and Minnetonka Audio Software.

Thanks to *Mix* magazine and K.K. Proffitt for the coverage.

John Calder
Generator LLC

A DIFFERENT PAIR OF EARS

I find it rather misleading that Eddie Ciletti's April 2006 "Tech's Files: Are Commercials Really Too Loud?" really doesn't address the subject until near the end of the piece, in a part headlined "Brightness and Contrast."

Let me let the cat out of the bag where others have seemed to skirt the explanation, either because they don't know it or don't want to reveal it. When the audio is recorded for television or radio, a commercial track is laid down in more or less the way program audio is recorded. Yet in post-production, it is run through a compressor that raises the level of the soft passages while limiting the peaks of the loud ones.

When the broadcaster goes to commercial, the contrast between program audio and the commercial's audio is quite startling. This is because the dynamic range has been reduced. With the low-level passages louder and the peaks limited, the overall level can be increased while remaining within the FCC's modulation limit. We've jumped from the highs and lows expected of normal conversion to rapid-fire dialog with a reduced dynamic range and the overall level cranked up so that as much of the audio as possible is near 100-percent modulation. The selection of a microphone that is supposedly preferred for use in commercials is essentially meaningless because, as the recording greats are wont to say, "We'll fix it in the mix."

Oliver Berliner
SounDesign Engineers

FAN MAIL

As a fan of *Mix* magazine, I am writing out of the blue just to commend Robyn Flans for her great December 2005 article on Pat Benatar ("Classic Tracks: 'Love is a Battlefield'").

As the president of my own marketing company, I know that great writing and creative initiatives can go completely unnoticed, or they can be well received while the creator receives no positive feedback, so I wanted to take two minutes to commend Robyn for her work.

Peter Mowbray
Mowbray International Inc.

Send Feedback to *Mix*
mixeditorial@prism2b.com

now hear this.

extraordinary
integrated
systems.

www.nhthifi.com



TEC HALL OF FAME: DAVID HEWITT



Acclaimed remote recording engineer David Hewitt will join an elite group of individuals as he is inducted into the TEC Hall of Fame at the 22nd Annual Technical Excellence & Creativity Awards, to be held Saturday, October 7, 2006, at the Hilton San Francisco. For a complete list of this year's nominees, go to page 56.

In 1978, Hewitt designed and built the state-of-the-art "Black Truck," which became the industry standard for excellence. One year later, he founded Remote Recording Services, providing consulting and rentals. Now in his fourth decade of engineering live broadcasts, records, and audio for film and video, Hewitt has been part of many great live music moments. A few of his favorites include Neil Young's *Rust Never Sleeps*, Modern Jazz Quartet's

Farewell Concert, Live Aid, the Rolling Stones' *Still Life* and Lets Spend the Night Together, the Three Tenors' live broadcast from Giants Stadium (East Rutherford, N.J.) and Pink Floyd's *The Delicate Sound of Thunder*.

Hewitt has won eight TEC Awards, as well as Grammy, Emmy and Cinema Audio Society Awards for his work during the years. Hewitt is the chief engineer and designer of the "Silver Studio."

For tickets or information about the TEC Awards, contact Karen Dunn at 925/939-6149 or Karen@tecawards.org, or visit www.mixfoundation.org.

PARIS IN SPRINGTIME THE 120TH AES CONVENTION

The Paris Expo in Porte de Versailles was a perfect setting for an AES show. Attendance was quoted at 5,000—excellent for a European gathering. Here are a few products that caught our eye.

The DFC PS/1 PowerStation from AMS-Neve (www.ams-neve.com) is a single-operator, lower-cost version of the DFC Gemini console for pre-dub/prelay and print mastering. Stagetec's (www.stagetec.com) Nexus and Aurus consoles offer a new high-density I/O frame that accommodates sub-modules for analog, AES/MADI-format digital and fiber-optic connections. Lawo's (www.lawo.de) much-anticipated mc290 digital console has a new GUI and user interface. It's aimed at no-fail applications, such as remotes, live performance and on-air.

Apple's (www.apple.com) Logic Pro DAW is now fully Euphonix (www.euphonix.com) EuCon-compliant, directly controllable under this flexible command protocol from surfaces such as the MC Media Controller. A EuCon Hybrid Option can control multiple DAWs from System 5.

Neumann (www.neumannusa.com) expanded its Solution-D digital mic line with small-diaphragm models based on its popular 180 Series. The new modular mics have interchangeable omni, cardioid and supercardioid capsules.

Universal Audio's (www.uaudio.com) collaboration with AMS-Neve offers UAD-1 DSP emulations of classic Neve hardware, such as the 1073 and 1073SE EQs. Coming soon are plug-ins of the Neve 33609 bus compressor and 1081 parametric. The Model 10500 digital monitor from RTW (www.rtw.de) provides a high-res audio vectorscope, peak-reading meters and status monitoring on a built-in LCD. Julyah

Communications (www.julyah.com) expanded its Centauri II system (now with connectivity of audio codecs to a standard VoIP topology) and the MERK II portable audio gateway codec.

Best of show? Nahimic, A-Volute's (www.a-volute.com) 3-D sound recording/playback system, uses a real-time spatializing engine, generating a 3-D space map, and then places individual sources anywhere within that environment. A six-transducer headphone re-creates the soundfield.

During their joint keynote address, composer/vocalist Emile Simon and her engineer/technologist (and IRCAM instructor) Cyrille Brissot demonstrated BRAAH, a vocal effects controller worn on the singer's arm, and CADRE, a laser controller responding to the location of objects placed within its beams. The potential of computer-controlled instruments is virtually limitless, Brissot argued: "Any object can be a computer interface."

—Mel Lambert



UP AND RUNNING



Kim McLean recording vocals, while Joe Johnston (above) checks out the tracks

Joe Johnston's recently remodeled Rhythm Rascal Studios (Crieve Hall, Tenn., www.rhythmrascalstudio.com) hosted Kim McLean, founder of Hippie Chick Twang Records, who is recording her song "Come to the Fire," which was chosen for the International Women Alive conference theme song.

Rhythm Rascal Studios has been upgraded to include Paris Version 3, the ability to import and export files with Pro Tools and other systems, a Studio Projects TB1 mic, pitch correction, automated mixing and tons of new effects.

MICHAEL "MIKE" KOVINS, 1948-2006



Korg USA president Michael "Mike" Kovins passed away on May 2, 2006, after a long battle with leukemia. Kovins began his career in the music industry at Sam Ash, first in its educational department and then in its Long Island, N.Y., store. In 1973, he joined Tolchin Instruments, where he was involved in setting up the first nationally distributed catalog for music educators. Upon leaving Tolchin in 1976, Kovins went to work at M. Hohner Inc., hired by then VP of sales, Joe Bredau (Korg USA's current VP marketing and sales), to run its Orff-Schulwerk Division. When Hohner decided to move to Richmond, Va., Kovins went to work at Unicord.

At Unicord, he was instrumental in launching such products as the Korg Polysix, Mono/Poly, GT-6 Tuner and Marshall JCM800 Series. He later went on to become one of the founding members of Korg USA and, as executive VP, led the introduction of the Korg M1 music workstation. As president, he oversaw the introduction of a succession of products, such as the Korg TRITON and, most recently, the Korg OASYS.

Always a strong advocate and supporter of music education, Kovins was instrumental in creating Korg USA's SoundTree educational division and was the founder and an executive committee member of TI:ME (Technology Institute for Music Educators). He was a recipient of Berklee College of Music's Golden Clef Award for Lifetime Commitment to Music Education, the Julia E. Crane International Medallion for Lifetime Achievement in the Music Products Industry and the Distinguished Alumnus Award 2006 of the Frost School of Music at the University of Miami for his outstanding achievement in the music industry.

He is survived by his wife of 29 years, Katherine. A private service was held on Long Island on May 5 and the family has requested that, in lieu of flowers, a donation in Kovins' memory be made to The Leukemia & Lymphoma Society (www.leukemia.org).

NOTES FROM THE NET

MONEY FOR NOTHING, OR NOTHING FOR MUSIC

New software/digital rights-management service SafeSell (www.safesell.com) allows artists to deliver work to their audience for no charge and then receive payment from their fans. Artists and indie labels pay nothing to set up with SafeSell; they only need a Website. SafeSell provides encoding and handles payment, 70 percent of which goes to the content owner. Clients can monitor their accounts for sales information, which is updated on an hourly basis. Every month, SafeSell transfers revenue to clients by electronic payment.



In other online activity, the new Napster.com boasts more than 2 million major and indie-label tracks, and features NapsterLinks and the soon-to-be-released Narchive. NapsterLinks allows users to add links to Napster music to e-mails, instant messages, blogs and

Websites. The Narchive is a public music archive where users are invited to contribute to the "People's History of Music." The Narchive, which will be available in beta shortly, offers original artist biographical information and photos.

RØDE BUYS EVENT

Ever since Event Electronics was formed, the studio monitor manufacturer and Australia-based RØDE Microphones has had a friendly relationship, which just got friendlier with the recent acquisition. RØDE has a distribution and service center in Torrance, Calif., headed by Mark Ludmer, who is now also CEO of Event.

According to RØDE president Peter Freedman, "Event is a long-established and very well-respected brand with a strong domestic and international sales program. We see a great deal of synergy in this union and I am excited about the potential for expansion of the line.

"I love speaker technology. I'm fascinated by that sector and always wanted to get involved. I can now play with both ends of the transducer spectrum."

Event will remain based in Carpinteria, Calif.

INDUSTRY NEWS



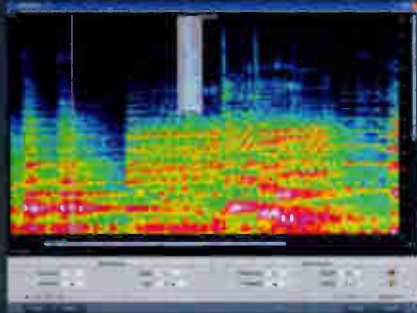
Ron Harris

Manhattan Center Studios (NYC) tapped **Ron Harris** as general manager, video post-production...Formerly serving as president of the Leitch Technology business unit of the Harris Broadcast Communications division, **Timothy E. "Tim" Thorsteinson** is **Harris Corporation's** (Melbourne, FL) president, Broadcast Communications division...**Berkeley Sound Artists** (Berkeley, CA) welcomes the newest member to its audio design team, **Alex Wilmer**...With more

than 15 years' experience in the concert and touring industry, **Debi D.** joins **db Sound Image** (Chicago) as tour account manager...**Marc Johnson** joins **Axia Audio** (Cleveland) as applications engineer...**Solid State Logic** (Los Angeles) new hires: **Donovan Stark**, partnership

manager, and **Quinton Nixon**, product specialist...New product specialist at **Genelec** (Natick, MA) is **Paul Stewart**. The company also named **Dan Pye** as sales support and **Amy Tran**, sales administrator...New York City-based **Fluid** welcomed new sales member **Mendy Frohlich**...New face at **Digigram** (Grenoble, France) is **Remi Oudinot**, marketing communications manager...Telex distributor **Lebanna Solutions** welcomed **John McArthur**, Ontario sales representative...New distribution deals: **SLS Loudspeakers** (Ozark, MO) selected **Network Entertainment Technology** (Melbourne, Australia) as its newest Australia distributor; representing **APT** (Belfast, Ireland) in New Zealand is **INTELCOM Services Ltd.**; **Auralex** (Indianapolis) expands its distributors in the European market with **New Musik A/S** (Scandinavia) and **Stollas SA** (Greece, Cyprus); and **CharterOak** (Enfield, CT) welcomes **REPP Italia** as exclusive distributor in Italy.

Go beyond the printed page and log on to www.mixonline.com to get extra photos, text and sounds on these select articles:



"Field Test": Algorithmix reNOVator

Many companies are now using dongles; USB security devices allow the user to download the software for free and install it on any number of computers. Reviewer Joe Hannigan offers a few tips for safe dongle use. Also check out Hannigan's repairs on a track that needed some "renovating."



"Project Studio": ATS

So you've gone inside David Paich's project studio; check out how he recorded the latest Toto album.



Follow That Vocal

Get more information from in-demand engineers and producers on getting a great vocal take.

"Mix Interview":

T Bone Burnett

Can't get enough of T Bone? In addition to reading his selected credits, listen to clips from his latest album, *The True False Identity*.



SPARS SOUNDBITES

THINK NATIONALLY, ACT LOCALLY

SPARS, the Society of Professional Audio Recording Services, has worked diligently during the past few years to heighten its profile as a national networking and educational organization. In addition to our national efforts, we are also constantly working to provide hands-on training, informational events and networking opportunities for our major-market members. Each quarter, it is our goal to be involved in at least one event in each of the three major markets: New York, Los Angeles and Nashville. In the past year, we have hosted (with other industry organizations, manufacturers, service providers and financial providers) luncheons, mixers and other events in each of these cities.

In Los Angeles, SPARS facilitated luncheons with both Solid State Logic regarding the release of the console manufacturer's latest console technology, as well as with All Media Capital regarding the current options for equipment financing. Both proved themselves informative sessions and were much appreciated by that area's membership. We are currently planning a luncheon for later in the year with Dolby regarding its latest technology and demonstrations of such. In addition, SPARS works with the Mix Foundation to support the Mix L.A. Open Golf Tournament and this year co-hosted a team of players, donated a year's membership to the silent auction and a few items for the player's goodie bags. SPARS is also working closely with the executive director of The Producers & Engineer's Wing of The Recording Academy, Maureen Droney, to build a lasting beneficial relationship between the two organizations. In December 2005, a Refreshment Room was jointly sponsored by SPARS and the P&E Wing during the Surround Conference. We hope to plan more events with the P&E Wing this fall at AES in San Francisco.

In Nashville, SPARS has become involved with several local industry organizations to better serve that recording community. In the past months, SPARS hosted a hole at the Nashville Audio Masters Golf Tournament and has plans to co-host a hands-on informative session in late June, which will discuss the benefit of pro recording and the signal flow of audio for recording, with GCPro and several local manufacturers involved, along with NAPRS (Nashville Association of Professional Recording Services). In addition, SPARS will host a luncheon with financial planning experts on equipment financing and budgeting/planning for facility expansion/changes later this fall.

Several events have been hosted in the New York area to showcase the latest gear technology with the following co-hosts: Dale Pro Audio, JBL, Aviom, Tekserve, SSL and GCPro. We also strive to provide networking opportunities for the New York membership via after-hours mixers to get together to discuss the industry in general and sometimes in specific, allowing members to pick each other's brains and bounce ideas off one another and, most importantly, to discuss future goals of the organization on a local and national level.

We are proud of the relationships we have built, maintained and the new relationships and associations we will continue to nurture as an organization dedicated to serving the professionals in our industry. SPARS welcomes all suggestions on how we can continue to grow and perfect our agenda and goals. Please feel free to contact our national office at spars@spars.com or 800/771-7727, or online at www.spars.com. ■

Marcia Kautz is SPARS' executive director.

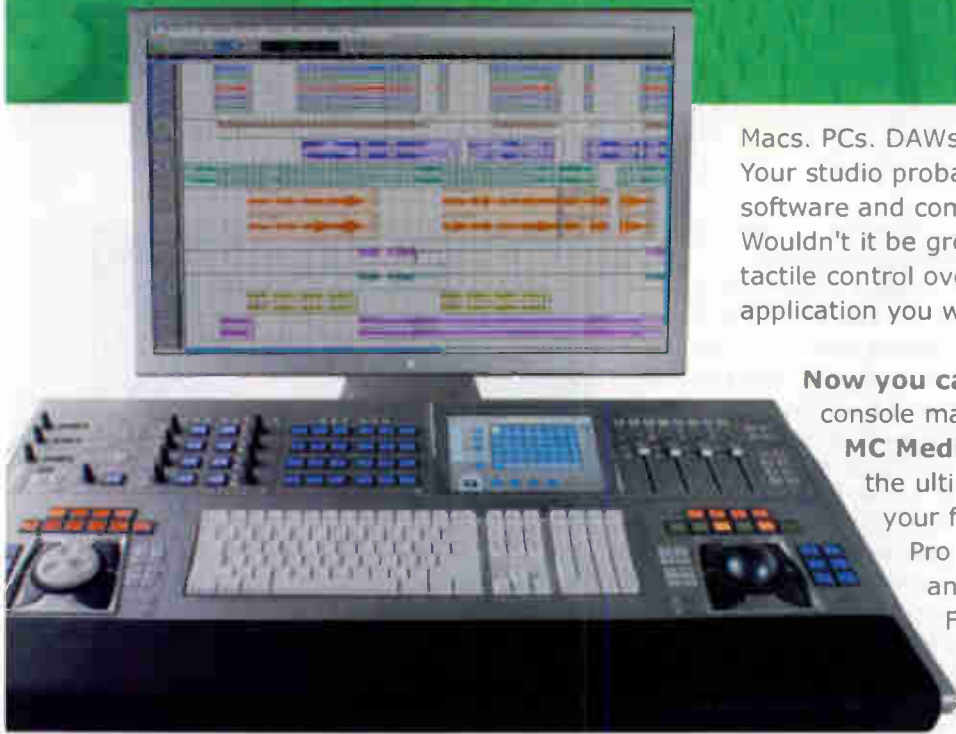
[Eds. note: In the June issue, we inaccurately attributed the story "NARAS Notes" to the opinions of NARAS (The Recording Academy) and its Producers & Engineers Wing. This article was not an official statement from The Recording Academy or its P&E Wing; it is the opinion of an industry veteran who also is a member of the P&E Wing.]



SPARS

THE SOCIETY OF
PROFESSIONAL
AUDIO RECORDING
SERVICES

Everything. Under control.



Macs. PCs. DAWs. Soft synths. Samplers. And more. Your studio probably contains a wider variety of software and computer platforms than ever before. Wouldn't it be great to have perfectly integrated tactile control over every computer and software application you work with?

Now you can. Euphonix, the world-renowned console manufacturer, has delivered the **MC Media Application Controller.** It's the ultimate worksurface for controlling your favorite software apps, from Pro Tools[®] and Logic[®] to Nuendo[™] and more. Hell, use it with Final Cut Pro[®] or Photoshop[®], or your web browser if you want. Because if there's one thing we all need, it's a little more control.

The Euphonix MC includes a full sized keyboard with trackball and jog wheel, plus 56 LCD SmartSwitches, 4 faders, 9 rotary controls, and a monitoring section. Works with ANY software application on Mac or PC.

Euphonix MC

Get In Control With GC Pro!

In a world where music and audio gear is more and more sophisticated, GC Pro is here to offer personalized expert consulting on putting together the best combination of equipment for your specific requirements. You also take advantage of the excellent pricing you'd expect from the world's largest pro audio dealer.

From mics to monitors... front end processors to dedicated audio computers... vintage instruments to the most cutting-edge software tools... we are your one-stop solution. Contact your local GC Pro Account Manager today!



GC Pro has expert Account Managers in nearly every territory of the USA... contact us today!

800-935-MYGC
www.gcpro.com

Music • Post • Live Sound • Lighting



© 2006 Guitar Center, Inc. All rights reserved.
All images and trademarks are property of their respective holders.

GC PRO
www.gcpro.com

Integrated Studios

By David Weiss

How many spins remain on the concept of the ultramodern studio? To see the very latest, a visit to Integrated Studios (www.integratedstudios.com) in New York City's low-key TriBeCa district is in order. Step inside the front door of a building on one of downtown's quiet, old cobblestone streets and find yourself immersed in a highly functional blend of audio, video and style.

A carefully networked combination of spaces, Integrated includes a soundstage, video editing suites, a spacious rooftop deck, a skilled staff, futuristic aesthetics and—oh, yeah—what just might be New York City's new crown jewel: an SSL 9000 J Series/Augsburger mix room. For those who understand where owner/founders Derek and Eliot Ferguson are coming from, working here will be a memorable experience. "I never wanted this to be a high-throughput place, and I never wanted it to be an ordinary place," Derek Ferguson explains. "I wanted the Integrated ethos to be distinctive and have people say, 'Wow, I had a really good time making a classic record there.'"

Studio consultant and systems supplier/integrator David Malekpour of Professional Audio Design teamed with studio architect John Storyk (Walters-Storyk Design Group) and WSDG-Europe's room and system tuner Dirk Noy using SIA Smaart testing software and proprietary room tuning algorithms developed for the system to maximize Integrated's appeal to the audio set, beginning with the arresting Orange Room control room helmed by music director and producer/engineer Carlos Bess (Wu-Tang Clan, Majestic 12). A relatively small but comfortable space, the interior is dominated by a 58-channel SSL 9000 J Series SuperAnalogue console, flanked by hot rod orange-painted custom Augspurger 4x15-inch monitors with an 18-inch sub, matching Yamaha NS-10s, five Genelec 8050APM monitors in a surround configuration and a full array of outboard goodies, all inspired by an abundance of glass and a magical view of the Hudson River and New York City's downtown.

"The end result is pretty stunning," Malekpour says. "When I saw that room, I thought, 'If you put the right tools in there, no one's going to want to leave.' There's

something about being in there that makes you feel special.

"George [Augsburger] designed the monitors for a small footprint, so they're vertically oriented rather than horizontal," Malekpour continues. "They have a great sound—John and I agree that this is one of our favorite Augspurger systems. For R&B and hip hop clients, they wanted extreme volume, accuracy and good low-end content, and we designed the system around [those requirements]. When we tuned the system up, we made sure the room could handle it well. With 125dB peaks and a 120dB average, that should be enough for everybody."

While the newly minted edition of Integrated fits like a glove, things were less than perfect when the design team came onboard in 2005. The Fergusons had purchased the building known as Stable Studios in 2000 and oversaw an initial makeover where the underused live room had the amazing view and the adjacent control room was set back down the hall. "They had things upside down," Storyk observes. "Their control room was a sideways, misoriented room that was not capturing the view and you entered the wrong way. They woke up one day and realized that the studio needed to be the control room and vice versa. As a business, they didn't need a live studio; what they really needed was a mix room. So we came in and created a cool, small but really professional SSL mixing/tracking environment with great views and windows."

For those who ask for more than just a million-dollar look at the Hudson, Integrated backs up the diverse technical plant with a strong commitment to the client experience. The pro attitude of the personnel, including chief tech Kevan Griffin and in-house mastering guru Larry Lachman, was enough to attract a talent on the scale of Bess, who, with his multi-Platinum engineering, mixing and producing credits, could arguably have chosen any studio on the East Coast as his home. "I appreciated the innovation and flexibility of the space; it's built around the



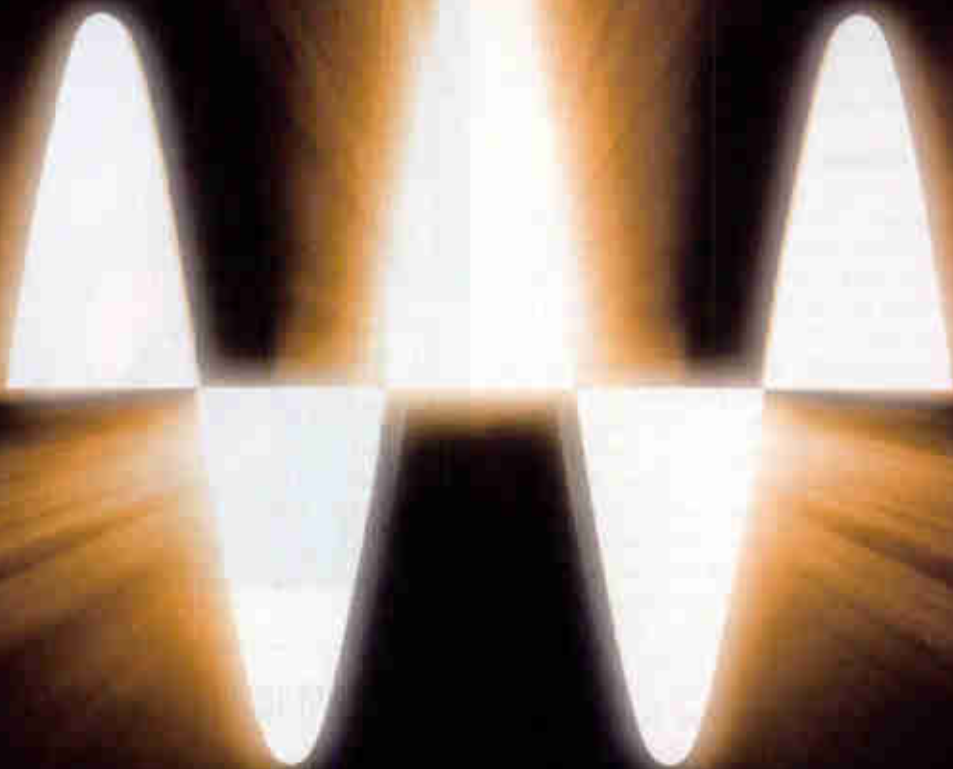
Producer/engineer Carlos Bess seated at Integrated Studios' SSL 9000 J Series SuperAnalogue console

mentality of an artist or a producer," Bess says. "It's a very quiet and remote location that plays a major role in setting the vibe. You can focus on your music here. I also liked the fact that we made the studio a hybrid between analog and digital, with an SSL and Pro Tools HD. The custom Augspurgers make for an extremely heavy sound: I liken it to atomic weight. My clients demand that type of power and strength."

Whether it's possible to fly under the radar and still be a humming beehive of multimedia activity is an interesting question—one that Integrated Studios is looking forward to answering. "This is a salon-type environment that works for the artists who want to come in, take the space over and benefit from the multiple disciplines we offer," Derek Ferguson concludes. "You can have your business people set up on the second floor while you're tracking/mixing on the fourth floor, people editing video on the third floor and then have a record release party on the roof. You're with family, but it's like a little secret. I think people will respond to that." ■

David Weiss is Mix's New York editor.

Shine Brighter



Gold Platinum Diamond

Now More Plug-ins Than Ever

Gold Bundle

24
Plug-ins

Now including:

- Tune LT
- IR-L Convolution Reverb
- Doubler
- RenAxx

Platinum Bundle

32
Plug-ins

Now including:

- Tune LT
- IR-L Convolution Reverb
- Doubler
- L3 Ultramaximizer
- RenAxx

Diamond Bundle

41
Plug-ins

Now including:

- Tune LT
- IR-L Convolution Reverb
- Q-Clone
- L3 Multimaximizer
- RenAxx

Make the world's finest audio processors part of your sound.



www.waves.com

Fast Lane Remembered

During Stephen St.Croix's 18 years as a *Mix* columnist, we received more letters in reaction to his column each month than about any other topic or article. So, as a fitting farewell to our dear, creative, brilliant colleague, we are sharing some of the tributes we've received since his passing in May, as well as a timeline made of excerpts from his columns. Read more of this heartfelt, ongoing eulogy on our Website (www.mixonline.com) and feel free to add your thoughts.

TEARS OF A CLOWN

What can you possibly say about Mr. Marshall that he didn't already say about himself...in print, no less! That he picked a favorite island to rename himself? That he'd been there and done that? Probably all true, too. Well, 99.68357%. (He'd like that number, but might want a few more decimal places.) That for 18 years he laid his soul bare for the readers of *Mix* in what were indisputably the most entertaining articles in all of pro audio...while being incisive, informative, always ahead of the curve and, yes, just a bit opinionated. But Stephen was nothing if not passionate about the things he loved (bikes, cars, music, technology) and hated (well, you read the articles).

I'm fortunate enough to have walked away with the last *three* 5402 Modulators and AR300 Tape Eliminators he built back in the mid-'80s. Wonderful analog toys, so timeless, we regularly threatened to get them back into production 20 years later. I regret that we never got around to it, but I'll always smile when I twist a knob.

—Richard Rose, *Hot House Audio*

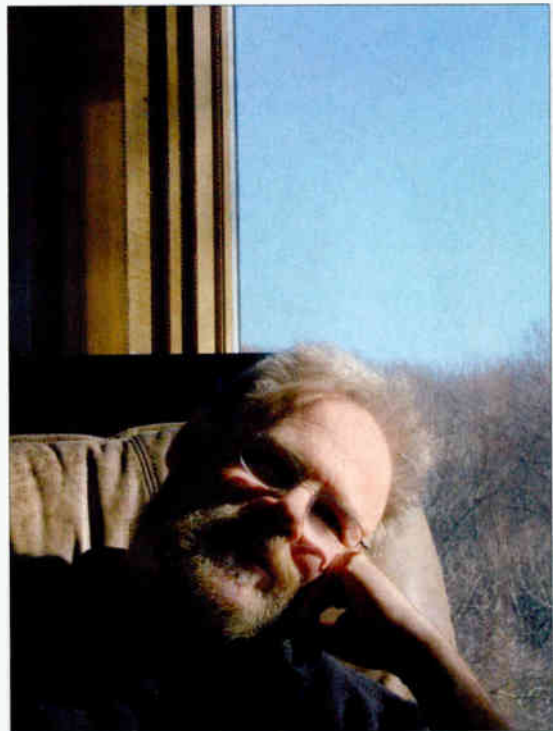
CAN'T HELP FALLING IN LOVE

Stephen and I had an intermittent, but very close relationship. During peak periods, we spoke several times a day, and sometimes it was years between contacts. But like all "real" friendships, it spanned time and space. But through all of the years that we both wore our "whoever dies with the most toys wins" T-shirts, and lived by that motto, and for all the years he pushed the limits both in audio, technology and his life...in the end Stephen did win. But it was not from all of the toys that he had at his disposal. He won because, in the end, he had come to understand that the toys and all of the fun stuff did not really matter. He had found his life center in his wife, Teresa. The transformation in Stephen was remarkable. Finally, all things made sense to him. In Teresa he had found the meaning to his life, and that is why he hung on for so long. Not chasing the fastest motorcycle or even the Nixon tapes, but simply enjoying his time with Teresa (and the cats), enjoying life to a degree that even he did not think was possible. His death is a tragic loss for all of us. But his life, for him and for us, was miraculous. Godspeed, Stephen.

—Michael Tapes

MY AIM IS TRUE

Stephen St.Croix was one of the most generous men I have



18 Years in the "Fast Lane"

APRIL 1988: MONKEY THEORY

We have all heard that an infinite number of monkeys, typing on an infinite number of typewriters, for an infinite length of time will write every Shakespearian play again, and more. And this is of course with no rules controlling them.

It is not wise to make the assumption that the little digital monkeys inside your computers would not soon produce some truly impressive compositions, given about half an hour with these new controlling rules. You can be sure that today's screen jockeys are evolving those rules even as you read this.

JANUARY 1989: DAT

How can it be that the leading edge of technology brings us DAT machines that were apparently designed while the analog engineers were on vacation? Or are there any analog engineers working on these projects? We have machines with amazing transports from tomorrow and analog circuitry from five years ago. Truly, the worst converters, filters and general signal handling ideas that I have heard in years are in these things. What's going on?

NOVEMBER 1990: BALLS OF FIRE

On two separate occasions in Arizona I saw a rather rare phenomenon known as ball lightning. One was about the size of a baseball, lasted 30 seconds and then happily popped out of existence. The other was as big as a beach ball, came out of a cool gray post-storm sky, slid along a power line for about a city block, jumped off, bounced down the street, careened off a few cars and buildings on the way, sizzled, popped and fried, and finally tore off into the open desert.

Now with
VST 2.4
Support*

Production getting tools rusty?



SONAR 5



Music production doesn't have to be a series of compromises. Technology has advanced the art of recording significantly, but some production tools still limit you with outdated audio quality and non-intuitive workflow. Sure, you can get the job done, but is it fast, is it enjoyable, and what's the quality of your finished product?

SONAR 5 presents an inspiring creative environment without sacrificing editing precision or audio mix fidelity. In fact SONAR 5's 64-bit double precision engine offers unmatched headroom without the summing bus limitations found in 32-bit or 48-bit DAWs.

Bring your studio tools into the 21st century with SONAR 5, available at fine music retailers worldwide. For more information visit www.cakewalk.com/SONAR.

*VST 2.4 support included in 5.2 update for registered SONAR 5 customers. Free download available at www.cakewalk.com.

cakewalk

ever known; generous with his friendship, his time and his intellect. I first happened upon him some 29 years ago at the 56th AES Convention in Paris during his first overseas outing with the remarkable Marshall Time Modulator. As I approached, Steve looked up—his eyes were not immediately friendly. Hostile enough, in fact, to stop me pretty much in my tracks. Sensing that I had witnessed an ugly scene that was not of my making, Stephen immediately reformed his appearance and smiled. And what a warm and inviting smile. "Crap," I recall him saying quickly in the quick diction for which he was famous, "can you maybe come back when this thing is behaving itself?"

There are three important facts I learned from Steve. One, that honesty is the Number One human virtue of all time, and the other nine are nothing in comparison. Two, that guns are totally addictive. And, finally, that it is physically and intellectually impossible within our 4-dimensional world for seven people to agree on a place to eat dinner and then successfully achieve that goal. Gonna miss him. —Mel Lambert

THE WANDERER

Since meeting Stephen in 1984, I would visit his home on occasion; tuning the

studio, playing with guns, eating raw fish and seeing what amazing project he was involved in on any given visit. He was a true renaissance man, able to analyze and conceptualize solutions to projects in a wide variety of industries. But I think mostly he enjoyed the projects involving things that went very fast.

We also enjoyed hanging out in Laguna Beach at his mom's house. There it was strictly fun and relaxing. I treasure those times as the group was always close friends and family, and Stephen gathered about him a very interesting group of friends.

Wildman, genius, frenetic, driven, fearless and a lover of life and cats—that was my friend Stephen. —Bob Hodas

RAVE ON

I first met Stephen [when we had both been] writing for *RE/P* for some time. The conversation, as everyone who ever talked with Stephen experienced, ranged far and wide, touching on areas I had no idea he was involved with and couldn't imagine he had any knowledge of—but which I was later able to confirm he was indeed an expert in. When we finally came to the subject of why he was giving up on *RE/P*, he put down his fork and

—CONTINUED ON PAGE 132

AUGUST 1991: RESONANCE

When I was a kid, my very own Mr. Wizard (we called him Dad) showed me that great old tuning fork trick. Oh, come on now, you remember this one: You get two 440s, strike one and hold it near the other for a couple of seconds. Then you sit on the one you hit so that it stops ringing, and amazingly, the one that was merely near that one is now ringing on its own. You remember now, don't you? Sympathetic resonance; what your entire control room (and the components of your speakers themselves) wants to do more than anything.

JUNE 1993: POETRY

Even today, hardly a Davidson goes by that doesn't immediately evoke vivid memories of desert highways, hot sun refracting through 20 coats of hand-rubbed transparent tangerine over another 10 of candy black cherry, over metalflake gold. With the smell of its exhaust come the smells of all the Western diners I used to live in. With the unmuffled symphony of that outrageous uneven firing American twin come the sounds of all those songs.

JULY 1995: CD-R GOO

So back to this organic soup. There are only two kinds: split-pea (green) cyanine and chicken (yellow-gold) phthalocyanine. Almost all CD-Rs are some version of the cyanine split-pea formula,

GT PROFILE

Michael Wagener goes for the Glory!


WHAT HE'S DONE: Produced, recorded and mixed some of the biggest names in rock and pop, including Mötley Crüe, Dokken, Metallica, Janet Jackson, Ozzy, King's X and many more. Over 50,000,000 (!) copies of his work have been sold worldwide.

WHAT HE'S DOING: Developing and producing new bands like *Hydrogyn* and *Goldyllocks*.

WHAT HE USES: Groove Tubes' ViPRE™ tube mic preamp, **Glory Comp™** tube compressor, and all of GT's studio condenser mics.

WHAT HE SAYS: "I've been using GT gear for many years. The reason is simple: every piece from Groove Tubes offers the great sound I'm looking for. The *Glory Comp*, *ViPRE* and GT mics have become an essential part of my setup, on everything from guitar to bass to vocals."

Michael






GT Convertible nominated for 2006 TEC Award!

More info on Michael Wagener and GT's other Friends & Relations at www.groovetubes.com



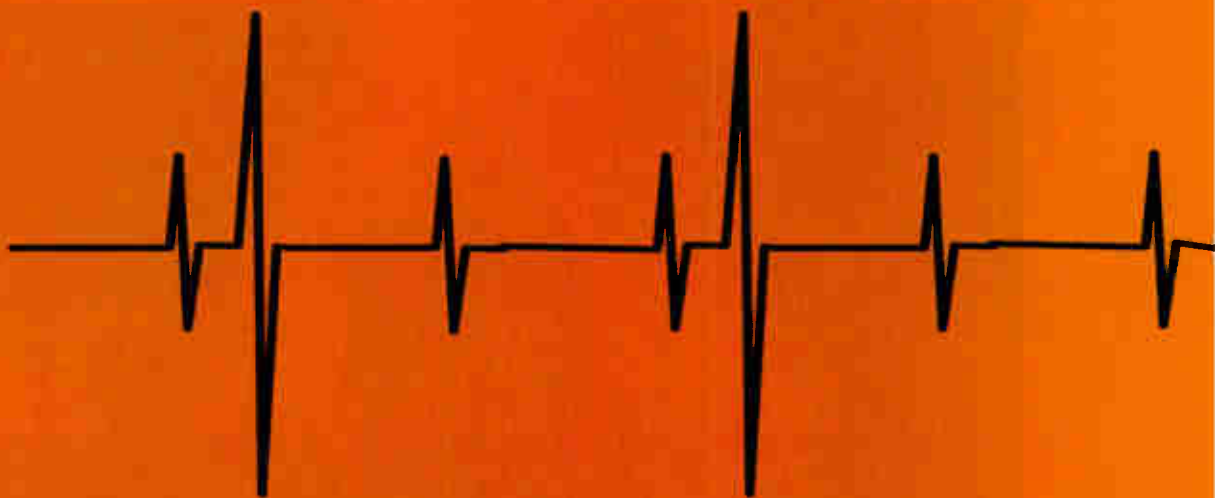
The new album by Hydrogyn now available on DARERecords www.hydrogyn.com



G
GROOVE TUBES™

© 2005 Groove Tubes LLC. All Rights Reserved. GT-1518/0106-01

The heartbeat of your studio.



6.5" High Resolution Near field Studio Monitor

Dedicated 40W (LFI) + 50W (HFI) amplifier

6.5" (160mm) HR (Hyper Radial) diaphragm LP unit

20mm magnesium diaphragm dome tweeter

Extended 55Hz - 20kHz frequency response

Magnetically shielded drivers

Time-aligned front baffle design and internal HP Sound reflectors

Comprehensive level, tweeter and LO EQ controls

NX-6A Powered Near Field Studio Monitor

Studio reference monitors are the life blood of any studio. If they're not up to par or tarnish the sound in any way, it puts the whole audio recording process in jeopardy.

Listen to a pair of powered Fostex NX-6A monitors and you'll discover a sound free of the 'enhancements' often found in other speakers.

A natural sound, transparent and precisely defined even at high sound pressure levels - including all those elusive low frequencies.

The heartbeat of your studio.

FOSTEX



Fostex Company, 5-2-20 Nishizawa, Kichijoji, Tokyo, Japan 198-0821 Tel: +81 (0)3-2-546-6974 Fax: +81(0)3-2-546-7232 www.fostex.co.jp
Fostex America, 13781 Devarian Ave., Gardena, CA 90249, USA Tel: +1 310-529-2960 Fax: +1 310-529-1230 www.fostex.com

World Radio History

Two Hearts

Do Musicians and Audiences Beat as One?



ILLUSTRATION: VICTOR GAD

Music is one of the most powerful forms of communication the human race has come up with. When it comes to sending purely emotional messages of joy, despair, exhilaration, languor, or what scientists call “dynamic” emotions—like when you’re excited and terrified at the same time—few languages communicate as efficiently and effectively as music.

Psychologists and others who study the human brain know that emotions have a strong physiological component. Smiling lowers the blood pressure; anxiety constricts capillaries; anger makes your adrenal glands secrete. But when someone plays music and someone else listens to it, what changes in his or her body and how, if at all, are those changes linked? Can the transmission of emotions through music be measured and studied?

That’s the question behind a fascinating experiment that took place on a sunny Sunday in April at Boston’s Symphony Hall, with the Boston Symphony Orchestra and an audience full of children and their parents. The results of the experiment aren’t going to come quickly, but the group of musicians, psychologists and technicians in the

Green Room that afternoon gathered enough data about the physiological effects of music to keep them busy for months and, just as important, to point the way toward further research.

If you’re going to measure how music affects an audience, you will need a high-fidelity transmission medium, and there are few better such media than Symphony Hall. Its acoustics are world-renowned, and everyone involved in music there—audiences, musicians and the many recording engineers, including myself, who have plied their trade there—loves to work in the place. As it happens, my first gig when I moved to the Boston area was to mix the radio broadcasts of the Boston Pops orchestra under the late Arthur Fiedler from the stage of Symphony Hall. Since then, I’ve attended many concerts, rehearsals and recording sessions, but none that required as much audience participation, and as much technology spread throughout the hall, as April’s event.

The project was dreamed up by three researchers whose fascinating résumés straddle the worlds of music and science. Teresa Marrin Nakra, who happens to be a



© 2004 Tapco Inc. All rights reserved. Tapco is a registered trademark of Tapco Inc.

5.8 Active Studio Monitor

your world, from 40Hz to 20,000Hz.
SUPERB ACCURACY • dual 60-Watt Amplifiers • genuine mackie active design

TAPCO
www.tapcoworld.com

World Radio History

personal friend, got an orchestral conducting degree from Harvard and then did her doctoral work at MIT's Media Lab, where her thesis was a "conductor's jacket": a wired-up garment equipped with sensors to measure motion, muscle tension and other physiological factors while the wearers—Boston Pops musical director Keith Lockhart among them—conducted symphony orchestras. She's the artistic director of a nonprofit group that develops new technologies for the performing arts called Immersion Music, and she recently became an assistant professor at The College of New Jersey.

Daniel Levitin dropped out of both MIT

and Stanford as an undergraduate, and spent his 20s and 30s as an A&R man for a small record label in San Francisco, at the same time freelancing as a musician, engineer, producer, standup comedian and music journalist, counting among his clients Mel Tormé, Steely Dan, Blue Öyster Cult, Jay Leno and *Mix* magazine. Eventually, he went back to Stanford and got a degree in psychology and went on to receive a Ph.D. from the University of Oregon, where his thesis was on absolute (or "perfect") musical pitch. He joined the music faculty at McGill University in Montreal in 2000, and now has a joint appointment as an

associate professor in music and psychology. His book *This Is Your Brain on Music: The Science of a Human Obsession* will be published this summer by Dutton.

Stephen McAdams, also at McGill and also with a joint appointment, is an expert on musical perception; he has a Ph.D. in hearing and speech sciences from Stanford and a doctorate in cognitive psychology from the University of Paris.

The project originated, says Nakra, when Levitin called her up about a year and a half ago and told her he had received a grant, which he wanted to spend on some kind of collaboration with her and McAdams. "We met in Montreal and came up with this idea," she says. "It took in a bit of all of our research: Steve had worked with slider boxes as response tools, and Dan had worked with audience response to music. So we decided to combine our methodologies and do a project that was bigger than anything each of us could do alone.

"We wrote up a proposal and then asked, 'What orchestra might agree to do this?' I called a friend in the BSO's education office, and they immediately saw the value in the experiment and that it would be best to integrate into a concert with both kids and parents present. They also knew that Keith Lockhart would be the right guy to conduct."

In fact, Lockhart was scheduled to conduct one of the orchestra's Family Series concerts. Myran Parker-Brass, the BSO's director of education and community programs, approached him over the summer. In the hall's parking lot on July 4, as Lockhart was getting ready to conduct the Pops' huge outdoor Independence Day extravaganza, he gave her the thumbs up.

What Lockhart agreed to was to be wired up with an updated version of Nakra's jacket, made from a Lycra biking jersey. Inside the jacket were an electrocardiogram (EKG) sensor, an accelerometer and six electromyogram (EMG) sensors from a company called Delsys. These were all wired to a backpack, and then through a 100-foot audio snake to a computer backstage in the Green Room.

Electromyograms measure muscle tension. Delsys, which makes these sensors and others for the medical and sports-training industries, has an academic origin—it grew out of a program in neuromuscular research at Boston University—which may be one reason why they were so helpful to the project. They've sponsored Nakra in her research in the past, but, she says, "I didn't expect them to come through like this. They loaned us about \$60,000 worth

—CONTINUED ON PAGE 133

AFFORDABLE HIGH QUALITY PORTABLE MIXING



Introducing the new MX422 Field Mixer from Rolls Corporation. Designed for the professional broadcast market but affordable enough for the individual home enthusiast, the MX422 offers the features and benefits of portable ENG type mixers costing four times as much.

FEATURES

- Four servo-balanced XLR Inputs
- Two transformer-balanced XLR Outputs
- Switchable Output Level (Line level, or -30 dB pad)
- 1/4" TRS Stereo Monitor Input and Auxiliary Input
- Switchable 48 Volt Phantom Power for each input
- Switchable 100 Hz Low Cut filters for each input
- Main and Back-up battery compartments, never lose power
- Level and Pan controls for each channel
- Built in Limiter with variable Threshold control
- 20 Hz Slate tone with Slate Microphone included
- Switchable 1 kHz setup Tone
- Calibrated VU meters
- 1/4" and 3.5mm Headphone/Earphone Outputs with selectable Source Input (Main mix or Monitor input), and Level control
- Canvas case included
- Rolls PS27 external power supply included

ROLLS

We've got something for the job.

5968 South 350 West
Salt Lake City, UT 84107
(801) 263-9053
FAX (801) 263-9068
email: info@rolls.com
www.rolls.com

HOLOPHONE®

All It's Cracked Up To Be...

Partial User List /
Captured by Holophone®

- Dolby Labs
- Bose Corporation
- Elton John
- Lionel Richie
- Whitesnake
- Iron Maiden
- Dave Matthews Band
- Joss Stone
- Paul McCartney
- Celine Dion
- One Love - Bob Marley Tribute
- Bonnaroo Festival
- Brampton Marsalis live in Amsterdam
- 47th Annual Grammy Awards
- Three Super Bowls
- MuchMusic Video Awards
- Genie Awards
- NBA Basketball
- NFL Football
- NHL Hockey
- TNT HDTV
- ABC HDTV
- NBC HDTV
- FOX HDTV
- CBS HDTV
- CBC HDTV
- ESPN
- NHK Japan
- Sapporo TV - Japan
- Van Morrison - Grand Of Opry
- BTV Beijing TV - China
- Mexico Soccer
- Bell Express - Canada
- City TV - Canada
- Real Madrid (Soccer)
- Any Given Sunday (film)
- Frank Sinatra
- Drew Carey Show
- Klaus Lundberg
- Andrew Warman
- Moscow International House of Music (Russian Philharmonic)
- George Johnson - Mortal Kombat III London Philharmonic
- Hank Neuberger - Third Wave Productions
- Hiroshima TV - Japan
- Hong Kong TV (ATV)
- University of Central Florida
- The Church of Scientology
- PBS -DTV- USA
- Sapporo (TV) - Japan
- MBC TV - Korea
- Santa Lib
- ATK Androtek
- TV Asahi - Japan
- NHK - Japan
- Kitanihon TV - Japan
- Kansai TV, Osaka, Japan
- TV Azteca - Mexico
- The Kentucky Derby
- MTV Canada
- Sam Roberts
- Kanye West
- Van Morrison - Grand Of Opry
- Extreme Makeover, Home Edition TV and the list goes on. ...



Surround. Simple.

"Since its introduction last year, The Holophone H2-PRO Surround Sound Microphone has captured more High-Profile events, in more countries, than any other Surround Sound Microphone on the Planet. Holophone Products make it Really Simple to create Ultra-realistic 5.1, 6.1 or 7.1 Channel Broadcasts or Recordings. To capture multi-channel sound for HDTV, films and Music, using a Holophone instead of a multiple-microphone array will save you time, money and a major Pain in the Butt! In repeated 3-D audio testing, the Holophone sonically beat up on the competition time and time again. The Holophone H2-PRO sounds like no other microphone in the Whole-Wide-World. We guarantee it ..."

"Holophone provides the most accurate and comprehensive capture of the ambiance of a crowded concert hall. The best word I would use to describe the H2-PRO is persuasive. I've struggled with spaced pairs for surround in post production; it's very difficult to make them work in a convincing manner. Holophone has solved that problem for us. It is always persuasive; it always puts you right there."

Hank Neuberger, Third Wave Productions, USA

Check our web site for updates on our two New products;

The Holophone H3-D; a cost effective 5.1 channel professional Surround Microphone,
and the much-anticipated (and very cool!) Camera-mountable, Holophone H-4 SuperMINI

Award Winning Products



HOLOPHONE®

Surround Sound Microphone Systems

www.holophone.com  01.416.362.7790

World Radio History

Follow That Vocal

Pro Tips—From Auditioning Mics to Mastering

Everyone wants their voice to be heard, and when it comes to recording music, it's all about nailing the vocal track. Arguably the most complex instrument that appears in front of a microphone, the human voice offers infinitely more attack and decay variations than a piano, and is as sensitive to heat and cold as a horn. It can also be an insanely tough source to troubleshoot when something sounds wrong.

Engineers, producers and artists never stop honing their techniques to make the almighty voice sound amazing. In this latest report on the state of the art for recording vocals, we go straight to the source, getting tips from top pros on getting that great vocal track. We'll move through the signal chain from mic selection to mastering, zooming in on techniques for rock, hip hop, reggaeton and choirs along the way.

STEP UP (TO) THE MIC

At Studio G (www.studiogbrooklyn.com) in Brooklyn, N.Y., engineer/producer Joel Hamilton is quickly rising to the top tier of in-demand recordists. With credits including Elvis Costello, Tom Waits and Frank Black, as well as indie acts by the dozen, Hamilton is known for his strong work ethic and laser-accurate ears, as well as one of the most exotic microphone collections in the area.

When it comes to mic selection, Hamilton has plenty of choices, and he needs them, because to his ears, there's no instrument as singularly unique as each human voice. "It's the thing in the studio that's most like a fingerprint," he says. "You can tell someone you're going to record a Telecaster through a Fender Twin, and everyone would get an idea of what that would sound like, as opposed to me saying, 'You should hear Chris Johnson sing!'"

Once the singer is in the studio and it's time to choose a mic, Hamilton develops a strong empathy with the circuitry he's selecting. "You have to have a way to think like the microphones think," he explains. "The more you do that, you get an idea that a Soundelux U195 will hear the voice one way, the Shure SM57 will hear it another way and the Neumann U47 another way. You have to think in 3-D, not just in the tonal range characteristics of the human voice.

"Sometimes when you're auditioning mics, you'll hear two that sound like a microphone and then the third just sounds like the singer. It's like the glass came down and somehow all the variables of the mic match up with all

the variables in the human voice and you have a fit, unless it's a specific color you're going for."

When pressed, Hamilton will admit to having his favorite mics, including the Neumann U47 ("obvious"), Soundelux U195 ("forward without being bright"), RFT 7151 ("sounds like whoever's standing in front of it"), Placid Audio Copperphone ("when we're trying to impart something on the signal") and a vintage Tannoy ribbon mic ("for that Bing Crosby, superdark, woo-your-girlfriend sound"). Meanwhile, his top microphone preamps include a Manley tube reference mic pre ("only 100 were made, super up-front"), Sage Electronics SE-Pre 1 ("tons of headroom") and the Neve 1073 ("of course").

But as mindful as Hamilton is of his mics and preamps during a shootout, he's even more mindful of the singer. "The audition process impacts the performer, definitely," he says. "I have to make it feel fun. The pace of the pursuit is as important as the pursuit itself because you're dealing with meat in there. The guitar string will keep wiggling happily after four hours, but you can't get people to give their all for that long.

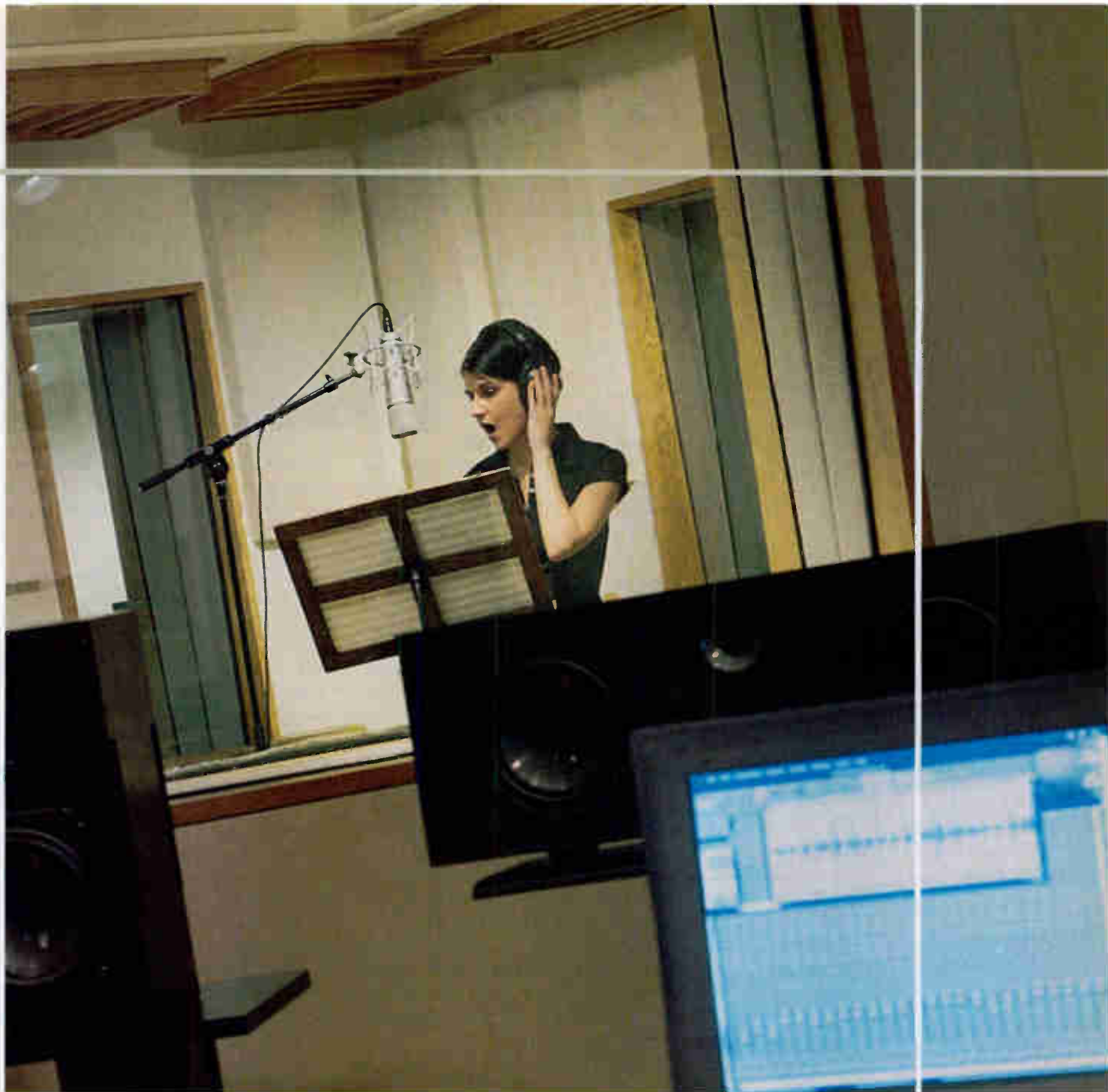
"To seem like you're indecisive would be horrible. You know you're overanalyzing when you can feel the stares from the bass player and the drummer on your neck! But I can't stress enough the level of engagement you get from taking two seconds to pick the right mic. Do it quick, don't waffle and let your gut be the guide."

After all that, discovering the perfect microphone for the session is a magic moment waiting to happen. "It gives you the chills," says Hamilton. "The rendezvous is the word, as the tonal quality, emotion and sentiment expressed in the words all seem to come together in the moment and you feel like that story is just for you."

GREAT TONE FOR REGGAETON AND HIP HOP

As a genre where it seems as if rules are made to be broken, producing reggaeton can be disorienting for the uninitiated. One engineer who doesn't have to worry about being uncomfortable recording this addictive blend of Latin rhythms, reggae, dancehall and hip hop is Jose "Hyde" Cotto. His work with reggaeton chart-busters such as Daddy Yankee and Tempo, as well as multiple hip hop credits, has made Hyde one of the busiest engineers in Miami, New York City and his home commonwealth of Puerto Rico.

"There's a different approach to everything," Hyde notes. "For hip hop tracks, I usually record one or two



main vocals and just a pair of highlights. Just make it simple, but really strong—'with body,' as we say in Spanish.

"With reggaeton, it's completely different. The things we do mixing reggaeton, if you do it in other genres, people will think you don't know shit! Sometimes we have to make it sound bad to make it sound good. The vocals have to sound really wide, so I'll do a bunch of tracks. 'Usually, we do a minimum of four doubles of the main [vocal] line with harmonies to make it catchy. Then you have to coach the artist, because a lot of the artists are really talented but they don't know how to organize their talents. They want to put 40 ideas in one song, and you have to make sure they pick the best ideas.'

Hyde stresses that intense scrutiny of every moment of the vocal track is essential to produce hits on the scale achieved by Daddy Yankee, whose monster hit "Gasolina" helped the 2004 *Barrio Fino* become the first reggaeton album to debut at Number One on the *Billboard* chart.

"The important thing is to make sure that every syllable is understandable and that it has power," he says. "People don't always pay attention to that detail that can make a vocal track better. On at least one album, we spent a minimum of 14 hours on each vocal track, going through every syllable to ensure that it was sweet to the ear."

To achieve that, Hyde will scrutinize every word to bring each one in line with the proper level, using audio sweetening techniques in programs such as Synchro Arts' VocAlign. "Sometimes VocAlign works, sometimes it doesn't," says Hyde. "When it makes vocals too tight, instead of aligning all the tracks equally, I'll align them in pairs so that the doubles are a little different. But if you VocAlign everything for just one guy, it will sound too tight, like compressing it too much. In reggaeton, I'll pan them hard left and hard right so they sound the same, but wide."

When it's time to work on EQ and compression, Hyde can narrow in on a slightly more standardized process.



SIGNATURE SOUND.

SIGNATURE RELIABILITY.

SIGNATURE SERVICES.

SO, WHAT'S NEXT?

"SIMPLY THE BEST PERSONAL MONITORS I HAVE EVER EXPERIENCED"

- ROBERT SCOVILL

6X TEC AWARD WINNER FOR
BEST FRONT OF HOUSE ENGINEER
(TOM PETTY, MATCHBOX 20,
RUSH, AND MANY MORE...)

"I HEAR THE MUSIC THE WAY THAT IT WAS INTENDED TO BE HEARD - WITHOUT COMPROMISE"

- BRIAN HENDRY

AWARD WINNING
MONITOR ENGINEER
(TOM PETTY, LENNY KRAVITZ
JOSS STONE AND MANY MORE...)

believe your ears™

FUTURE SONICS 

THE ORIGINAL INNOVATORS OF
PROFESSIONAL PERSONAL MONITORS

TOLL FREE: **877.FSI.EARS**
OUTSIDE U.S.A.: +01(215)826.8826
INFO@FUTURESONICS.COM
WWW.FUTURESONICS.COM

Ear Monitors®, the "Ear Monitors" brand, and all associated images and likenesses are worldwide registered trademarks of Future Sonics Incorporated
©2006 Future Sonics Incorporated. All rights reserved.

Vocal Recording

"When I go in and EQ, I like the vocals sounding strong; I don't like them sounding thin," he relates. "It depends on the guy, but they usually miss in the low end, between 100 and 400 Hz. If it needs a little bit of high end, I'll use the Waves Q10 or R-Eq [Renaissance Equalizer] to raise them up a little bit in 4k.

"I'm really simple with compression. I do it, but just a tiny bit—maybe compress down 2 or 3 dBs, really subtle, just to make it a little bit more tight.

Using less compression makes your mix sound bigger, more natural. If you compress too much, it doesn't have the same air that it will if you compress just a little."

For Hyde, however, it all circles back to having an artist and production team committed to laying down the very best vocal possible, right from the start. "The vocal is the essence of an artist," Hyde says. "If Daddy Yankee wasn't such a hard worker with his vocals, he wouldn't be where he is now. You have to have a good song, of course, but the performance has got to be on point. If the vocals are not organized, performed, mixed and edited well, that can be the difference between a hit and a mega-hit."

VOCALS IN THE MIX

Dave Fortman is the producer, mixer and engineer of choice for adventurous acts such as Mudvayne, Atompship and Superjoint Ritual, as well as the producer of Evanescence's 2003 hit album, *Fallen*, and the band's upcoming fall release, both featuring the unmistakable vocals of singer Amy Lee. Although Fortman claims at first not to be "that technical of a guy," he soon drills down into the details of mixing Platinum rock vocals.

"I'll first go to one or two compressors," says Fortman. "One of my all-time favorites is the Blue Stripe UREI 1176, the earliest models [that] used to have a blue stripe across the VU meter. Those sound a lot different: They're really sticky, aggressive and good. You can



PHOTO: TERESA O'HARA

[The voice] is the thing in the studio that's most like a fingerprint.

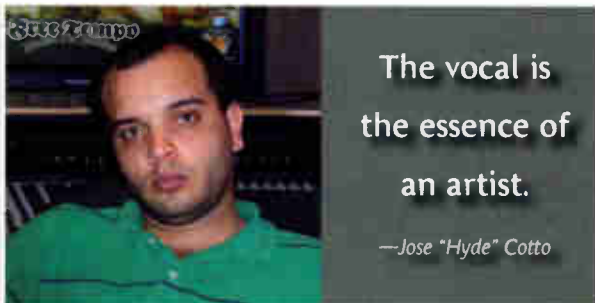
—Joel Hamilton

peg them and they just sound amazing. On a female voice like Amy's, I went to using the Empirical Labs Distressor for adding a little more warmth. I would set it on 4:1, which is the Neve emulation and adds a slight sizzle on top, along with the attack running about 7 o'clock and the release running about 4.

"One of the things I was messing up early on with compression was the attack time. I didn't realize that slower attacks were being used on vocals, and recognizing that, along with slowing the release a little, really helped a ton to give it some punch and make it really sticky. On the 1176 release, for example, running the attack at 10 o'clock and the release at 3 has been working great. Really crushing a vocal with too fast of an attack starts to cause all kinds of pumping and sibilance problems, but if you get [the] attack and release right, you'll hear words with sharp beginnings like 'cause' sound like it's punching."

After applying any necessary filters, Fortman loves to apply his "air trick" whenever he can. "If, on the SSL, you put the top band not on bell but on shelf, stick it up to 8 kHz and crank it, it makes the most amazing air combination ever on voice or acoustic guitar," he reveals. "The top-end shelving there is a real beautiful sound that the SSL will give you. If it's a piercing voice that I don't like at 8 kHz, I'll move it to 10 or 10.5. I always do something to give it some top, some air to make it come out in the mix. If it's too airy, I'll try to go down and get out a lower presence on a voice at 5 kHz or as low as 2 kHz."

The fun of effects is next, which sees Fortman often eschewing reverb altogether ("I'm not a 'verb kind of guy") and applying different delays throughout the song rather than sticking with just one style throughout. Momentary use of



The vocal is the essence of an artist.

—Jose "Hyde" Cotto

The perfect take
just got better



VOICEPRO
PROFESSIONAL VOICE PROCESSOR

VoicePro is the culmination of 15 years of research into re-defining the production of vocals. Combining a complete suite of voice optimized tools and effects with an application based user interface; VoicePro is your path to limitless vocal possibilities. *VoicePro - the perfect take is just the beginning.*

Find out more at www.tc-helicon.com/voicepro



TC-HELICON
VOCAL TECHNOLOGIES

World Radio History

Mojave Audio

A New Pro Audio Company
by David Royer



Tube Condenser
3-Micron Capsule
Jensen Transformer

Performance you've
come to expect from
David Royer.

Welcome to the
Great Wide Open

www.mojaveaudio.com
818.847.0222
Burbank, CA.

Visit us at Tape Op Con

Vocal Recording

effects is also a favored technique. "A lot of times, in pre-choruses I'll take a mono delay in Pro Tools, automate the bus and send one word into it. That one word might be going through the desk, through a flanger, and it separates some moments to where someone has an important delivery before the chorus, and it's like, 'Oh, something's going on,' and then *bang*—it hits you."

Detailed vocal rides come next during mixing, after which Fortman concludes his insights with an impassioned parting shot. "Automated EQ is the Number One best discovery for me," he imparts. "Amy Lee has an amazing voice where it will be high and badass, then low and deep, as well. I could have her back off on the mic, but it's just as easy for me to deal with in Pro Tools to make the loud parts have a different sound than the soft parts. Automated EQ and compression is an amazing thing to have at your fingertips."

PREACHING GREAT AUDIO TO THE CHOIR

For Nashville-based Lynn Fuston (www.3daudioinc.com), whose credits include such notable artists as Amy Grant, DC Talk and Kathy Troccoli, recording vocals one at a time may be enjoyable, but recording hundreds at once is an incomparable rush. "When you're with a choir that's 300 voices strong and they sing as one person with every consonant and vowel lined up, it's overwhelming, almost beyond belief," he says. "Then again, you can have something that's all over the place, like a gospel or Pentecostal choir. It's directed bedlam, and capturing that emotion and spirit that comes off the stage is incredible."

The veteran engineer points to a recent recording he did in Ohio for the project *Feel the Joy* as a good illustration of live gospel

Automated EQ is
the Number One
best discovery
for me.

—Dave Fortman



recording techniques. Fuston used one or two mics per part for the 50-piece S.A.T. (soprano/alto/tenor) group for a total of six mics, using Neumann KM 84s on the men and Audio-Technica 4050s on the women, recording through a Millennia Media HV-3 preamp into an iZ Technology RADAR 24 hard disk recorder. While the signal path to recording may have been relatively straightforward, the monitoring setup for the choir's backing track most decidedly was not.

"When you're recording a choir live, the foldback is always an issue," says Fuston. "If you attempt to use speakers and get them loud enough so the choir can really get into it, you'll always end up with as much monitor bleed as you have choir in your mics. You can try and give everybody headphones, but with 70 singers, 70 sets of headphones are difficult to organize. For this situation, each of the singers brought a small FM Walkman. We brought an FM transmitter and generated a foldback by broadcasting the track to them. They all wore earbuds, so all 70 people could hear the track in their own monitors with no bleed." And no messy cleanup!

Deeply experienced in working with choirs, Fuston knows that the pitch of choirs can often sag as much as a quarter of a step during recordings. "If the volume isn't loud enough coming back, they'll proceed to pitch lower," he explains. "It's a well-known phenomenon: If you put headphones on your head, you'll get a pitch center. Then when you lay them in your lap, you'll notice the pitch goes down drastically. What I've been

known to do is pitch the track going to the choir in an Eventide Harmonizer, adjusting the pitch up in varying degrees so their singing is coming back in tune with the track. Don't tell the choir you're doing it, though! What they don't know won't hurt them, and don't take that step until you hear them. Frequently, that's what is needed live with a large group of non-studio singers. With studio singers, you just say, 'Hey, you're a little

Stay out of the
way and let
[a choir]
communicate.

—Lynn Fuston





audio-technica

THE NEW ARTIST SERIES

COMPLETELY RE-ENGINEERED FROM THE GROUND UP



ATM710
condenser tailored for high-fidelity vocal reproduction



ATM350
clip-on condenser supplied with violin mount & UniMount® clip



ATM610
hypercardioid dynamic for extended-range vocals



ATM250DE
affordable dual-element kick mic (condenser/dynamic)



ATM410
dynamic workhorse for lead and backup vocals



ATM250
hypercardioid dynamic kick/percussion mic tailored for high SPLs



ATM650
high-output instrument mic with multi-stage grille



ATM450
side-address stick condenser offers endless placement options

For detailed information on the all-new Artist Series, visit www.audio-technica.com

 **audio-technica**
always listening

PORTABLE VOCAL BOOTH

\$399

The
**Reflexion
Filter**

**FIND OUT MORE
ON OUR WEBSITE**

FROM



Sound Engineering

617.623.5581

www.seelectronics.com

Vocal Recording

south of the pitch,' and they'll take care of it."

When selecting a facility for a studio recording, Fuston urges the engineer/producer not to underestimate the necessary amount of space. "I've cut choirs in rooms as large as Ocean Way Nashville, which is in a gothic revival church," he remarks. "A medium-sized room is better for control, and if you can get the mics far enough away from the choir, you can get the sense of space needed for a classical recording. But be sure it's a room where the walls aren't so close that you end up having trouble with reflections, and acoustic compression can also happen. If you have too large a group in too small a space, they can sing so loud that the sound compresses itself, they overload the room, it gets loud and just caps. It's the weirdest effect you've ever heard."

The ultimate goal for an engineer recording a choir should be his or her own transparency in the process. "It's staying out of the way and trying to let them communicate," Fuston says. "You're making sure that when they are at their biggest, loudest and fullest that it's just overpowering, and when they're singing softly you still don't lose that presence."

MASTER OF VOCALS IS PULLING THE STRINGS

Emily Lazar of The Lodge in New York City (www.thelodge.com) has had albums from Morrissey, Depeche Mode, BT, Garbage and David Bowie, among many others, pass through her mastering suite. As the final stop in the processing chain, Lazar emphasizes that mastering is a crucial stage for the vocals.

"I believe that mastering can really do quite a lot to enhance the vocal portion of a mix," she says. "Of course, the client must keep in mind that manipulating the frequencies that directly affect the vocal will also affect any other instrument in that frequency range.

"For example, a difficult problem to fix would be that of isolating a sharply sibilant vocal while enhancing the snap of a snare drum. This could be construed as an unreasonable expectation, but where there is a will, there is a way. Some mastering engineers may choose to de-ess an entire stereo mix in an effort to de-ess a vocal. Although it might produce a more palatable vocal, this technique can instantly destroy the snap and sizzle of the drum kit, as well as the track's ability to breathe as a whole. It may take hours longer, but I prefer to do two

Mastering can
really do a lot
to enhance the
vocal portion of
the mix.

—Emily Lazar



PHOTO: FRED MARCUS

passes on the material: one mastered with a de-esser in line and another pass without the de-esser. Then I edit back in *only* the de-essed sections that are most necessary to preserve the rest of the track.

"To handle a muddy or buried vocal, I have found that the best tools for digging out a vocal are subtractive EQ and multiband compressors. They give you the most control when you are trying to tighten something. When things start sounding muddy in the low mids, it is all about creating space. Once you have some space [in which] to work, then go to your additive EQ."

According to Lazar, mastering engineers are more than happy to help take the guesswork out of what kind of 2-track (or surround) mix artists or producers should deliver. "Do multiple versions of your mix!" exclaims Lazar. "Giving the mastering engineer more options to work with can ease your session tremendously. For example, a common client complaint is, 'I love where the main mix's vocal track is for the verses, but in the chorus, it is too quiet.' If you have a vocal-up version of your mix, the mastering engineer can master both mixes and edit them together in the appropriate places without making any changes to his or her EQ or compressor settings.

"Start a relationship with a mastering engineer that you trust. Many of my clients send me their roughs, as well as their final mixes while they are working, just to ensure that they are achieving their goal. Running your mix past a mastering engineer's ears before the scheduled session gives you an opportunity to get a fresh perspective and—if necessary—go back and fix some things."

From mic selection through to the final master, capturing and reproducing vocals may be the most complex of any exercise in recording. But with obsessive attention to detail, sharp organization and an innovative spirit, your next vocal track could very well be your best yet. ■

David Weiss is Mix's New York editor.

DIGIDESIGN ICON **INTEGRATED CONSOLE**

Over 1,000 systems installed worldwide . Fully modular, state-of-the-art console control . Seamless Avid interoperability . 192 kHz sample-rate support . Industry's finest plug-in options . Automatic Delay Compensation . Integrated video and delivery . Total session recall



Blackbird Studio
Nashville, TN

"ICON is a great starting point for you as an engineer—an intuitive worksurface you configure for the way you work, and a tool you define as workstation technology evolves."

George Massenburg



**Massenburg
DesignWorks**

New MDW[™] Parametric EQ v2.0

MDW has spent considerable time focusing on the user with the sound in his or her mind's ear. Now with 3- and 5-band instances, MDW Parametric EQ v2.0 delivers that same reference standard sound enhanced with a brand new user interface, greater DSP efficiency, IsoPeak[™] functionality and more.

© 2006 Avid Technology, Inc. All rights reserved. Avid and Digidesign are either trademarks or registered trademarks of Avid Technology, Inc. in the United States and/or other countries. All other trademarks are the property of their respective holders.

For more information on Digidesign
ICON, please visit digidesign.com.



Korby KAT Red



Soundelux e250



Wunder CM7



CharterOak E700

Supersize My Mic

BY MICHAEL COOPER

If large-diaphragm condenser mics performed identically to their small-diaphragm cousins, engineers would probably buy the behemoth versions anyway just because they look so cool. But besides the confidence that size and weight bring, recording with a large-diaphragm condenser (LDC) mic offers several practical advantages—and drawbacks—compared to capturing a performance using a small-diaphragm model.

In this article, I'll discuss those pluses and minuses and give a crash course in understanding the microphone specs you should consider when shopping for your next "big buddy." As you follow along, be sure to check out the accompanying chart that lists important specs for the new crop of LDC mics. Just remember that specs should be considered only as a starting point in your shopping spree. Not all specs are derived using the same methods or reference points, and including such detailed background information—assuming it's available—in a chart isn't possible. This article is simply meant to arm you with the tools to separate the wheat from the chaff, and let you know about some interesting new developments in mic design.

To prevent the accompanying chart from ballooning this month's issue of

Mix to 400 pages, I've limited the included LDC models to those that were announced at or since winter NAMM 2005 (which happened in January of that year). And despite their usefulness in critical recording applications, small-diaphragm condensers and dynamic mics (including those sporting ribbon designs) are also excluded from the chart so you can still lift this magazine without using a crane.

CRITICAL MASS

All other factors being equal, the mass of a mic's diaphragm is indirectly proportionate to its ability to capture transients. That's why condensers generally grab more detail than dynamic mics fitted with relatively heavy magnet assemblies hanging off the back of their membranes. Generally, the larger diaphragm of an LDC mic responds more slowly to transients than a small-diaphragm condenser's diminutive membrane does. But slower response is not necessarily a bad thing! Some small-diaphragm condensers are criticized for having *too* fast of a transient response, producing a glassy sound in some applications. An LDC mic, on the other hand, excels where the nuance of a condenser mic is called for but a slightly rounded attack is desired, as is usually the case when the user is recording vocals and/or voice-like instruments, such as cello and fiddle.

Related to a diaphragm's mass is its thickness. The membranes for many LDCs are roughly six or seven microns thick. Several new LDC models sport 3-micron diaphragms that should—theoretically, at least—give them very snappy transient responses. That's assuming other parts of the mic, including the built-in preamplifier, don't filter out those transients.

Most LDC mic diaphragms are made out of Mylar covered with a fine layer of gold that has either been "sputtered" onto or applied as a vapor to the Mylar. The SE Electronics SE Titan multipattern mic uses a titanium diaphragm, which the manufacturer suggests yields a better transient response than diaphragms made of Mylar and other materials.

FINE POINT

Generally speaking, LDC mics tend to have worse (more colored) off-axis frequency responses as compared to small-diaphragm mics. The ideal (theoretical) mic for uniform off-axis response would occupy only a tiny point in space. The larger the capsule and mic body become, the more these physical structures form acoustic shadows that block acoustic energy arriving off-axis from hitting the diaphragm square on and being captured accurately. Long wavelengths (i.e., bass frequencies) have no trouble wrapping



A Guide to New Large-Diaphragm Condensers

around these mic structures, but shorter wavelengths (high frequencies) tend to get blocked. Also, the larger the mic body, the more diffractive effects occur, screwing up phase response (which affects the perceived smoothness of the sound captured).

The Gefell M950 features a very compact design that mitigates off-axis coloration and diffractive effects. Normally, the tradeoff with such a small profile is that self-noise increases as a result of electronics being crammed into such a small space. (Interestingly, self-noise improves with increased diaphragm size due to the greater amount of acoustic energy that is captured by a larger “net.”) Gefell mitigates this tendency toward increased noise by optically isolating the capsule’s amplifier from the 48V phantom power supply, resulting in a stellar self-noise spec of 6 dB (A-weighted). That said, the Marek Design RS1 trumps the M950’s self-noise spec with a dumbfounding 1.5dBA spec—easily the best in the biz. In terms of self-noise specs, smaller numbers indicate a quieter mic. That is, unless the mic’s sensitivity sucks.

THE SENSITIVE TYPE

Microphone sensitivity is a measure of how loud a mic is—more specifically, it’s output voltage—when it’s presented with a given sound pressure level (SPL). The

sensitivity spec is most often cited in terms of how many millivolts the mic will put out when it is presented with one Pascal of sound pressure (equivalent to 94dB SPL) or in mV/Pa units. The higher the number here, the more sensitive and louder the mic will be. The Marek RS1 wins the crown again, citing a blistering 119 to 653mV/Pa output that will remove plaque from your gum lines. The wide range and overall magnitude of the spec is due to the RS1’s built-in gain control, which can provide more than +33dBu (searing line-level) output; you won’t need to use an external mic pre with this puppy!

Some manufacturers cite their mics’ sensitivities using decibels, with 0 dB typically referenced to 1-volt output per Pascal. Again, the higher the number, the more sensitive the mic is. (For negative numbers, numbers closer to zero indicate a louder mic.) To give you an idea how mV/Pa and decibel-based specs relate, a 20mV/Pa spec roughly equates to -34 dB where 0 dB = 1V/Pa; 25 mV/Pa is about -32 dB using the same 0dB reference.

The practical upshot to all of this sensitivity training is that a mic with low self-noise *and* very low sensitivity might sound pretty darn noisy once you crank up its level using an external microphone preamp. The lower the sensitivity of a mic, the more preamp gain the user must apply

when recording quiet sources, resulting in an inordinate boosting of inherent noise in both the mic and the external preamp. Sensitivity and self-noise specs should, therefore, always be considered together when an engineer is attempting to predict how noisy a mic will be in the trenches. Also consider that an extremely insensitive mic may not provide enough level for recording very quiet sources if the external mic preamp offers only, say, 60 dB of gain. Note that sensitivity usually varies somewhat with the polar pattern selected for a multipattern mic.

Keep in mind that high sensitivity is not always a good thing. If your outboard preamps and high-sensitivity mics don’t offer pads, then recording drums or other loud sources with ripsnorting levels is going to peg your DAW’s meters big time.

MY PAD OR YOURS?

To prevent loud sources from distorting a mic’s output, manufacturers may elect to include a switchable pad or pre-attenuator in the mic’s design. A pad (found in most mics featuring an attenuator of some sort) decreases the output of the mic’s built-in preamp, while a pre-attenuator circuit (common to AKG mics, for example) knocks down the level *before* the preamp. Both designs have their place. A pre-attenuator will generally tend to nip distort-

Microphone Manufacturers

PRODUCT/WEBSITE	LIST PRICE	TUBE OR SOLID-STATE?	POLAR PATTERN(S)	BASS ROLL-OFF (Hz)	PAD (dB)	FREQUENCY RESPONSE (Hz)	SELF-NOISE (dBA)	SENSITIVITY	MAX SPL (dB SPL)	INCLUDED ACCESSORIES	ADDITIONAL NOTES
ADK Hamburg II (www.adkmic.com)	\$1,299	SS	C	100, 160	8, 16	20-20k	<15	14 mV/Pa	134 (<0.5% THD)	SM	Unusual FET circuit saturates gradually.
ADK Vienna II	\$1,299	SS	C	100, 160	8, 16	20-20k	<15	14 mV/Pa	134 (<0.5% THD)	SM	Unusual FET circuit saturates gradually.
AKG Perception 100 (www.akg.com)	\$200	SS	C	None	None	20-20k	<16	18 mV/Pa	135 (<0.5% THD)	N/A	1-inch diaphragm. All-metal, screw-on stand adapter included.
AKG Perception 200	\$320	SS	C	300	10	20-20k	<16	18 mV/Pa	145 (<0.5% THD)	SM, FC	1-inch diaphragm. Elastic spider suspension.
AKG Perception 400	\$560	SS	MP: C, O, B	300	10	20-20k	<16	28 mV/Pa	145 (<0.5% THD)	SM, FC	1-inch diaphragm.
Audix CX112 (www.audixusa.com)	\$499	SS	C	150	10	20-20k, ± 3 dB	18	14 mV/Pa	145	SB	1.07-inch gold-vapor diaphragm. Copper-alloy body.
beyerdynamic MC 840 (www.beyerdynamic-usa.com)	\$2,249	SS	MP: O, WC, C, H, B	80, 160	10, 20	30-20k	N/A	18 mV/Pa	147	SM, SB	Double-diaphragm design.
Cascade M20u (www.cascade-microphones.com)	\$119	SS	C	100	10	20-20k	<17	-38.5 dB (0 dB=1V/Pa)	140 (<0.5% THD)	SM	5-micron, 1.07-inch diameter membrane. Class-A electronics.
CharterOak Acoustic Devices E700 (www.charteroakacoustics.com)	\$1,199	SS	MP: O, C, B	None	10, 20	25-20k, ± 1 dB	17	16 mV/Pa	125 (0.5% THD)	SM, FC	Dual 1.22-inch Mylar, gold-sputtered diaphragms. Class-A head amp.
DPA 4041-SP (www.dpamicrophones.com)	\$3,099	SS	O	None	None	20-20k	8	70 mV/Pa	134 peak	SB	Phantom-powered. Cartridge can also be used with high-voltage preamp.
DPA 4041-T2	\$3,099	T	O	None	None	10-20k	9	85 mV/Pa	144 peak	SB	Cartridge can be unscrewed for use with alternative preamp. Transformerless audio path.
Electro-Voice EV Blue Cardinal (www.electrovoice.com)	\$269	SS	C	N/A	N/A	35-20k	25	10.6 mV/Pa	148	N/A	Class-A, discrete amp circuitry. Body is brass and red cherry wood.
Gefell M950 (www.gefell-mics.com)	\$1,600	SS	WC	None	None	40-18k, ± 2 dB	6	20 mV/Pa	141 (<0.5% THD)	SB	Wide-pattern version of M930. Capsule amp is optically isolated from 48V for low self-noise.
Groove Tubes GT50 (www.groove-tubes.com)	\$399	SS	C	75	10	20-18k	22	32 mV/Pa	144	SB	Class-A FET. Shock-mount optional. Aluminum storage case, 3-micron diaphragm.
Groove Tubes GT60	\$699	T	C	75	10	20-20k	23	25 mV/Pa	140	PS, SM, SB	Aluminum storage case, 3-micron, evap.-gold diaphragm.
Korby Audio KAT Blue (www.korbyaudio.com)	\$3,499	T	C	None	None	30-20k	N/A	18 mV/Pa	125 (<0.5% THD)	PS, FC	All Korby mics are hand-tuned and customized.
Korby Audio KAT FET	\$1,999	SS	C	None	None	30-18k	N/A	18 mV/Pa	130 (<0.5% THD)	FC	All Korby mics are hand-tuned and customized.
Korby Audio KAT Red	\$3,499	T	C	None	None	30-18k	N/A	18 mV/Pa	125 (<0.5% THD)	PS, FC	All Korby mics are hand-tuned and customized.
Lauten Audio Horizon (www.lautenaudio.com)	\$650	T	C	N/A	10, 20	20-20k, ± 2 dB	20	32 mV/Pa	140 (0.5% THD)	PS, SB	Internally shock-mounted. Unspecified 1970s NOS military-grade tube.
M-Audio Sputnik (www.m-audio.com)	\$700	T	MP: O, C, B	80	10	20-20k, ± 1.5 dB	18	30 mV/Pa	142 (0.5% THD)	PS, SM, FC	3-micron, evaporated-gold, Mylar diaphragm, 6205 M tube. Brass body.
Marek Design RS1 (www.md-mics.com)	\$6,495	T	MP	None	27	10-25k	1.5	119 to 653 mV/Pa	170.3	PS, SM, FC	All-tube design. Six polar patterns. Line-level output for use without external mic pre.
Mojave Audio MA-200 (www.mojaveaudio.com)	\$995	T	C	None	None	20-20k, ± 3 dB	14	-37 dB re 1V/Pa, ± 1.5 dB	117 (<1% THD)	PS, SM, SB, FC	3-micron diaphragm, Jensen audio transformer, military-grade JAN 5840 tube.
MXL M3 Silicon Valve (www.mxl-mics.com)	\$399	SS	C	None	None	20-23k	18	22 mV/Pa	130 (0.5% THD)	SB	FET design mimics the sound of a tube mic.
Nady Systems SCM 960 (www.nady.com)	\$90	SS	MP: O, C	None	10, 20	25-20k, ± 3 dB	N/A	16 mV/Pa	125 (1% THD)	None	Options include flight case, SSM-3 shock-mount, FW-1 foam windscreen.
Neumann TLM 49 (www.neumann.com)	\$1,700	SS	C	None	None	20-20k	12	12 mV/Pa	110 (0.5% THD)	SM	Transformerless design with tube-simulation circuit.
Oktava MK-101 (www.oktavausa.com)	\$339	SS	C	N/A	10	20-20k	<18	16 mV/Pa	122 (0.5% THD)	SB	Optional black or silver finish.

The new vintage.

SPUTNIK

Hand-Assembled Condenser Tube Microphone

Like you, we've been inspired by classic vintage tube mics such as the C12 and the U47. But while every microphone lends different qualities to a recording, some are ideal for vocals and others for instruments. So we consulted with top studio engineers to create a fresh take on venerable design principles and bridge that gap. The new Sputnik large diaphragm tube condenser boasts a unique voice delivering both air and full body in a single microphone, making it perfect for recording both vocals and instruments. Some say its signature sound comes from the combination of a 3-micron evaporated gold diaphragm, solid brass construction, and hand-picked military-spec 6205M pentode vacuum tube. Others say it owes to boutique sensibilities like a custom-designed capsule and hand assembly in a limited production run. We prefer to think of it simply as the place where science meets magic. Hear the unique qualities of the Sputnik for yourself at your M-Audio dealer.



dedicated power supply, shock mount
and custom carry case included

vintage tube design

> **coveted classic transparent sound**

3-micron evaporated-gold Mylar diaphragm

> **extremely sensitive**

selectable cardioid, figure-8, and omni polar patterns

> **total studio flexibility**

low-current/high-voltage 6205M vacuum tube

> **linear behavior with graceful overload characteristics**

hand-assembled limited production run

> **boutique quality**



 **GET M-POWERED**

M-AUDIO

recording interfaces | USB keyboards | studio monitors | microphones | preamps | sound libraries | music software | www.m-audio.com

World Radio History

PRODUCT/WEBSITE	LIST PRICE	TUBE OR SOLID-STATE?	POLAR PATTERN(S)	BASS ROLL-OFF (Hz)	PAD (dB)	FREQUENCY RESPONSE (Hz)	SELF-NOISE (dBA)	SENSITIVITY	MAX SPL (dB SPL)	INCLUDED ACCESSORIES	ADDITIONAL NOTES
Oktava MK-105	\$469	SS	C	N/A	10	20-20k	< or = 18	10-16 mV/Pa	120 (0.5% THD)	SB	Optional black or silver finish.
Pacific Pro Audio PPA LD-2tube (www.pacificproaudio.com)	\$299	T	MP	None	None	20-20k	< or = 18	N/A	N/A	PS, SM, FC	Nine polar patterns. Dual-diaphragm design.
Red Type A (www.vintagemicrophone.com)	\$1,995	T	Various	None	None	N/A	N/A	N/A	136 (0.5% THD)	PS, SM, FC	Accepts nine interchangeable capsules (five large-diaphragm).
Red Type B	\$699	SS	C	N/A	N/A	20-20k	<7.5	27 mV/Pa	138 dB (0.5% THD)	SM	7 other interchangeable, lollipop-style cardioid, omni and bi-directional capsules available.
sE Electronics Titan (www.seelectronics.com)	\$1,499	SS	MP: O, C, B	100	6	20-20k	14	20 mV/Pa	140 (0.5% THD)	SM, FC	Transformerless, Class-A, 1-inch titanium diaphragm.
Sontronic Helios (www.sontronic.com)	\$829	T	I	N/A	10	20-20k	18	20 mV/Pa	125 (0.5% THD)	PS, SM, SB, FC	Unspecified bass roll-off filter.
Sontronic Omega	\$699	T	C	N/A	10	20-20k	18	25 mV/Pa	125 (0.5% THD)	PS, SM, SB, FC	Unspecified bass roll-off filter.
Sontronic Orpheus	\$599	SS	O, C, B	N/A	10	20-20k	16	20 mV/Pa	125 (0.5% THD)	SB	Unspecified bass roll-off filter. Internal shock-mount.
Sontronic STC-2	\$299	SS	C	N/A	10	20-20k	18	20 mV/Pa	125 (0.5% THD)	SM, FC	Unspecified bass roll-off filter. Gold-sputtered capsule.
Soundelux E251C (www.soundeluxmics.com)	\$3,250	T	C	None	None	30-16k ±2 dB	18	19 mV/Pa	112 (0.5% THD)	PS, SM, SB	Brite/Normal switch. NOS GES 5670 tube. CK12-type capsule. Nearly linear distortion, primarily second harmonic.
Soundelux E47C	\$4,250	T	C	None	None	30-16k ±2 dB	14	29 mV/Pa	112 (0.5% THD)	PS, SM, SB	NOS EF814 pentode. CK12-type capsule. Nearly linear distortion is primarily second harmonic.
Sterling Audio ST55 (www.sterlingaudio.net)	\$500	SS	C	75	10	20-18k	22	32 mV/Pa	144 (1% THD)	N/A	3-micron diaphragm uses Disk Resonator feature to boost very high frequencies.
Sterling Audio ST66	\$700	T	C	75	10	20-20k	23	35 mV/Pa	140 (1% THD)	PS, SM	3-micron diaphragm uses Disk Resonator feature to boost very high frequencies.
Studio Projects B1 (www.studioprojects.com)	N/A	SS	C	75, 150	10, 20	20-20k	12	N/A	132 (1% THD)	SM	Substantially redesigned version of the original B1.
Studio Projects B3	N/A	SS	MP: O, C, B	150	10	20-20k	15	N/A	132 (1% THD)	SM	Substantially redesigned version of the original B3.
Studio Projects C1	N/A	SS	C	75, 150	10, 20	20-20k	10	N/A	142 (1% THD)	SM, SB	Substantially redesigned version of the original C1.
Studio Projects C3	N/A	SS	MP: O, C, B	75, 150	10, 20	20-20k	12	N/A	139 (1% THD)	SM, SB	Substantially redesigned version of the original C3.
Studio Projects T3	N/A	T	MP: O, C, WC, HC, B	N/A	N/A	20-20k	18	14 mV/Pa	138 (1% THD)	PS, SM	Substantially redesigned version of the original T1.
Studio Projects TB1	N/A	T	C	N/A	N/A	20-20k	16	27 mV/Pa	128 (0.5% THD)	PS, SM	Substantially redesigned version of the original TB1.
Telefunken USA/R-F-T Funkwerk AK-47 (www.rtfunkwerk.com)	\$1,599	T	MP	None	None	20-20k	20	14 mV/Pa	125 (1% THD)	PS, SM, SB	Nine polar patterns. NOS EF732 miniature tube. Handmade. Custom transformer.
Telefunken USA/R-F-T Funkwerk M16 Mk II	\$1,499	T	MP	None	None	20-20k	20	14 mV/Pa	125 (1% THD)	PS, SM, SB	Nine polar patterns. NOS GE JAN 6072 tube. Handmade. Custom transformer.
T.H.E. Audio KR-50 (www.theaudio.com)	\$996	SS	O	N/A	N/A	20-20k	7	15 mV/Pa	138 dB (0.5% THD)	N/A	Preamp module accepts interchangeable capsules.
Wunder Audio CM7 (www.wunderaudio.com)	\$5,495	T	O, C	None	None	20-20k, -3 dB	15	16.5 mV/Pa	132 dB (0.5% THD)	PS, SM, SB	Uses original, large-style U47 transformer (used in "Large Badge" U47s).

LEGEND: POLAR PATTERNS:
 O: omni; C: cardioid; WC: wide cardioid; H: hypercardioid; B: bi-directional (figure-8); I: infinitely variable polar pattern; MP: switched multipattern

INCLUDED ACCESSORIES:
 PS: power supply; SM: shock-mount; SB: storage box; FC: flight case

NOTES:
 "Pad" indicates either a pre-attenuator placed before or a pad placed after the output of the built-in preamp. Max SPL reflects use of the mic with its pad—or in the case of mics offering two pad settings, its largest pad—engaged.

tion in the bud more often, but when engaged, will worsen signal-to-noise proportionally to the amount of attenuation used. A pad will often prevent an external mic preamp from clipping but won't do squat for



ADK Vienna II

an overloaded mic capsule. For the purposes of the remainder of this article and the accompanying chart, the term "pad" is used interchangeably for either type of attenuator design.

Padding a mic usually increases by a proportionate amount the maximum sound pressure level ("max SPL") the mic can accept before it distorts significantly. When specifying max SPL, manufacturers will typically cite how many dB SPL the mic can take without exceeding 0.5 percent or 1-percent THD (total harmonic distortion). Obviously, the 0.5-percent benchmark is a more rigorous specification.

FREQ ME OUT

A microphone's specified frequency response tells you very little if tolerances (how many decibels the response deviates across the stated range) aren't provided. Two mics that cite "20 to 20k Hz" response without citing tolerances may, in fact, sound wildly different from one another. One mic's response may deviate only 2 dB from one end of the stated range to the other, while the other mic may deviate 10 or more dB!

New LDC mics from Groove Tubes and Sterling Audio use a Disk Resonator (a brass "umbrella" that protrudes from the diaphragm's center) to improve the mics' frequency responses. The Disk Resonator boosts sensitivity to high frequencies, countering the roll-off inherent to LDC designs and purportedly making the mics sound more detailed and sparkly.

That said, don't automatically shrug off mics that have an "imperfect" frequency response. If full bandwidth were always desired, then hardly anybody would be using ribbon mics, for instance. Sometimes flattering coloration is more desirable than the best spec. For example, a mic with a soft top end may just be what's needed when

Marek Mikro RS1



the user is recording sources that produce piercing highs, such as brass instruments.

Finally, consider a mic's weight before you buy. Some mic-stand boom arms don't have strong enough gears to hold up a huge LDC perched at the end of a fully telescoped extension. If all your mic stands are bargain-bin specials, make sure you add in the cost of a rock-solid stand when you price some of the heavier LDC mics. ■

Mix contributing editor Michael Cooper is the owner of Michael Cooper Recording in beautiful Sisters, Ore. Cooper can be reached at coopermb@bendbroadband.com.

SOUNDS AS GOOD AS IT LOOKS

Introducing Sontronics Superlative Microphones

SONTRONICS SIGMA

Active Ribbon Microphone

SIGMA is a fusion of modern technology and vintage style. Inspired by the classic song stylists of the "Swing" era, our thoughts drifted away to the simply unforgettable voices of giants of the 1930's and 40's.

SIGMA's speciality is to recreate the silky, rich tones that we heard from those old recordings, but without the 'pops' and 'crackles'. Punchy low and mid frequency responses, combined with an ultra-smooth high frequency roll-off, produce a very natural image, almost making the instrument or vocal sound like it is in the room with you!

The SIGMA is phantom powered and its output is actively balanced, which means, unlike most transformer-based ribbon microphones, it doesn't suffer from impedance mismatching problems and low output sensitivity. In fact, it is as easy to use as any other Sontronics condenser microphone - just plug it into your preamp and play.

Ah, yes, it's simply gorgeous!

DISTRIBUTED BY
mm
music marketing

To find a dealer visit www.musicmarketing.ca



Professional Audio Equipment
INSPIRED BY SOUND

Back to Basics

By Steve La Cerra

Sound System Setup, Tuning and Optimization

It may not be obvious, but a P.A. system is a precision instrument. Similar to the way that various components contribute to the makeup of a fine musical instrument, each element of a P.A. is critical to the operation and sound of the system as a whole. When the subsystems have been properly designed and implemented, the machine functions smoothly and effortlessly, accurately interpreting the commands of the user. Fine-tuning a P.A., avoiding phase problems while increasing clarity, efficiency and dynamic range, can mean the difference between adequate and great sound. A tweak here and there to a graphic EQ can smooth out harshness in the mids or reduce boom in the bottom, helping reduce listening fatigue. This month, *Mix* takes a look at some of the basic and not-so-basic things you can do to get the most out of a P.A.

BEFORE YOU TURN IT ON

Placement of speakers within a venue is critical to the quality of sound reproduction. Most important is avoiding feedback from the stage. The house array should be at least five feet forward of the front line of stage mics. If the P.A. is hung (or stacked) too close to the front edge of the stage, then feedback is inevitable. Line arrays may let you shave this distance by a foot or so, thanks to their directional control, but placing conventional boxes close to the performers is a recipe for disaster. In club situations, you may be able to get the house crew to push the house stacks forward (i.e., toward the mix position) to help avoid this problem. If that's not practical, or if the P.A. is flown, then pull the stage monitors and vocal mics upstage a bit to get them farther behind the house stacks.

Loudspeaker cabinets should not be

flown or stacked within the arch of a proscenium because the proscenium itself can cause reflections that will interfere with the cabinets' intended dispersion pattern. In Atlantic City, N.J., the House of Blues actually added hang points in front of the proscenium to get its array farther into the room and out of the sonic influence of the proscenium.

Venues with large stages (wider than about 50 feet) present a problem for audience members in the first few rows. People in these seats won't hear vocals from the P.A. because they're too close to the stage and the P.A. is throwing sound to areas behind them. Sometimes the monitors spill vocals into the audience, but this may not be enough, and if the entire band is using personal monitors, then there will be no spill of any sort from monitors into the audience. In these situations, a front-fill is necessary.

The fill can be a compact speaker (EAW JFX200, L-Acoustics 112P, Electro-Voice X-Array Xc1 or similar) with a 12-inch woofer and a 2-inch horn. Three such cabinets distributed across the front edge of the stage will usually do the trick. Amplification for these speakers can be fed from a matrix that carries only the vocal channels (and perhaps piano or some lead guitar), as the remainder of instruments usually can be heard from the stage. You'll need to listen from the front rows during soundcheck to determine how loud the fills need to be; bring them up just loud enough to add presence to the vocals—but not loud enough to disturb the main house mix.

Time permitting, every driver in the entire P.A. system should be checked for proper polarity. Obviously, this is more easily facilitated when you're the systems engineer and performing an install, but it's possible to do this even if you're a guest engineer. A polar-

ity checker (more commonly and incorrectly referred to as a "phase checker") can help, provided you observe two important guidelines: The device must be within inches of the driver and you must be able to perform the check with only *one* driver operating at a time. If you cannot use a polarity checker under these two constraints, then don't bother.

An oft-ignored aspect of loudspeaker placement (especially at the club level) is the relative position of high/mid/low-frequency drivers in P.A.s employing separate cabinets for these drivers. All drivers should be time-aligned for phase coherence. Time-alignment is physically achieved when the acoustic centers of the drivers are equidistant from the listener. An alignment error may not be apparent to the casual observer, particularly if the high/mid cabs are flown and the low or sub cabinets are ground-stacked.

In club situations, the subs are often downstage of flown mid/high cabs, meaning that arrival time of sound emanating from the high/mid cabinets is different from the arrival time of sound emanating from the low or sub cabinets. This results in phase errors, which are most apparent at frequencies near the crossover point(s). If you cannot physically arrange the boxes for proper alignment, then do so electronically. Just about every loudspeaker processor manufactured these days incorporates a separate delay for each output, so set a small delay to compensate for the difference. The rule of thumb is 1 ms of delay per foot; delays in this context are typically 1 to 3 ms.

While you're at it, delay the house stacks to the instrument backline by measuring the distance between the backline and the P.A. Delay the main system by roughly 1 ms per foot. In small clubs, this can make

DM-3200 32-channel digital mixer/controller and the X-48 48-track digital multitrack recorder.

Fortunately, they use their powers for good, not evil.

DM-3200

- 32 channels plus 16 returns at 96kHz/24-bit give you 48 total inputs for your biggest mixes
- 16 busses and 8 aux sends provide flexibility live or in the studio
- 16 analog mic/line inputs with new hybrid/discrete mic pres for rich, detailed sound quality
- Dedicated 16-fader control surface modes for Pro Tools, Logic, SONAR, Cubase, Nuendo and DP are a button-press away from any mixer screen
- Optional 24-channel FireWire expansion card turns the DM-3200 into the ultimate audio interface for your computer
- Two built-in effects processors with TC Electronics reverb processing



now shipping!

NEW! X-48

- 48 track recording at 96kHz/24-bit or 24-track recording at 192kHz/24-bit
- 60-channel digital mixing engine with automation, processing and VST plug-in support makes the X-48 a self-contained workstation by itself
- Built-in 80GB hard drive plus FireWire drive support for audio recording, with a DVD+RW drive for backup
- Simple session import and export to DAWs like Pro Tools means you can take the X-48 on the road and leave your computer rig in the studio
- Plug in a mouse, keyboard & VGA monitor for complete DAW editing & mixing control



Developed with


coming soon

Together, the **DM-3200** & **X-48** make a high-value dynamic studio duo...

To learn more, go here: www.tascam.com/dm3200 or www.tascam.com/x48

www.tascam.com

©2004 TASCAM, a division of TEAC America, Inc. All rights reserved. Specifications subject to change without notice. All trademarks are the property of their respective holders. 10410441044

TASCAM 

dream of

Everything you ~~need~~ between the mixer and the amplifiers.



DriveRack[®] 4800/4820

DriveRack[®] 4800 and 4820. The new flagships of the hugely successful DriveRack family provide incredible versatility, sonic excellence and intuitive control for performance applications. With 4 inputs and 8 outputs, both analog and AES/EBU connectivity as well as an optional CobraNet[™] card, the DriveRack 4800 and 4820 offer amazing flexibility. The Ethernet - HiQnet[™]



control backbone along with HiQnet System Architect[™] control software take the DriveRack to the next level of integration capability. Digital I/O and 96 kHz operation provides extended frequency response and ultra low-latency. Processing includes a large roster of selectable DSP inserts and a wealth of EQ, Delay, Bandpass and Crossover Filters, all designed to maximize system performance. A built-in 1/4 VGA color screen, ultra-fast 2-button navigation and seamless tablet integration make the 4800 incredibly quick and easy to use. For fixed installation the 4820 provides all the same processing features with a tamper-proof front panel. From control to flexibility to processing capability, the new DriveRack 4800 and 4820 are everything you want in a system processor. For more information, contact your dbx representative or visit us at www.dbxpro.com; to download System Architect please visit www.harmanpro.com.



Features

- 48 and 96 kHz operation
- Color 1/4 VGA Display (4800)
- 4 analog and AES/EBU inputs
- 8 analog and AES/EBU outputs
- Full Bandpass Filter, Crossover and Routing Configurations with Bessel, Butterworth and Linkwitz-Riley filters
- 31-Band Graphic and 9-band Parametric EQ on every input
- 6-band Parametric EQ on every output
- Loudspeaker Cluster and Driver Alignment Delays
- Selectable DSP inserts on all input and outputs including Classic dbx[®] Compression, Limiting and Advanced Feedback Suppression
- Ethernet HiQnet[™] networking and control
- Optional dbx ZC wall panel control
- Optional CobraNet[®] I/O
- Optional Jensen[®] I/O Transformers

www.dbxpro.com



© 2014 dbx, Inc. All rights reserved. dbx, DriveRack, and HiQnet are trademarks of dbx, Inc. in the USA and other countries. CobraNet is a trademark of Samson Technology Corporation. Jensen is a trademark of Jensen Audio, Inc.

Back to Basics

a marked improvement in low-frequency clarity because the P.A. can be brought in-phase with the backline. While it certainly won't hurt to initiate this delay in an arena situation, the ratio of P.A. to stage sound is much higher than in a club, yielding less-dramatic results.

If the opportunity presents itself, don't be afraid to vary the mix position. In spite of the fact that many engineers prefer to be centered between the left and right stacks, this listening position may not be representative of what the majority of the audience hears. P.A.s tend to "focus" in the center of the room, so when you're mixing at center, you'll hear more low end than those folks seated on the sides will. Conversely, setting the mix

Don't be afraid to vary the mix position. P.A.s tend to "focus" in the center of the room, so when you're mixing at center, you'll hear more low end than those folks seated on the sides will.

position closer to one side yields less low end than people in the center seats will hear. Either way, you'll need to make a mental "mix adjustment" to the low-frequency content of your kick drum and bass feed so it's consistent for as much of the room as possible.

MAKE SURE IT WORKS!

Having addressed some of the physical aspects of loudspeaker placement, turn on the P.A. and focus your attention on ensuring that all drivers and amps are operating properly.

Run pink noise through the system and analyze the result with a real-time analyzer. RTAs are no longer the domain of the rich and famous. Handheld models that include SPL metering and noise-generator functions can be had for as low as \$300 and are worth every cent, especially when you mix on different systems every day. If you prefer using a computer for audio analysis, check out SIA SmaartLive or Metric Halo's SpectraFoo Complete, both of which include powerful audio diagnostic tools. (One of my favorite diagnostics is SpectraFoo's Transfer function. It can tell you what happens to frequency response and phase of a signal as it is passed

Don't just hum along! Eliminate hum in the real world



Insist on products with InGenius balanced inputs
Look for the  logo

InGenius[®]

Balanced Line Receiver ICs

THAT Corporation

Analog ICs for Pro Audio™

www.thatcorp.com/mix2.html e-mail: mix2@thatcorp.com

KILL WALL-WARTS!



SMARTRACK™



PATHX™
WE CONNECT

MPATHX.COM

(316)262-8788



School of
Recording Arts

**ONE OF THE
FIVE BEST
MUSIC
PROGRAMS
IN THE COUNTRY**



800.226.7625
fullsail.com

GET STARTED

— *Rolling Stone Magazine*
August 11, 2005

*If you're serious about your dream,
we'll take your dream seriously.*

3300 University Boulevard • Winter Park, FL 32792
Financial aid available to those who qualify • Career development assistance • Accredited College, ACCSCT

Back to Basics

from the input of a mixing console through to the output of a drive processor.)

Regardless of what measurement tool you are using, run noise from the generator into a channel with EQ set flat (and no processing) and route it to only the left side. Set the left and right master faders for the same gain and measure the SPL using a slow response time. Pan the signal to the opposite side and again measure the SPL. A difference of more than a dB or two indicates something is wrong. Possibilities include a power amplifier not being turned up all the way, a damaged speaker component or mismatched crossover settings. (More about that later.)

With the signal panned to one side, set the RTA to a slow response and observe the RTA curve. (Your meter or software may let you store the measurement.) Then pan to the opposite side. The RTA should show the same results within a dB or two. If not, use a 1/2-octave EQ to match the frequency responses of the left and right channels of the P.A. If the two don't sound the same, you'll go crazy trying to mix. Most P.A. systems also incorporate a compressor on the left/right bus, so pay attention to the position of the compressor in the signal flow; EQ'ing before the compressor can *trigger* compression.

Another suggestion for a quick checkup? Turn all faders down and patch a click (from a metronome or a test CD) into a channel on the console. Set the EQ flat, route the click to the left bus, slowly turn up the faders and listen. With the volume still way down, walk up close to the P.A. and listen to each cabinet to make sure it is producing sound. (Have someone baby-sit the console so that no one accidentally turns up the gain.) Repeat for the right side of the P.A.

If the P.A. system incorporates a loudspeaker processor (such as a BSS Omnidrive, dbx DriveRack, etc.), then mute all outputs on both channels. One at a time, turn on each output and listen to the system's sub, low, low-mid, mid- and high ranges, making sure that each range is working for left, right and (where applicable) center channels. If the system does not have a processor, then use a channel EQ to filter out the lows and mids, emphasize the highs and check the HF drivers. Then adjust the EQ to filter out the high and low range and emphasize the mids, etc., each time listening to the output of a particular range to make sure it is operating.

Be aware that playing music CDs through the system may not reveal problems with tired, borderline drivers, particularly in the low end (more on this below), so use a reference-test CD or tone generator to play

HEAR like the PROS

"Clean, transparent and quiet.

The ability to interface 8 stations with 8 channels to control your own mix... is awesome. I thought I'd never be able to afford a system like this; price was just another one of the system's greatest features!"

Tony Monaco Columbus Sound Recording and Monaco Productions: Jazz Organist, Clinician, Producer, Studio Engineer/Owner



hear back[®]

Personal Monitor Mixer System[®]

A high-power, low-distortion professional personal monitor mixer system for headphones, in-ear monitors, and floor monitors. Perfect for live, studio, and houses of worship.

High quality audio. Flexible. Expandable. Easy to use.

256-922-1200
www.hearback.com

© 2005 Hear Technologies



hear
TECHNOLOGIES



KILL NOISE & HEAT!



SmartRACK™



MPATHX™
WE CONNECT

(316)262-8788

MPATHX.COM

AURORA INTERFACE OPTIONS

AES16

PCI card offers direct connectivity via PC or Mac to all 16 digital I/O channels with remote control. Includes Aurora software mixer for added routing and 64 channels of metering.

LT-ADAT

Expansion card provides up to 16 channels of ADAT Lightpipe I/O at 48 kHz. Higher sample rates supported using S/MUX. Permits format conversion between ADAT, AES/EBU and analog I/O.

LT-HD

Expansion card provides digital input and output in a format that is recognizable by Digidesign® Pro Tools | HD®. Operates with all HD-compatible versions of Pro Tools. Supports up to 32 I/O channels at sample rates up to 192 kHz.

LT-FW

Expansion card available Fall 2006. LT-FW provides a 16 channel cross platform FireWire® interface.

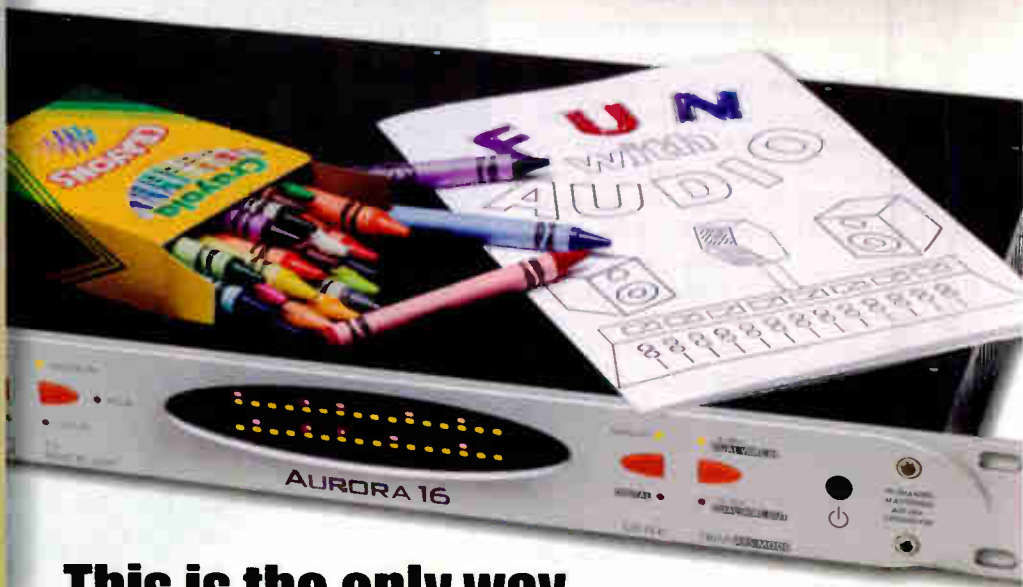
LYNX TWO AURORA INTERFACE

LynxTWO and Lynx L22 owners can now utilize Aurora converters for up to 16 analog and digital inputs and outputs.

1824 AURORA TRIM OPTION

Aurora 16/1824 and Aurora 8/1824 models feature +18 dBu and +24 dBu full scale trim settings, which replace the +6 dBV and +20 dBu full scale trim settings of standard models.

If you're looking for coloration from an Aurora Converter



This is the only way you're going to get it.

When we designed the Aurora 16 and Aurora 8 AD/DA converters, we had a simple goal. Converters with clear, pristine, open sound and no coloration or artifacts. We wanted you to be able to get the identical audio out of Aurora converters that you put into them. From what we have heard from you and the major magazines, that's what we have accomplished.

Aurora includes no compression, no limiting, no equalization. No coloration. Why?

First, if you want or need coloration, you already have that handled. You have carefully selected your signal processing, which you can add to the signal chain at any point you like, or leave it out altogether.

Second, how would we know what processing would fit your needs and your tastes? We could nail it for our tastes and for a few of our friends, and completely miss what you want.

Third, we wanted to build the best possible AD/DA converter – period, not a converter/signal processor/preamp/exciter. Adding these functions would add the price of Aurora, for features you may not want or need.

Instead we packed in features such as our exclusive SynchroLock™ word clock, LSlot expansion port for optional interfaces, and exclusive remote control options into a single rack space format. And, most importantly, world-class audio quality that rivals converters costing many times the price.

Aurora 8 and Aurora 16 from Lynx Studio Technology. We'll handle the conversion and leave the coloring up to you.

Want more information (like there's not already too much in this ad)? Go to: www.lynxstudio.com/aurora 1

Digidesign, Pro Tools, Pro Tools|HD, 192 I/O, and DigLink are trademarks of Digidesign, a division of Avid Technology Inc. FireWire is a trademark of Apple Computer, Inc. Crayola is a trademark of Binney & Smith Inc.

World Radio History

Lynx
STUDIO
TECHNOLOGY

Back to Basics

sine wave tones ranging from 50 to 16k Hz through the system. (Don't use square waves as they mask distortion.) Low-frequency tone will quickly reveal woofers with voice coils that are rubbing, as well as rattling grillework or metal-to-metal contact near speakers. Third-octave tones can help reveal P.A. "hot spots," which often show up at resonant horn frequencies of 1.6 kHz, 3.15 kHz and 6.3 kHz, and can be easily tamed using a 31-band, 1/3-octave EQ.

If a particular frequency range is especially hot, turn your attention toward the output controls on the loudspeaker processor to turn down (for example) the drive to the mid- or high-frequency amplifiers. (Do this before going for the EQ.) You may also need to tweak a crossover frequency (or slope) if there is too much energy due to overlap between the mids, high-mids and highs. A slow sweep tone played through the system should sound smooth and consistent through each range, with no hot spots.

INVESTING IN CDS

Many engineers use a favorite CD to tune P.A. systems. They become very familiar with a certain piece of music and they know how it should sound over a variety of different sources, such as headphones or studio monitors. Try listening to the piece of music through the P.A. and applying EQ until it "sounds right." There's nothing wrong with this approach, but keep in mind that a CD—with its processing, compression and mastering—is not representative of the transients encountered with amplified live musicians. An alternative method employs using a vocal microphone for equalizing a system. (Carry your own mic for consistency and hygiene.) Talk into the mic to excite the resonant frequencies of the P.A. and then use EQ to correct them. In this case, you're using the same tools that you use in your live mix: compressors, equalizers and mics (as opposed to a CD).

Another technique calls for plugging a CD player into two channels of the desk and bypassing the channel EQ and the system graphic EQ. At the power amps (not the crossover), turn down the subs and the tweeters and listen to the midrange only. Slowly add the subs and tweeters into the midrange until you think it sounds balanced. If it's still necessary, use a graphic EQ for correction, but keep in mind that many engineers feel that *any* graphic EQ distorts the phase relationship of the input signal.

MIND YOUR BOTTOM

The majority of sound systems are set up with the L/R bus feeding signal to a drive rack (or

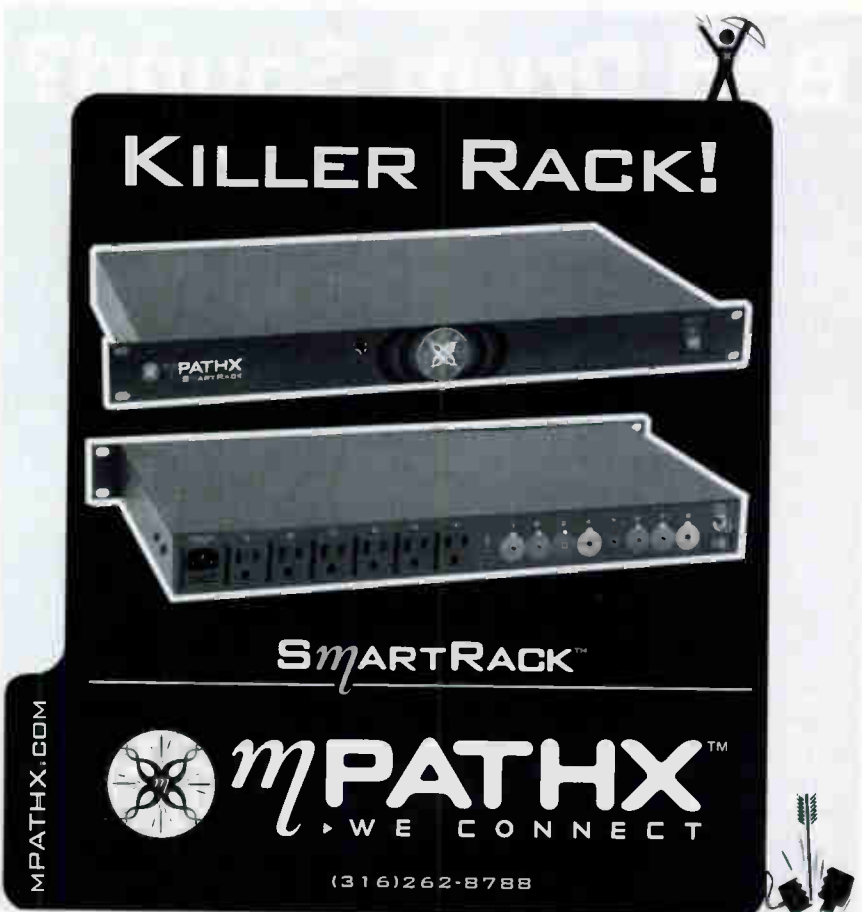


Acoustics First[®]
**Materials To Control Sound
And Eliminate Noise**

BlockAid[™] Control On A Roll

Vinyl Barrier to block noise. Increases wall mass without increasing its depth. .125 inch, STC = 27

Toll Free 1-888-765-2900
www.acousticsfirst.com



KILLER RACK!

SMARTRACK[™]

MPATHX[™]
WE CONNECT

MPATHX.COM

(316)262-8788

You wouldn't compromise your performance, so why compromise on your converter.

The Dream ADA-8XR:

- Flexible 8 and 16 channel modular configuration
- The XR has direct connection to Pro Tools IHD or Mix, AES, DSD, Firewire and SPDIF
- The XR works at sample rates from 32k - 192k
- Ultimate clocking and jitter rejection

For more information and to enter our competition visit www.prismsound.com



PRISM MEDIA PRODUCTS LIMITED
UK
Tel : +44 1223 424 988
Fax : + 44 1223 425 023
<http://www.prismsound.com>

PRISM MEDIA PRODUCTS INC.
USA
Tel : (973) 983 9577
Fax : (973) 983 9588
Email: sales@prismsound.com

NOTE: Digidesign do not endorse or support the Prism Second ADA-8XR unit. Not all Pro-Tools controls or configurations are supported by the Prism Second ADA-8XR. Prism Second reserve the right to amend their own product specifications without notice. Digidesign, Pro Tools IHD are trademarks of Digidesign a division of Intel Technology Inc.

Bad Drum Sound? Replace It.



Is your drum sound driving you nuts? Relax - Drumagog will make those old, stale drums sound like a million bucks! It works by automatically replacing what's on your audio drum tracks with samples of new drums. The industry choice for over 5 years, Drumagog is available for both PC and Mac, in VST, RTAS, and Audio Units plug-in formats. See why producers Chuck Ainlay, Brian Tankersley, and Greg Ladanyi use Drumagog in their projects every day.

877-318-WAVE
www.drumagog.com

WAVEMACHINE LABS

crossover), which in turn divides the audio signal into various bands and routes signal to various amps in a multi-way P.A. In this type of system, it is possible to send a signal to the subwoofers that has no business being there, such as a hi-hat or lead vocal mic. Hopefully, the engineer has the smarts to use a highpass filter to remove whatever low-frequency crud might make its way into a hi-hat mic in the first place—thus preventing that signal from ever reaching the subwoofer.

However, if you really want to mind your bottom, here's an alternative approach: Use one of the console's auxiliary outputs as a subwoofer send. This concept removes unwanted audio from the subwoofer simply by virtue of the fact that you turn up the subwoofer aux *only* on the channels that need to be in the sub. Channels such as kick drum, floor tom, bass guitar and synth get fed to the sub aux, while channels such as lead vocals, hi-hat and the triangle microphone do not. The aux output designated as the subwoofer feed is usually routed to a crossover or low-pass filter, from the filter to a compressor and then to the subwoofer amplifiers.

In lieu of a "proper" crossover, I've seen engineers run the sub aux out from the console to a single-channel, 31-band EQ with all of the high-frequency sliders (say, those 125 Hz and above) pulled down all the way—thus acting as a filter for the high frequencies. Make sure that this aux is set to *post-fader*, or your low end will become disproportionate every time you move a fader. But be aware that when you mute the main L/R outputs of the system, the sub aux will not be muted and your audience will hear low-frequency rumblings from the subs.

While we're on the topic of low end, don't forget to take advantage of the high-pass filters provided on each input channel. During soundcheck, audition each input over the P.A. (not headphones) one at a time, turn on the highpass filter and bring up the cut-off frequency until you can hear the low end start to drop out. Then back it off a bit. This will keep unwanted sounds such as mic stand rumble from ever reaching your low-frequency amps, preserving clarity in the bottom end and maintaining system headroom.

Tuning a P.A. system doesn't have to be rocket science, and the payoff is well worth the effort. The most important tools you need—your ears—are free. With planning and diligence, you can make the most of a subpar system or bring a state-of-the-art system to its highest level of performance. ■

Steve "Woody" La Cerra is Mix's new sound reinforcement editor.

Stellar Sound·Boutique Build·Project Price

◆ Classic Putnam 610 & flagship Precision 110 Mic Pre & DI ◆ Gain, Level & Impedance selection for maximum tonal variety ◆ Portable, "Go-Anywhere" design. Hand-built in the USA.

Expires August 31st

For each
SOLO/110 or SOLO/610
registered, get a
\$100 UA voucher
for any UAD plug-ins at
my.uaudio.com

Automatically retro-active to all existing registered SOLO customers.



Introducing the brand new SOLO/610™ and SOLO/110™ mic-pre & DI boxes from Universal Audio. All the UA heritage, tone and hand-built US-made quality you ever dreamed of in a single-channel format, at a price every Project Studio can afford. Now its no longer a choice between the sound you covet and the gear you can realistically afford. UA designed the SOLO series to be portable, functionally lean yet sonically mean, with the familiar solid build and audiophile components that define UA quality.

From desktop studio to stage, the SOLO/610 and SOLO/110 are the go-anywhere essential preamp & instrument DI. Choose either the all-tube SOLO/610 for that silky vintage warmth or the SOLO/110 (from the mighty 8110) for lightning-fast transients, and sheer tonal versatility— ultra-clean to crunchy Class A. The SOLO series preamps will flatter the humblest to the most esoteric microphones with their own signature sound. The best news of all is that UA's innovative engineering and meticulous manufacturing mean you don't have to make a choice: you can afford both!



UNIVERSAL AUDIO

analog ears | digital minds

www.uaudio.com

toll-free: 1-866-UAD-1176

330 Encinal St. • Santa Cruz, CA • 95060-2101 • USA voice: 831-466-3737 • fax: 831-466-3775 • ©2006 Universal Audio, Inc. All rights reserved. Universal Audio, the Universal Audio logo, SOLO/610, SOLO/110, and "Analog Ears Digital Minds" are trademarks or registered trademarks of Universal Audio, Inc. All features and specifications subject to change without notice.

World Radio History



The 22nd Annual TECHNICAL EXCELLENCE & CREATIVITY AWARDS NOMINATIONS

Listed below are the nominees chosen by the Nominating Panel of the 22nd Annual TEC Awards. A special TEC Awards Voter's Guide and voting ballot will appear in the August issue of *Mix*. Note: In the category of Outstanding Creative Achievement, a complete list of all nominees for each project may be found at www.mixfoundation.org.

OUTSTANDING TECHNICAL ACHIEVEMENT

Ancillary Equipment

Ampeg SVT-DI Direct Box
Crown Xi Amplifier
Dangerous Music ST/SR Monitor Controller
Frontier Design Group TranzPort
Shure E4 Earphones
Whirlwind E-Snake 2 (ES2)

Digital Converter Technology

Benchmark Media ADC1
Digidesign Mbox2
Focusrite Saffire
Lavyr Stereo DA10
MOTU UltraLite
RME AES-32

Mic Preamplifier Technology

A-Designs Audio Pacifica
Grace Design m802
Mackie Onyx 400F
Neve 1073 DPID
PreSonus ADL 600
SSL XLogic E Signature

Microphone Technology/

Sound Reinforcement

AKG HSD Series Headset
Audio-Technica Unipoint Series
Beyerdynamic Opus 89
Groove Tubes GT Convertible
Heil Sound PR20
Sennheiser HSP Headworn Mic

Microphone Technology/Recording

AEA R92
DPA 4090/4091
Holophone 112-Pro
Neumann TLM 49
Schoeps CMT 5U Shotgun
Soundelux E251C

Wireless Technology

AKG WMS40 Pro Flexx
Audio-Technica 3000 Series With Scanning
Lectrosonics UCR101
Sennheiser SKM5200
Shure UHF-R
Zaxcom TRX900

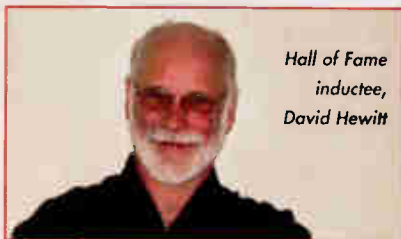
Sound Reinforcement

Loudspeaker Technology

Adamson T-21 Subwoofer
EAW NT Series Powered
JBL Professional VRX932LA
Meyer Sound MICA
Renkus-Heinz ICONYX
Turbosound Aspect

Studio Monitor Technology

ADAM Audio Artist
ATC SCM 110ASL Pro
JBL LSR4300 Series
M&K Sound MPS-1611P
Tannoy Precision D Series
Yamaha HS Series



Hall of Fame
inductee,
David Hewitt

Musical Instrument Technology

Cakewalk Dimension Pro
Dave Smith Instruments Poly Evolver Keyboard
Korg OASYS
MOTU Symphonic Instrument
TC Electronic G-System
VSI Vienna Instrument

Signal Processing Technology/Hardware

dbx DriveRack 4800
DW Fearn VT-7 Stereo Compressor
Eventide H8000FW Multichannel Effects System
Rupert Neve Portico 5012 Tape Emulator
SSL XLogic X-Rack
TC-Helicon Voicepro

Signal Processing Technology/Software

Antares AVOX Vocal Toolkit
Digidesign Dynamics III
Eventide Anthology II
SSL LMC-1 Listen Mic Compressor Plug-In
Universal Audio Precision Multiband for UAD-1
Waves SSL 4000 Collection

Workstation Technology

Ableton Live 5.2
Apple Logic Pro 7.2
Cakewalk SONAR 5 Producer Edition
Digidesign Pro Tools 7
Steinberg Nuendo 3.2
TC Electronic PowerCore PCI mkII

Sound Reinforcement Console Technology

Allen & Heath GL2800
APB-Dynasonics Spectra Series
DiGiCo Mini DiGiRack
Mackie Onyx 80 Series
Soundcraft MH2
Yamaha MTCL

Small Format Console Technology

Allen & Heath Zone 3D
API DSM Series
Digidesign D-Command
Neve 8816 Summing Mixer
SPL DMC
Trident Series 8T

Large Format Console Technology

Euphonix 5-MC
Fairlight Anthem
Harrison Trion
Neve 88D
SSL C300
Trident Dream 32

OUTSTANDING CREATIVE ACHIEVEMENT

Tour Sound Production

Dave Matthews Band, Ultra Sound/Pro Media
The Rolling Stones, Clair/Showco MD
James Taylor, Clair Bros.
Alison Krauss and Union Station, featuring Jerry Douglas, SE Systems
The White Stripes, Thunder Audio

Remote Production/Recording or Broadcast

Cream at Madison Square Garden
48th Annual Grammy Awards
Live at The Fillmore: Ozomatli
Neil Young: Heart of Gold
The Eagles—Live From Melbourne

Television Sound Production

American Idol, Fox
Deadwood, HBO
Lost, ABC
The West Wing, NBC
24, Fox

Film Sound Production

King Kong
Star Wars Episode II: Revenge of the Sith
The Chronicles of Narnia: The Lion, The Witch and the Wardrobe
Walk the Line
War of the Worlds

Studio Design Project

Firehouse 12 Recording Studio, New Haven, CT
Remote Recording Digital Studio, The White Truck, NYC
Right Track/Sound on Sound Studio D1, NYC
Studio at the Palms, Las Vegas
Timbaland Studios, Virginia Beach, VA

Surround Sound Production

Brothers in Arms: 20th Anniversary Edition, Dire Straits
In Your Honor, Foo Fighters
Mussorgsky/Stokowski Pictures at an Exhibition-Boris Godunov-Night on Bare Mountain, Jos Serebriar and Bournemouth Symphony Orchestra
Talking Heads Brick, Talking Heads
With Teeth, Nine Inch Nails

Record Production/Single or Track

"Feel Good Inc.," *Demon Days*, Gorillaz with De La Soul
"Gold Digger," *Late Registration*, Kanye West
"La Tortura," *Fijacion Oral, Vol. 1*, Shakira
"Mas Que Nada," *Timeless*, Sergio Mendes
"We Belong Together," *The Emancipation of Mimi*, Mariah Carey

Record Production/Album

Back Home, Eric Clapton
Good Night, and Good Luck soundtrack, Dianne Reeves
Morph the Cat, Donald Fagen
Late Registration, Kanye West
Timeless, Sergio Mendes

The 22nd Annual TEC Awards will be held Saturday, October 7, 2006, at the Hilton San Francisco. For more information, contact Karen Dunn at 925/939-6149 or KarenTEC@aol.com.

Still trying to picture yourself owning an SSL console?



These guys did. How about you?

An SSL console in a home studio? Out of reach for most people... until now. With the **AWS 900 Analogue Workstation System**, anyone can take advantage of the outstanding sound quality and feature set of a real Solid State Logic console. Combining a world-class mixing console with a powerful integrated DAW controller, the AWS 900 delivers legendary SSL quality for every environment from the biggest commercial facility to the smallest personal studio.

Solid State Logic **AWS900** Analogue Workstation System



Make It Happen With GC Pro!

When it's time to add some new gear to your studio or live sound system, GC Pro is dedicated to earning your business. Along with the excellent pricing you'd expect from the world's largest pro audio dealer, you receive the expertise and extraordinary service you deserve.

From the most coveted microphones and the finest outboard gear to vintage instruments and sophisticated DAW systems, we are your one-stop solution. Contact your local GC Pro Account Manager for a personalized consultation.

GC Pro has expert Account Managers in nearly every territory of the USA... contact us today!

 **800-935-MYGC**
 **www.gcpro.com**

Music • Post • Live Sound • Lighting



© 2006 Guitar Center, Inc. All rights reserved.
All images and trademarks are property of their respective holders.

World Radio History

GC PRO
www.gcpro.com

T Bone Burnett

Looking Back, Looking Forward

I've been rooting for T Bone Burnett to succeed almost as long as I've been writing about music. Back in 1977, I fell in love with the music of a Los Angeles-based group called the Alpha Band. The three principals—Burnett, David Mansfield and Steven Soles—had been members of Bob Dylan's Rolling Thunder Review, and once that disbanded, they recorded three eclectic albums of highly literate songs that were infused with a strong underlying morality and were peppered with irony. I loved Burnett's dry wit, his gift for sketching intriguing characters and his uncanny ability to mix his musical roots in rockabilly, folk and Texas R&B into a sound that was both original and compelling.

Burnett became something of a critic's darling. He put out a number of albums during the early '90s, each a gem in its own way, but none was commercially successful. It didn't matter; at the same time, Burnett became one of the most intriguing producers working out of L.A. He helmed Los Lobos' magnificent early albums; Roy Orbison's swan song, *Mystery Girl* (as well as the all-star TV tribute to him, *A Black & White Night*); two of Elvis Costello's best middle-period albums, *King of America* and *Spike*; The Wallflowers' *Bringing Down the Horse*; the Counting Crows debut, *August and Everything After*; and multiple albums with Gillian Welch, Bruce Cockburn and the talented singer/songwriter Sam Phillips (who was also married to Burnett for a number of years).



During the past few years, Burnett has become renowned for his work as music producer and/or supervisor for films, including *O Brother, Where Art Thou?*, whose soundtrack sold many millions, sparked a revival of old-time country music and earned an armful of Grammys, including Album of the Year and Best Producer for Burnett. No

less stimulating, though, was the music he dug up and produced for the Civil War drama *Cold Mountain*, *The Ladykillers* (featuring lots of great Southern gospel music) or *Walk the Line*. It was Burnett who schooled Joaquin Phoenix and Reese Witherspoon, and assembled and produced the music (in addition to writing the original score).

Now, 14 years after his last solo album and riding the wave of respect and success he's earned in the production world, Burnett has put out a new album of his own songs, *The True False Identity*. Fronting a band with three percussionists (including monster drummer Jim Keltner), a stand-up bassist (Dennis Crouch) and the great textural

guitarist Marc Ribot (among others), Burnett unleashes a dozen tunes that range from the spoken-word fable "Palestine Texas" to hard reggae and raging metal-tinged workouts. Also out this year is a two-CD anthology, *Twenty Twenty: The Essential T Bone Burnett*, which captures 40 songs from his earlier albums. Burnett and I spoke in mid-May, just before he was to embark on a tour supporting both new releases.

One of the things that's interesting about Twenty Twenty is that it isn't chronological; it freely mixes songs from different albums and different periods, yet it doesn't feel disjointed.

Well, I've never really settled on a style, and I've also never really been part of the mainstream, so most of my songs don't sound tied to an era.

You didn't have a period when you had wbeedling synthesizers, for instance?

[Laughs] No, I didn't. Still, records are documents of a period of time. Most records are documents of two or three years, and I just approached it as a record I was doing over a 20-year period of time.

What did you think as you went through your body of work?

It was fun! The last 10 years I've been through a Master's

Rack 'Em or Stack 'Em



New! Primera's Bravo II Disc Publisher is now available in a tough rack-mountable package.

Primera's newest member of the Bravo-series of disc publishers is the Bravo XR. Bravo XR is packaged in an extra-rugged case that's designed specifically for the needs of audio and music professionals, whether in the studio or on the road.



Up to 50 CDs or DVDs are automatically burned and printed at a time. For maximum convenience, everything is accessible from the locking front panel.

Rack-mount your Bravo XR or even stack two or more on top of each other for increased production.

Call **1-800-797-2772** (USA and Canada) or +1-763-475-6676 for a FREE sample disc. Visit us on the Internet at www.primera14.com or email to sales@primera.com



Beinhorn Says



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

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

Michael Beinhorn

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



Royer Ribbons

818.847.0121 • Burbank, CA
royerlabs.com



Class in the arts, and I had some time—maybe six or eight years—when I hadn't really listened to anything I had done in the past. So I had enough time to view it without the sort of narcissistic jaundice that I generally look at the things I do with, and I was happy to be able to find as many tunes as I did that I could still stay in the room with. A lot of them I actually dug quite a bit.

Somewhere along the way in the last several years, I remembered an album by Ike and Tina Turner that was recorded in the Skyliner Ballroom, which is the room on Jacksboro Highway in Fort Worth [Texas] that I cut my teeth in. It was an old-time, 1930s ballroom that had turned into a juke joint by the time I was a kid. I started going out there when I was about 14 and hearing Junior Parker and Bobby Bland, and Wayne Bennett was the guitar player, Ray Sharp was the house band. He had a song called "Linda Lu" [which Burnett recorded in 1972; it's not represented on *Twenty Twenty*]. Anyway, what I realized is that the way that room sounded, to me, is the sound I've been going for on every record I've ever done, and I've just learned more and more about how to do it. It's been a long time of figuring out how to make it sound as exciting on a record or in a room as music sounded to me at that time. I've always gone for that subconsciously; now I'm doing it consciously.

When it came to recording your new album, The True False Identity, is the sound on there something you envisioned for that particular batch of songs while you were writing them?

It all grew together—the sound and the songs. It all began when I started writing for [the new version of] *The Tooth of Crime* and the challenges of doing music for that medium. In the theater, music has to be powerful and compelling, but it can't overwhelm the spoken word that comes before and/or after it. It's a completely different approach to sound than the normal rock 'n' roll approach to sound, which is turn it up until it hurts, then turn it up a little bit more. [Laughs]

Well, a lot of this album is pretty cranked up, I'd say.

It is, but in a different way. All the music was played incredibly quietly [in the studio]. It's something I learned from Roy Orbison. Orbison never opened his mouth more than half an inch, and if you were standing 10 feet away when he sang, you could barely hear him. Nevertheless, when you turned it up, it sounded like he was singing an aria or something because it was all tone and it was supported so powerfully by who he was and the way he learned to do it. So that's part of the process I've been through—turn it down to three, but fill that three with so much intensity that if you turn it up to 10, it's five times louder than it would've been the other way.

I love loud music. I listen loud, and that's part of how I've learned how to do this. Record softly and play back loud and a whole other thing happens.

You have an interesting approach to percussion on this album. There are all these layers—occasionally things that sound like shells or something. It reminds me of something Tom Waits would do.

I started working under the premise that all instruments are drums of a sort. All instruments are resonating chambers that you attack with either your breath or a stick or a bow. It's all attack and resonance, and what we've been doing is minimizing attack and maximizing resonance, which is exactly the opposite of what most recording has been for the last 30 or 40 years, where everything is focused on the attack and everything is put exactly on the beat and all of the resonance is minimized or—in the case of synthesizers, where things are pure sine waves—the overtones are completely done away with. Well, it's my belief and my understanding that the most interesting part of sound is not the attack, which is very short, but it's the tone and the overtones and then the music that's created within the overtones by the overtones themselves—the things you lose control over. So much of recording is about gaining control over sound, and what we've been doing for the last 10 years—really, more like 20 years, but intensely the last 10 with my collaborator, [engineer] Mike Piersante—is seeking out the things we can't control and working with those.

You guys have worked together for quite a long time.

Mike is one of the most talented people I know and one of the most honest. He's a great recordist. In fact, I think by this point, he's in a class by himself. There isn't anybody who does quite what he does.

Was this album cut essentially live in the studio?

It was cut completely live. On the whole record there are probably a handful of overdubs. There were a few vocal lines I re-did or added, and then there are a couple of guitar solos.

Tell me about the evolution of your production career. You had the opportunity to work with a lot of cool, younger bands as they were coming up: Los Lobos, Counting Crows, The Wallflowers. What do you think you brought to those sorts of projects?

I'm not quite sure. But I know I brought more to them as I went along. And I do know this: I always wanted whatever I was doing to be art, so I was always fighting for those records to measure up to a standard of how I felt when I heard The Kinks for the first time or Ray Charles for the first time. From an early age, I knew I wasn't as good as the other things I was hearing, but I was always trying to get there. David Hidalgo [of Los Lobos] is incredibly talented, and I thought, "David Hidalgo can get to that point; he can be as good in his own way as Miles Davis or Ray Charles." So what I was willing to do was wait until the record sounded as good to me in its own way as the first time I heard "Lonely Avenue" by Ray Charles. I would try to be true to that feeling—the effect that music had on me.

Did you feel more like a documentarian than a shaper and arranger?

I would like to have. I was always happiest when that was my role. There were times working with young hands when they were

I try to use the technology in a way that it's either absolutely transparent or it's absolutely apparent; any of the middle ground is distracting.

too inexperienced to do it as a documentarian, when they really needed some help, and I'm happy to do that, too. I usually have a few ideas. [Laughs] You know, lately I've worked with people like Tony Bennett and Ralph Stanley—these masters—and there you are more of a documentarian. You're there to help them get ready—whatever that's going to take—and to encourage them and make sure the tape's rolling when they start.

Or, when you were working with someone

like Elvis Costello, he was obviously a full-blown talent, to say the least.

That's right, and that's a case where both of us were exploding with imaginative ideas. Both of us wanted to do things that hadn't been done before. He always said, "I want to write my own clichés," and when we did *King of America*, Elvis was wanting to rediscover American music for himself and for all of us. He felt there was a lot of great American music that's not heard, not understood, that's disparaged, and he wanted to raise that standard. At the time, he was viewed as a sort of *enfant terrible* or something. And with *Spike*, we were trying to carry on that bold tradition of English record-making that had started maybe with [The Beatles'] *Rubber Soul* or *Revolver*, where we would do songs where he would do things like sing vocals on three different days with three completely different voices and then use all three at different times.

Are there albums you worked on that you put your heart and soul into but for whatever reason they didn't pan out commercially—aside from your own, of course!

[Laughs] There were several of Sam Phillips' records that fit into that. I hold Sam in absolutely the highest regard. She's one of the

The Portico™ 5043 Compressor Limiter Duo

"The 5043 is an instant classic! It fills a hole I didn't know I had in my already massive compressor arsenal"

-Mark Hallman (Ani DiFranco, Oasis)

"I did my first mix with all 6 channels of 5043 on various things, and it's hands down the best mix I've ever done.

The 5043's are making my music life a lot happier!"

-Greg Wells (Rufus Wainwright, The Deftones)



WWW.RUPERTNEVE.COM PHONE - 512/847-3013

most extraordinarily talented people I've ever known. I think *Fan Dance* and *A Boot and a Shoe* were underheard. I made a beautiful record with Peter Case that I think was underheard, as well.

Well, it's nearly impossible to predict what the public will like. Much as I love Gillian Welch, I wouldn't have thought she would enjoy as much commercial success as she has.

That's right, and that sort of thing does happen. Like Gillian, I was always one of those people who didn't fit into any cultural trends, and Sam was that, too. Sam Phillips and I have both been sort of men without a country our whole lives, although at this point, I feel like I've sort of landed somewhere. It's not where I thought I might be, but at least I feel like I've got some ground under my feet now.

Do you find that people expect you to have some fixed aesthetic?

I think I know what you mean, and the answer is yes.

Tube mics, retro, whatever...

Right. And that is true to an extent. I mean Mike and I use the lowest tech and the highest tech. We don't use much in between. We'll use an old Rickenbacker amplifier that

was put together by a woman who learned to solder during the Second World War. But then we also use all Class-A electronics. And when we use the computer, we use 192k. I try to use the technology in a way that it's either absolutely transparent or it's absolutely apparent; any of the middle ground is distracting, I think.

Has the success of O, Brother affected how people perceive you or what they expect of you?

I'm sure it affected that a lot because people are impressed...

By success! But at least it was an honest success; a non-hype success, which is incredibly rare in this culture.

That's true. It really did just happen. John Grady and Denise Stiff were the motors that drove that thing, but it was just the three of us; it was a true grassroots event from the beginning.

It must have been incredibly gratifying.

It was so deeply gratifying. It's the one time in my life that I've worked on something and had everything go right for a long period of time, and for that I am deeply, deeply grateful. It was three or four years of everything going right.

What's it like to be around Ralph Stanley for

weeks at a time? You toured with him, made records with him.

Ralph is a very courtly, formal, old-world kind of character. He's imposing.

Well, he's a giant.

That's right. Even though physically he's not a giant, his *persona* is a giant. And as a giant, as you get to know him, he's incredibly kind and loving and gentle. For me, getting to sit in a room and be around what he *is* was like going to another planet. [Laughs]

How much do you enjoy the research process that would be involved in something like Cold Mountain or The Ladykillers, where you're digging through obscure songs to fit the mood of the film?

Well, it feels like license to kill, actually! [Laughs] They were paying me to listen to a century of gospel music or a century of American traditional music. It's been an incredible education.

You know, the thing that struck me about Civil War music was how bloody it was; it was full of hatred. There was incredible vitriol in it. It makes Neil Young's new record [*Living With War*] sound like nursery rhymes—and I don't mean that to in any way diminish Neil Young. I'm so grateful to him, and I have such deep admiration and respect for Neil

Your ARGOSY® dream studio just got closer...

Mirage

Console enclosure for Digidesign® D-Command

Shop ON-LINE

www.ArgosyConsole.com
573.348.3333 | 800.315.0878

ARGOSY.

©2008 Argosy Console, Inc. All rights reserved. Mirage DC24 console enclosure for Digidesign® D-Command from \$4,995 US + shipping. Mahogany trim (add \$189 US). Monitor arms (add \$339 US).

Young. But my point is these Civil War songs were gruesome. The hatred that's so bad in this country today, and for the past 10 or 15 years, bad as it is, is nothing compared to the kind of things people would write down and sing back in the Civil War.

Are you working on any films right now?

Yes, I'm working with Julie Taymor [*Titus*] on a film called *Across the Universe*, which is the story of the 1960s told through 30 Beatles songs, which is an incredible challenge. One of the interesting things about approaching The Beatles' material is [John] Lennon and [Paul] McCartney composed the songs, but they all composed the music together; the song was *all* of them, and every guitar note, every drum beat, every bit of The Beatles' records are part of the composition, and if you remove part of it, the whole thing starts collapsing on itself. It's the tone of their voices, the sound of the guitars, every little bit of it.

So we took on the challenge of covering these songs with these young actors. It's a very interesting movie.

So what exactly is your role there?

Well, Teese Gohl and Elliot Goldenthal, who is Julie Taymor's husband and a brilliant composer, are producing the music. It's such a great volume of music that it really takes all three of us. So I'm one of the collaborators. We're deconstructing it madly. I don't know how far we'll get with it. I'd like to deconstruct it completely. These kids sing so beautifully, you almost don't need any orchestration or instrumentation with them.

It's tough because if you do a song too much like The Beatles, it just invites a negative comparison because, hey, it's not The Beatles.

That's true. Almost everything The Beatles did was great, and it's hard to improve on. They were our Bach. The way to get around it may be to keep it as simple as possible.

Let's close by talking a little about your studio, where you and Mike do a lot of work.

I've got an old API board out of Sunset Sound Studio One [L.A.]. This is one from 1968. The Doors cut on it, and *Led Zeppelin IV* and [the Rolling Stones'] *Exile on Main Street*. Tons of Little Feat. It's a storied board.

The tubes are glowing!

It's superb! [Laughs] It's like having a killer old Fender Tweed amp times 32. It's sort of the center of the workspace. We start with analog and we've got all the LA-2As and Pultecs and all that stuff, but there are also a lot of plug-ins we use. There are a lot of good Pro Tools plug-ins. Pro Tools has really been great for working for film. The way they did film before Pro Tools is horrifying!

Cutting mag...

Cutting mag with scissors and not worrying about it: "Oh, there's a bad edit here,

somebody cough!" [Laughs]

So you weren't reticent about diving into the digital world.

Well, I put it off as long as I could. It didn't sound good for a long time. Until they got the resolution up enough, I didn't think it sounded right. It's still sampling. I always go back to tape at the end because somehow once it goes into waveforms and out of the digital off/on switch, it gets knit back together and it doesn't tax the ear the way digital sound does. I've seen a study in the last year that digital sound actually induces stress in the listener. One of the problems with digital is that they brick wall—limit it right up to the

highest peak and remove all dynamics, and that makes it fatiguing. It's also ironic that in the old days of tape and tape hiss and vinyl records and surface noise, we were always trying to get records louder and louder to overcome that.

Now, when there's no longer surface noise and you actually have the ability to have the most extraordinary dynamic range, people aren't using it. So on my records, I'm always fighting against that. I'll do whatever it takes, old or new technology, to get the sound I hear in my head. ■

Blair Jackson is the senior editor of Mix.

**A Master Mixer
deserves Master
Monitors**

"Since I have been using K+H O300D monitors my mixes are consistent and true. The size permits me to put them into existing monitor soffits in most all-mobile units. The tri-amp three-way system adds the perfect spectrum and time alignment for all my projects, by far making the K+H the perfect monitor."

Klaus Landsberg - KFL Audio Inc.
Production Sound Mixer: American Idol, The Academy Awards, Emmy Awards, Grammy Awards, VH1 Music Awards, Survivor and numerous high-profile television shows.

A Sennheiser Company
One Enterprise Drive, Old Lyme, CT 06371 USA
Tel: 860-434-9190 • Fax: 860-434-1759 • www.klein-hummel.com
Latin America: Tel: 52 55 5639-0956 • Fax: 52 55 5639-9482
Canada: Tel: 514-426-3013 • Fax: 514-426-3953

K|H
Klein + Hummel

David Paich's ATS

Recording Toto and More at Home

You grow up in Los Angeles the son of a widely respected jazz piano player and successful arranger, start grabbing for the keyboard before you're even tall enough to look down on it and join a band with some high school classmates. Soon, you're in one of the most popular rock groups in the world. Not a bad bio, but for David Paich, a principal architect of the Toto sound, it's not quite enough. Paich, who wrote or co-wrote many of the band's hits, including "Rosanna," "Hold the Line" and "Africa," has partnered with Boz Scaggs (he co-wrote the classic "Lowdown") and played on sessions for other artists, including Bryan Adams ("Please Forgive Me") and Cheryl Lynn ("Got to be Real"). These days, he is spending a lot of time in his recording studio in Calabasas, Calif.

Much of the pre-production on Toto's new self-produced album, *Falling In Between*, took place at ATS, the project studio that is across the street from Paich's home. "In 1998, I converted what had been a five-car garage into a studio," says Paich. "I wanted to have a place to write songs and record overdubs for Toto."

Paich hired studio designer Frank Latouf to help put his room together. "Frank's one of the best in L.A. He worked on Lion's Share, Babyface's studio, and lots of other rooms," Paich says. A 16x16 Pro Tools HD system feeding three 24-bit Yamaha 02R boards comprise the mix room's backbone. "The 02Rs have been great, but I'll probably move over to a ProControl at some time. Obviously, more and more is taking place inside the computer."

Rick Ruggiero tuned the studio, which features Doug Sax's Mastering Labs monitors and a pair of Tannoy Big Reds. "I still have some great hardware processors—Fairchild and API are among those that I lean on the most—but I'm a real fan of plug-ins," says Paich. "The Sony Oxford compressor/limiter is amazing. I was really influenced by something George Massenburg said: Analog likes to marry with digital. If you record digital, make sure you get some analog processing into the chain and vice versa. At least that's what I think he was saying!"

John Jessel has been Paich's personal engineer and studio manager for nearly two decades, and has worked the desk when some of Toto's biggest hits were being mixed. "Dave has me on salary to take care of and manage his studio," says Jessel. "I make sure that all of his computers are in shape and that his software—including Cubase SX 3, his DAW—is up to date. Dave records all audio and MIDI into Cubase, but he also has a Pro Tools rig." Jessel adds that he's very interested in the new Vienna Symphonic Library platform. "Dave does a lot of orchestral composing, and the new interface looks like a major improvement."

"Dave wanted his current room to have a look and feel similar to The Manor, his old studio in Sherman



David Paich (inset) and his ATS studio



Oaks [Calif.] that was flattened in the '94 earthquake," adds Jessel. "Afterward, when we went back inside, we found that his 5,000-pound API console had been

displaced to the other side of the room. Fortunately, we were able to salvage some equipment from the old studio, including Dave's old Mastering Lab 605 and Big Red monitors. All of the mixes we do here translate effectively into other environments. We set the Big Reds flush into the front of his studio, which is all rock. We didn't do anything intense to treat this beautiful teak wood room, just a bit of padding here and there."

The team built one huge patchbay that includes all of the studio's computers, Pro Tools rigs and MOTU MTP AV-4 MIDI interface. "Dave also has kept a bunch of classic keyboards because he likes the way these older pieces act as controllers," says Jessel. "We also set up a pair of Mackie speakers close to his main keyboard controller—Dave recently switched from an old Yamaha KX88 to the Yamaha PF200—to create a stereo field he can reference as he's playing. We monitor through a variety of speakers while we're mixing, including NS-10s, some small KRKs and a pair of Genelecs. Everything goes through a pair of Fairchild 1011s. The Fairchilds warm things up with that old-fashioned tube sound, but we use just a smidge of them—you can't overdo it!"

"We're going to be moving over to the Digidesign ICON platform," he continues. "Dave likes me to set up a series of palettes that he can call up easily; stereo brass will be on two faders, percussion on several others, for example. From there, Dave can mix by himself. Everyone who comes here loves the vibe. The place is very warm and inviting, and the studio is low-key but technically state of the art. It's a great place for people to hang out and write in." ■

Gary Eskow is a contributing editor to Mix.

REMIX [hotel]



atlanta

Remix Hotel Atlanta @ Billboard Hip-Hop Summit

Sept. 6-8



remixhotel.com

World Radio History

Engine FX With Personality in Pixar's Cars

Digging for Authentic Sounds—Whether Impala or Fiat

By Blair Jackson

Pixar, the animation studio that can apparently do no wrong, continues its amazing string of successful films with *Cars*, in which anthropomorphic autos of every stripe (including some with stripes!) roar and race and putter and sputter and—naturally—tell us much about the way that humans behave. Once again, the animation wizards at Pixar have created a fantastic world, rich with imaginative detail. And it all begins with the cars themselves.

The sound designer and effects re-recording mixer for the film was Tom Myers, who has worked at Skywalker Sound in rural Marin County, Calif., since 1987, and done sound work on such films as *Toy Story* (1 and 2), *Dogma*, *The Mexican*, *Monsters Inc.*, *Star Wars: Episode II and III*, *Hoodwinked* and many more. For the cars in *Cars*, Myers says that director John Lasseter (Pixar head honcho and director of both *Toy Story* films and *A Bug's Life*) wanted the engine noises to be as accurate as possible, which meant tracking down everything from a tiny Fiat 500 and a VW van to pickup trucks and sports cars.

"His biggest concern was that every car be literally accurate," Myers says of the director, who's known to be quite a car buff. "He didn't want to face anybody who



PHOTO © DISNEY/PIXAR. ALL RIGHTS RESERVED.

was going to say, 'That's not a '59 Impala or a '51 Hudson Hornet.' Beyond that, it was really important to him that the cars be emotionally and character-accurate. So John got us involved very early on. We went to the first screening, which was probably 90-percent storyboard, and after that we had a meeting where we sat down and he explained what each character was like. He also had his car expert there who knew whether something was an eight-cylinder, a slant-six, straight-six—whatever. Plus, that guy was a great connection for recording all these cars because he knows so many people in the car world. Some of the cars were easy to find; others were more tricky. You do a lot of car recording in film, so there are a lot of established connections already. Then on top of that, you also do tons of Internet research and you cast a net among the network of animators and other sound guys."

Once they'd located the appropriate makes and models of cars, "we did some recordings at Sears Point [now known as Infineon Raceway, in Marin], and we also went out and rented an abandoned air strip in Alameda [Calif.] and took cars out there," Myers says. "It depended on how fast we had to drive the cars. If we needed to drive them 100 miles an hour, we needed a track. But if it was one of the Fiats or one of the

town characters and they're only going 20 miles an hour..."

Myers had a large recording team helping him, including Al Nelson, Shannon Mills, Dee Selby and, from Pixar, E.J. Holowicki, "and we did tons of recording; it would be either all of us or some of us," Myers says. "We got it down: We'd put a [Zaxcom] Deva with four outputs in the car—two mics under the hood in different spots and then a mic on the exhaust and another on the interior. We mostly used these little Schoeps [mics] and we'd use pads because some of the high-performance cars are just ridiculously loud, so we'd put a 30dB pad in there. We'd have them run around, set a level and then pull it down. We also had a couple of guys tracking cars for 'bys.'"

I wondered if the engine recordings were then augmented to match the needs of the characters, who were voiced by an array of stars, including Owen Wilson, (racing buff) Paul Newman, Cheech Marin and George Carlin. "It would depend on the character," Myers says. "There was one character, who's sort of the antagonist, who we pitched a little bit to make him more annoying." Then there were some high-performance Japanese imports that were problematic: "We recorded lots of these cars and we even did some research

—CONTINUED ON PAGE 70



Sound designer/effects re-recording mixer Tom Myers

Superpower Sounds for Superman Returns

Unearthing the Textures Behind the Man of Steel

By Blair Jackson

It's a new day for what was once one of the most lucrative franchises in film: DC Comics' Superman was the subject of four smash films between 1978 and 1987, starring Christopher Reeve as Krypton's most famous refugee. Now, nearly 20 years later, we have a new Superman, Lois Lane and arch-villain Lex Luthor; one of the hottest young directors at the helm; and special effects that are light-years beyond what was possible in the earlier films. Superman doesn't just return—he's reborn!

Director Bryan Singer, who made the first two *X-Men* movies (as well as *The Usual Suspects* and the pilot for the hit TV show *House, M.D.*), likes to work with many of the same technical crew from film to film—carryovers include editor/score composer John Ottman, cinematographer Newton Thomas Sigel, costumer Louise Mingenbach and sound designer Craig Berkey (who was also supervising sound editor). Berkey brought in sound designer Erik Aadahl; the two have worked together many times during the past few years, and both came into the Superman gig with copious experience working in the sci-fi/superhero genre.

Together or separately, they've done sound work on both *X-Men* movies, *Elektra*, *I, Robot*, *Daredevil*, and *Fantastic Four* (though the last time they were in the pages of *Mix* it was for their fine work on the impressionistic Terrence Malick

film *The New World*, which couldn't be more different from *Superman Returns*). During a break from the final mix of *Superman Returns* at Warner Bros. in late May, I spoke to Aadahl and Berkey about the sounds they created for the Man of Steel's unearthly powers. I started by asking Berkey whether the sound of the original films had any impact on the choices they made sonically.

"No, not at all," he says. "I went and listened to the original movies, and to be honest, a lot of the effects sounded very dated to me. Synthesizers were used a lot to create sounds, and maybe it was okay for that time, but it just wouldn't fly today. Same with the visuals—they were good for their time, but everything is done differently today. So we really felt like we could go in another direction, and Bryan gave us the latitude we needed to be creative."

Of Superman's many powers, flying is the one that is most difficult to convey—visually and aurally. "The flying in this film looks really natural," Berkey says, and that's as it should be because it's so natural to the character. "The thing with Superman is there is no sound of propulsion; he just flies, but everything around him is affected by his movement. His cape is moving through the air with him, so that was an important sound that we could use to convey motion."

"At the beginning, I set out that we weren't going to necessarily follow any established rules for doing sound for a film," Berkey continues. "I always

like to rethink our methodology because a lot of the way we do things has been dictated by technology, not creativity. All the Foley and effects were combined together, and the cape sound became a combination of the two. I had all the flying sounds on four different predubs, so at various times, we could use different flavors of the sounds." Some of the cape noises came from recordings of parachutes billowing and freefalling. Other "flying" sounds included various pitched winds and air whooshes, "and we also recorded a lot of smooth sliding effects."

"We did a whole set of slide-by sounds," Aadahl elaborates, "using different kinds of props and sliding them against different surfaces. For example, we took a gourd and scraped it along a flat wooden surface—the wooden surface allowed it to resonate a little bit and give us some bass frequencies—and sweeping it really fast, we could perform these sorts of sounds that were searing slice-bys, with natural Doppler. And different props gave different-sized sounds, like we took a money clip with money in it and did some sweeps with that—that gave us a nice bullet kind of sound: sleek, sharp. We'd close-mike that with a single-point stereo mic so we could get a nice perspective."

"Everyone doing effects for the show

PHOTO: DAVID JAMES ©2006 WARNER BROS. ENTERTAINMENT INC.



Sound designer/supervising sound editor Craig Berkey



Sound designer Erik Aadahl in his Warner Bros. room.

ended up buying 192 [kHz] recorders," Berkey adds. "Erik and I bought the Sound Devices 722 2-channel, and Chris Aud bought the new Tascam HD-P2 2-channel. Once we got a taste of what 192 could do for us, our poor old DAT machines seemed rather lacking. Another novel thing about this show is that Erik's room at Warner Bros. had a booth attached to it that we had set up for recording straight into his Pro Tools, so any sound we wanted to have, we could go in and record it at any time. We'd record

at 192 and then convert it to 48 to cut, but we did all our manipulation at 192 and that made a huge difference."

Both Berkey and Aadahl stress that the sounds they chose were always affected by their potential emotional resonance in the film. "For instance," Aadahl says, "there's a scene where Superman is kind of upset about something that happens, so the steady winds there [when he's flying] have a different emotional content than in some other scenes. It sounds a little lonelier, forlorn; there are more tonal sounds. Whereas later, when the movie gets more intense, you sort of up the ante and use more powerful, buffeting winds that have more beef to them and feel different in the scene. Also, we were very careful to work with [John Ottman's] music so we didn't step on each other's frequencies."

Another component of some of the flying sounds is "a low-end thumper," Berkey says. "almost like a sonic boom. This guy's going so fast that he's breaking the sound barrier. We also had some flame-bys that give the impression of speed. We were trying to stay away from that standard 'whoosh' kind of sound while trying to portray what was happening to the air around him."

For Superman's X-ray vision, "We took a water plug but only used the bass frequencies from it, so you hear this sort of 'wurrooo,'" Aadahl says. "You see layers of the foreground strip away as you go deeper and deeper in [with the X-ray vision], but Bryan didn't want the sound of the thing itself—like the sound of wood or concrete dissipating. He wanted something more conceptual. So we took the plug and did bass enhancement, and we pitched it a little and did a pitch curve to it, so it sort of ramps up and ramps out and bends away." Berkey adds, "It also has an ambient, ethereal effect added to it. It sort of puts you into his head space."

As for Superman's heat vision, "That was a tough one because that's usually very sci-fi, synthy, traditional laser-sounding," Berkey says, "but Bryan wanted no part of that."

"The one that Bryan didn't like was a kind of classic laser sound where I went to Orchard Supply [Hardware] and bought 20 feet of thin-gauge copper coil and wrapped it around a PVC pipe and attached the end to a planter and you tap on it and you get that classic star destroyer/taser sound," Aadahl says. "Then you quarter-speed that

Raise Your Wireless Standards



Venue Modular Receiver
shown with UT400, U10400, LM, MM400B, and SM transmitters

Today's PA system requirements demand superior sound to accompany advanced lighting and staging techniques. Trust Lectrosonics to deliver the sound, with rock solid RF performance.

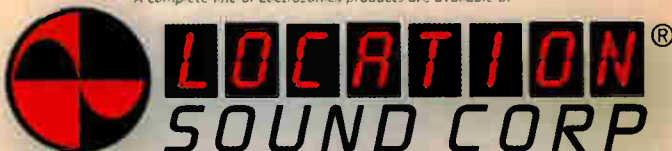
Lectrosonics' wireless systems are designed to meet only the highest quality standards. They are rugged, reliable, flexible, and sound as good as the best hard-wired system without the hassle of cables.

Lectrosonics' latest UHF system, the **Venue Modular Receiver**, operates with Digital Hybrid Wireless™ transmitters, and a variety of analog transmitters. The receiver uses a host assembly that includes:

- Six channels in a single rack space
- Built-in antenna multicoupler
- Computer interface included with USB and RS-232 ports
- Compandorless Digital Hybrid Wireless™ technology

For more information, call **Location Sound Corp.**, an authorized Lectrosonics dealer at **(818) 980-9891** or outside CA at **(800) 228-4429**.

A complete line of Lectrosonics products are available at



SERVING THE PROFESSIONAL AUDIO INDUSTRY FOR OVER 25 YEARS.

**Employee
Owned & Operated**

www.locationsound.com
SALES • RENTAL • SERVICE



There is no undo on your mic preamp.

Input channels can magnify the signal by more than 1000:1. There's no "Undo" after this point.

Coloration or distortion become part of the signal. Lost information can never be recovered.

Data compression algorithms can't distinguish signal from noise, so preserving absolute signal integrity through the recording and production process is critical to communicating your intention and individuality.

Millennia's unique designs avoid circuit-induced artifacts, giving you total control.

Amplify the original sonic information with an absolute minimum of alteration, or apply tonal shading so natural and translucent that it seems to become an integral element of the source itself.

Make every take count.



Millennia
Music & Media Systems

www.mil-media.com
530-647-0750

World Radio History

and you can get a really huge sound out of it, but Bryan thought it was too retro and we didn't want to do the laser cliché sound, but something that conveys the power of it. So Craig came up with a really neat sound using tigers and giving it a tremolo pattern [using a plug-in] so it has a sort of stutter, but it's huge—it almost sounds like a huge roaring fire, but controlled; it's got so much beef."

Finally, there is Superman's super-breath: "For that, I took my own breath and mixed it with some low-end elements," Berkey reveals, "because in the scene

where he's using it, there's a huge fire coming down a tunnel, so we had to really choose our frequencies carefully as to what the fire was going to be versus what his breath was going to be. The sound that was used in *Superman II* would not have worked because it would have been totally eaten up by the fire [sound]. So we ended up with some really low-end wind elements with the breath. Yeah, I was getting dizzy doing that one!"

All in the service of great sound. ■

PHOTO: ALBERTO RODRIGUEZ © D'OLNEY/PIKAR. ALL RIGHTS RESERVED



Brad Paisley (left), with director John Lasseter

Cars

—FROM PAGE 66


about how they recorded *The Fast and the Furious*, and that was one spot where the literal car did not match what we really wanted to convey. It never had quite the impact that John wanted, so we took the recording and then we pitched it up and EQ'd it to make it more characteristic rather than literal. With most of the cars, though, the more characteristic aspects came out as suspension squeaks, and Foley and creaks and movement that were less engine-oriented. We built a database of all the material associated with a given character and we talked about trying to find some signature sound—not in the literal engine stuff, but some emotional sound for each character—and we had a palette for each.

"Then the other tricky thing was fitting the engine effects around dialog, because obviously you want to be able to hear what everyone is saying."

The film was mixed at Skywalker on a Neve DFC, with Gary Summers handling the dialog and music (by Randy Newman), as he has for most of Pixar's films. "Pixar movies are so dense with dialog and music and effects," Myers says, "that a big job is finding all the spots for each of those elements and then handing off from one thing to another and making sure it all sounds organic and cool and not just a collision of all these elements. Gary is particularly good at anticipating problems before they come up."

Not surprisingly, too, this film offered some juicy surround possibilities. "John was really keen on making the surround interesting," Myers offers. "In the big race scenes, we wanted to keep the cars moving off-screen, even when you weren't seeing them, so we had a lot of fun with that." So does the audience. ■

TANNOY





ACCURACY THROUGH PRECISION

- Tannoy Dual Concentric™ point source drive unit
- WideBand™ SuperTweeter™ extends frequency response to over 50kHz
- Digital amplification with analogue and digital inputs
- Automated Activ-Assist™ software driven digital calibration

ACTIV ASSIST

acoustic measurement software





PRECISION

ACTIVE STUDIO MONITORS

Tannoy United Kingdom	T: +44 (0) 1236 420199	F: +44 (0) 1236 428230	E: enquiries@tannoy.com
Tannoy North America	T: (519) 745 1158	F: (519) 745 2364	E: inquiries@tannoyna.com
Tannoy Deutschland	T: 0180 1111 88 1	F: 0180 1111 88 2	E: info@tannoy.com

**IF YOUR MIX SOUNDS GOOD ON THESE,
IT'LL SOUND GOOD ON ANYTHING**



HS80M

HS50M

HS50M

- 5" white polypropylene cone
- 3/4" dome tweeter
- 70-watt bi-amplified power
- XLR and 1/4" connectors
- Room Control and Frequency Response Switches

HS80M

- 8" white polypropylene cone
- 1" dome tweeter
- 120-watt bi-amplified power
- XLR and 1/4" connectors
- Room Control and Frequency Response Switches

HS10W

- 8" long stroke 120-watt woofer
- Dual XLR and 1/4" inputs
- 3 balanced XLR outputs (Mix, L&R)
- Phase switch
- Low/High cutoff



HS10W

HS SERIES POWERED MONITORS

The new HS Series powered monitors were designed to be true studio reference monitors in the tradition of the famous NS10MS. That means, mixes that sound good on Yamaha HS speakers will sound good on anything. In fact, that's the ultimate test of a reference monitor. Even better than that, HS series speakers not only sound good, they look great, too.

The HS10W powered subwoofer complements the HS speakers and easily handles today's bass-enhanced music or the most dramatic surround effects. The HS10W subwoofer uses a bass reflex design cabinet that maintains high efficiency and low distortion. You can combine HS50Ms or HS80Ms with the HS10W subwoofer to create different 2:1 (stereo) and 5:1 surround sound systems. So check out the new standard in near-field reference monitors at a Yamaha dealer near you.

**THE NEW STANDARD
IN NEAR-FIELD MONITORS**



Avenged Sevenfold and Coheed & Cambria



Photos and Text by Steve Jennings

Avenged Sevenfold and Coheed & Cambria are out touring mid-sized venues with gear from Delicate Productions (Camarillo, Calif.). The bands' house engineers—Ted Keedick and Pete Robertson—are sharing equipment, including Yamaha PM5Ds out front.

According to Avenged Sevenfold's Keedick, "I'm impressed with the sonic improvements in the PM5D preamp section." This is the first time Robertson is using the board for a tour rather than one-off festival shows. He is using the PM5D's recall function and I/O routing matrices to make quick changes to his show package.

The tour is carrying a Martin Audio system: 12 W8LC cabs and eight BSX subs per side powered by 4.2S power amps, along with four WT2 speakers for in-centerfills. "Delicate has been awesome," Robertson says. "We are also using the

Lake Contour system for our house EQ, with separate pages of EQ for the system and each band."

Keedick adds, "For rack gear, we have an Eventide H3000, as it delivers a certain vocal effect that is part of my approach. As for the [Summit] DCL-200 dual-compressor/limiter, I use it on backing vocals. I also use an EL8 [Distressor] on my lead vocal." Avenged Sevenfold is using Shure wireless 58s on lead vocals and Audio-Technica AE6100s on backing vocals. All members are on Shure PSM700s for monitors. Coheed & Cambria use Sennheiser 945e vocal mics, Sennheiser G2 in-ear systems with Ultimate Ears UE 7 Pros and UE 7 in-ear pieces. I never want to go back to wedges!" Robertson enthuses.



From left: Pete Robertson, Ted Keedick and system tech Mike "Milk" Arnold

FixIt

Since 1999, front-of-house engineer Snake Newton has toured with the Pet Shop Boys, Craig David and Duran Duran. He has also worked on many TV award shows mixing FOH, and has supervised the band mix at dozens of TV and radio performances. Currently, he's mixing front of house for The Sugababes.



The effects and dynamics onboard my Yamaha desk are excellent, but there were times in the set when I felt the vocals weren't sitting correctly. I tried Focusrite's Liquid Channel on Heidi [Range's] vocal, set on a combination that I was convinced would work from previous experience in the studio with them, and it worked. The next day, I deployed two more Liquids on Mutya [Buena] and Keisha [Buchanan]. All three were now on the Liquid transformer pre and 1176 emulation. Keisha has a very dynamic style—from a whisper to a phrase of swooping vocal gymnastics, then back to a whisper in the space of a few bars. I settled on the mic pre modeled on the Tube-Tech MEC1A. The three girls sit in the mix in a much more controlled manner without sounding too squashed.

inside

- 72 Live Mix News: Tours, Events, Installations
- 76 All Access: Bruce Springsteen
- 80 Tour Profile: Fall Out Boy
- 84 Tour Profile: Brad Paisley
- 88 Tour Profile: The Eels
- 90 Local Crew: Allstar Audio
- 92 New Sound Reinforcement Products

News



Savage Garden frontman Darren Hayes' current UK tour is playing in theaters. The Turbosound Aspect system was supplied by Britannia Row Productions (London).

InnovaSon has opened its U.S. office based out of the Soundcheck rehearsal facility in Nashville; Kevin Madden has been tapped as national sales manager...A full complement of Danley Sound Labs loudspeakers has been installed in Revolution Hall, an existing 600-capacity club in Troy, N.Y. Gear includes SH-50s (FOH, two per side; cross-stage monitors), SH-100s (balcony) and TH-115 subs (under-stage). According to owner John A. Chiara, "I'd been running a recording studio the last 10 years, and I wanted to replicate a studio mixing environment in a club as best as I could. I actually used the Danley loudspeakers to create two listening environments and then blend them together, resulting in a full stereo setup downstairs and a three-zone mono system upstairs covering the three sections of the balcony."...Boasting top local, Latin and international acts, Costa Rica's Imperial Festival 2006 tapped sound contractor RSTV Sonido, whose design included main arrays of 12 Adamson Y18s and four Y10s per side. The setup was designed by RSTV's owner Virgilio Azofofeifa and techs Elias Arias and Manril Vargas using Adamson's Shooter Software...Kaiser Chiefs have embarked on the UK leg of their tour with Midas XL4s at FOH and monitors; gear was provided by Skan PA Hire.

Chick Loves his Radial DI



"Radial Direct boxes make everything I put through them warm, punchy and clear. They are great DI's!"

~ Chick Corea



EVOLUTION of the snake - introducing the CONVERTIBLE V-12

World's first modular snake!

For over 25 years, sound companies and broadcasters have been restricted to snake systems made from a single steel panel attached to a back box. No flexibility. No way to upgrade. Suddenly, the Convertible V12 changes all the rules. Now you can order a snake system to meet today's budget and expand to meet the demands of tomorrow as you grow.

The V12 features a high-density 'rack inside a rack' design that packs up to 64 channels in less than 24". You can mix and match input and output panels, add cross-patching and sub-snakes, even load the back with multi-pins, XLRs or whatever else comes to mind. Best of all, the V12 is built tough to handle the road.

- Modular expandable system design
- Up to 64 channels in 12 RUs
- Veam, Mass & Ramlatch multipins
- Jensen or Radial iso transformers
- RF network reduces noise
- 14-gauge steel & I-beam frame
- 100% quality performance guarantee



Return module



Sub snake module



Output module



- Aerosmith
- Alain Caron
- Audio Analysts
- Ani DiFranco
- Banff Center
- Bare Naked Ladies
- Ben Harper
- Billy Ray Cyrus
- Billy Sheehan
- Bruce Springsteen
- Bryan Adams
- California Guitar Trio
- Canadian Broadcast
- Celine Dion
- Charley Pride
- Chick Corea
- Chuck Rainey
- Cirque de Soleil
- Clair Brothers
- Craig Anderson
- Dave Botttrill
- David Rideau
- Dayid Tom
- Destiny's Child
- Dwight Yoakam
- Faith Hill
- Garbage
- Grand Ol Opr
- House of Blues
- Janet Jackson
- Jewel
- Jimmy Haslip
- Joe Walsh Band
- John Patitucci
- John Mayer
- Jonl Mitchell
- Journey
- Justin Meldal-Johnson
- Khaliq Glover
- Kd Lang
- Kenny Loggins
- Klondike Sound
- Linkin Park
- Mark Egan
- Mark Howard
- Marcus Miller
- Matchbox 20
- Masque Sound
- Metallica
- Michael Wagener
- National Arts Center
- Nine Inch Nails
- Oak Ridge Boys
- OSA - On Stage Audio
- Prince
- Peter Gabriel
- Radiohead
- Randy Travis
- Red Hot Chili Pepper
- Robert Cray
- Robert Smol
- Santana
- Sarah McLachlan
- Seal
- Shakira
- Solotech
- Sony Broadcast
- Steve Miller
- Steve Stevens
- Styx
- The Rolling Stones
- Tony Levin
- Tragically Hip
- Jarressa Williams
- Will Lee

RADIAL CUSTOM SHOP snakes • panels • cables • electronics



www.radialeng.com



On the Road

Danny Hill and Jess Chapman

P.O.D.—the four-piece, born-again Christian act that melds hip hop with alt rock—is currently out on a “continuance” run from its Warrior’s Tour that began in 2000. This time around, tour manager Danny Hill (center) is back at FOH and pulling double-duty. *Mix* caught up with Hill and monitor engineer Jess Chapman (right).

What kind of board are you using?

Hill: I’m using a Midas H3000. I know everyone’s jumping on the digital console train—especially when you’re running four bands a night—but I’m sticking with analog. I like the PM5D and the Showco consoles are great, but the Midas has never let me down. I run 30 inputs for the band and another six for my effects returns.

What kind of P.A. are you out with?

Hill: This tour has been a little different. We didn’t carry anything more than consoles and drum fills. We’ve used house audio every night. We’ve actually been very lucky and had good systems for the run—a lot of VerTec systems, believe it or not. Gone are most of the old 850 rigs or mismatched systems of yesterday.

Are you out with in-ears or wedges?

Chapman: As of right now, the band prefers the wedges to the in-ears; with any luck, I can talk them into another test run on the ears. The latest drum fill I’ve been carrying comprises two double 18-inch Electro-Voice MTL-1X sub cabinets and four X-Array XW12 wedges. All of that is processed and powered by E-V.

How do you battle stage volume?

Chapman: My drummer’s mix is the loudest mix because he requires so much guitar to reach his comfort zone. I would have to gain the guitar mic so loud that it started to pick up everything else onstage, causing feedback. I discovered the Palmer guitar DIs that would take the signal that runs parallel out of the guitar cab. That enabled me to gain as [much] as I needed, while keeping the same tone they like without feeding back.

Now Playing

Live

Sound Company: Showco
FOH Engineer/Console: James “Hootsie” Huth/Midas XL4
Monitor Engineer/Console: Josh Swart/Midas Heritage 3000
P.A.: PRISM rig
Outboard Gear: Aphex gates, Empirical Labs EL8 Distressors, Eventide H3500, TC Electronic 2290/M5000, Yamaha SPX-900, dbx 1066, Drawmer gates, Avalon 737 preamp
Microphones: Shure SM87, SM58, SM57, SM91, SM56, SM98; AKG 414; Beyer M88; Neumann KSM 137

II Divo

Sound Companies: Capitol Sound (London), Audio Analysts (Colorado Springs, Colo.)
FOH Engineer/Console: Chris Pyne/DiGiCo D5 Live
Monitor Engineer/Console: Rod Mattheson/DiGiCo D5 Live
P.A.: Meyer Sound M1LO, MICA, CQ-2, M1D, UPA-1P, SIM 3 audio analyzer
Outboard Gear: TC Electronic effects, Eventide effects, Drawmer noise gates, dbx compressors, XTA compressors
Monitors: Sennheiser in-ear systems
Microphones: Sennheiser wireless mics
Additional Crew: independent engineer Dave Lawler, system designer/chief system tech Tony Szabo



Live From the Gig

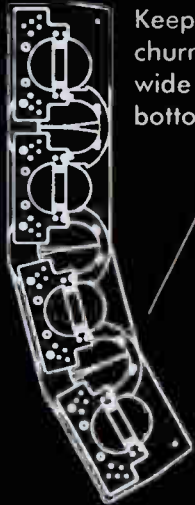
Los Angeles-based The Gig is taking the concert experience online with the launch of Live From the Gig (www.livefromthegig.com), which streams and archives every concert played at the venue. The Gig hosts three to four bands seven nights a week. The online concerts will be available in the virtual venue less than 24 hours after the curtain drops.

“It’s a live recording with no second takes,” says writer/director Peter O’Fallon, who bought The Gig in late 2004. “Each band is expected to give the performance of their career. I really wanted to capture the feel of the Hollywood club-going experience.”

Live From the Gig will earmark several bands as “featured,” providing them with more prominent placement on the Website (including digital music and videos, merchandise, etc.) and more dates at the club. Already signed on are Brian Simpson, Icon, Macka, Kyle Frost Band, HelloSTEREO and Absinthe Academy.



Introducing The Versarray™ Only From Peavey.



Keep the mosh pit churning with a wide angle on the bottom boxes



Have a smaller room? Fly a gentler curve



Medium-sized venues call for medium-throw angles



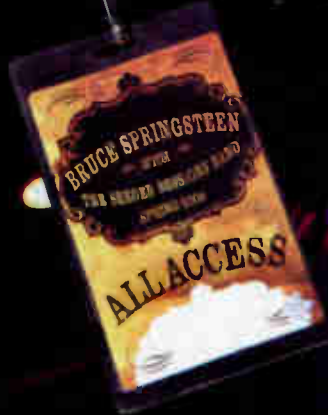
Laser-beam coverage for reaching the back rows



With the new Peavey Versarray, a true line source array with dual ribbon drivers, you can eliminate dead spots from the mosh pit to section YY. Our subtle 2.5-degree angle adjustments give you precise control over coverage, and our multiple rigging options allow for ground stacking, pole mounting and traditional flying – up to 16 in a line. We even offer a custom, portable cranking lift co-designed with Vermette.

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





BRUCE SPRINGSTEEN

& THE SEEGER SESSIONS BAND

Last year, Bruce Springsteen was touring solo, showcasing the moody sounds of *Devils & Dust*. This year's tour couldn't be more different. In May 2006, The Boss released *We Shall Overcome*, a raucous celebration of American folk songs popularized by Pete Seeger, and now he's taken his 17-piece Seeger Sessions Band on the road, playing a glorious mixture

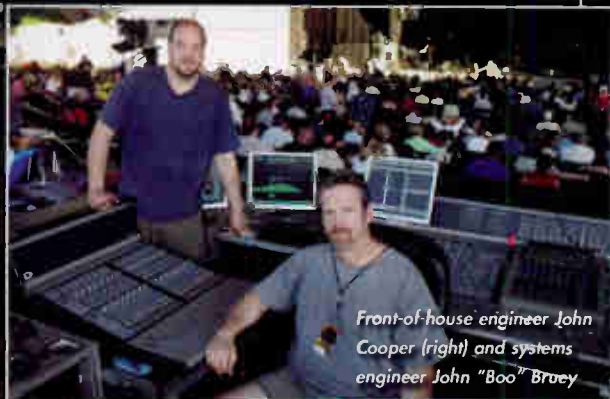
Photos and Text by Steve Jennings

of roots music and reworked originals. The current tour began in April with a performance at Jazz Fest in New Orleans, followed by 10 European dates. *Mix* checked in with longtime engineers John Cooper (front of house) and Monty J. Carlo (monitors) when they came to the San Francisco Bay Area in early June for a stop at the Sleep Train Pavilion in Concord, Calif.

Springsteen is on a Shure UHF-R wireless with custom Audix OM-3 capsule that the tour's staff engineered.



The band: Bruce Springsteen (vocals, guitar and harmonica), Sam Bardfeld (violin), Art Baron (bass), Frank Bruno (guitar), Jeremy Chatzky (upright bass), Larry Eagle (drums), Charles Giordano (accordion/keyboards), Curtis King (vocals), Greg Liszt (banjo), Lisa Lowell (vocals), Eddie Manion (sax), Cindy Mizelle (vocals), Mark Pender (trumpet), Marty Rifkin (pedal steel guitar), Richie "La Bamba" Rosenberg (trombone), Pam Scialfa (vocals), Marc Anthony Thompson (vocals) and Soozie Tyrell (violin).



Front-of-house engineer John Cooper (right) and systems engineer John "Boo" Bruay

"My mixing console is a Digidesign VENUE D-Show," FOH engineer John Cooper says. "No outboard gear at all; I'm using plug-ins for all dynamics and effects." Cooper is using somewhere in the neighborhood of 72 channels, which includes audience mics. "I'm using Shure's DFRT1s for extra gain before feedback when Bruce gets in front of the P.A. in the sheds," Cooper adds.

"This tour with Bruce & The Seeger Sessions Band is quite different than anything I've done with Bruce in the past," he continues.

"We have 18 musicians onstage, sometimes 20 when we go with a six-man horn section. Lots of extended solos—very dynamic, very percussive. I'm also tracking this to Pro Tools HD. [I've got] 72 tracks, which are primarily for archival, but we have already used mixes for the Internet as some of the tracking for an upcoming project.

"I must give a tip of the mixing hat to my system engineer, John Bruay. He is second-to-none when it comes to keeping me out of trouble. As always, the Audio Analysts guys take really good care of me out here. The shop staff looks after things with great detail."



Audio Analysts (Colorado Springs, Colo.) is providing the tour's P.A., which comprises a JBL VerTec system with two JBL 4880 subs flown over 12 to 14 4889s; outfill is with Audio Analysts Aalto cabinets. According to front-of-house engineer John Cooper, JBL 4887s are also used for near-field coverage, with additional subs on the-deck.

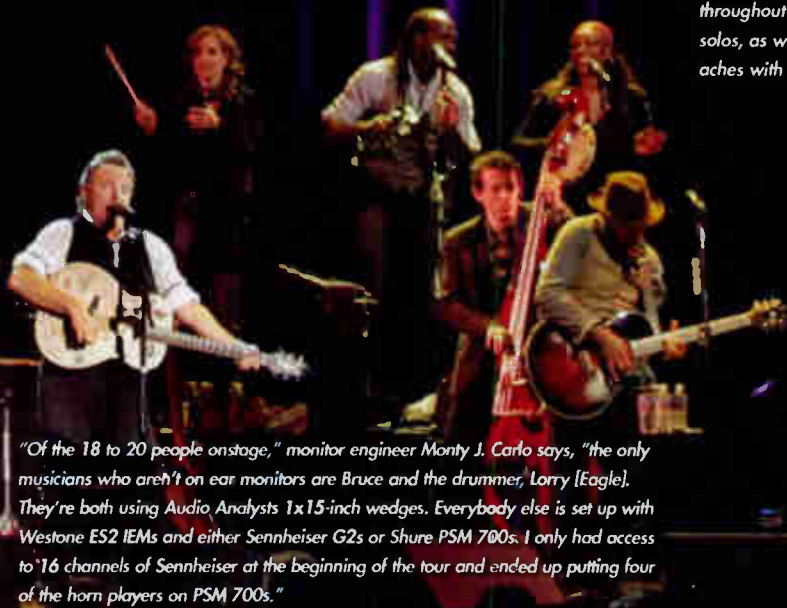
Drum tech Bob Weber takes care of the drum mic setup (Shure 91, kick; SM57, snare top; Beta 98s, snare bottom/bongos/floor toms; and KSM 32s, overheads).



Monitor engineer Monty J. Carlo with daughter Zoe

According to monitor engineer Monty J. Carlo, because of the tour's sheer size, he has opted for a digital console [Yamaha PM1D]. "Between the number of inputs coming from the stage (72) and the outputs required for 18 to 20 bandmembers, depending on the day, it was my only real choice. I first used the 1D on The Rising tour. When I saw the size and scope of this tour, I knew that a digital console would be the only way to go. I looked around and nothing offered the inputs and configurable outputs capable of dealing with a band this size and still be able to stay with a manageable footprint. Being able to have scenes programmed for each song helps keep my sanity. The instrumentation on the songs can change drastically from one to another. To have to deal with that in an analog world would be one thing with a four- or six-piece band, but it would be next to impossible with one of this size.

"Bruce has an active band mix going on," Carlo says. "I'm kept pretty busy riding solos for him. Some of the arrangements have seven or eight people soloing throughout the song. Some of the bandmembers' mixes are set up to follow the solos, as well. With each song programmed separately, I'm saved a lot of headaches with song-to-song changes."

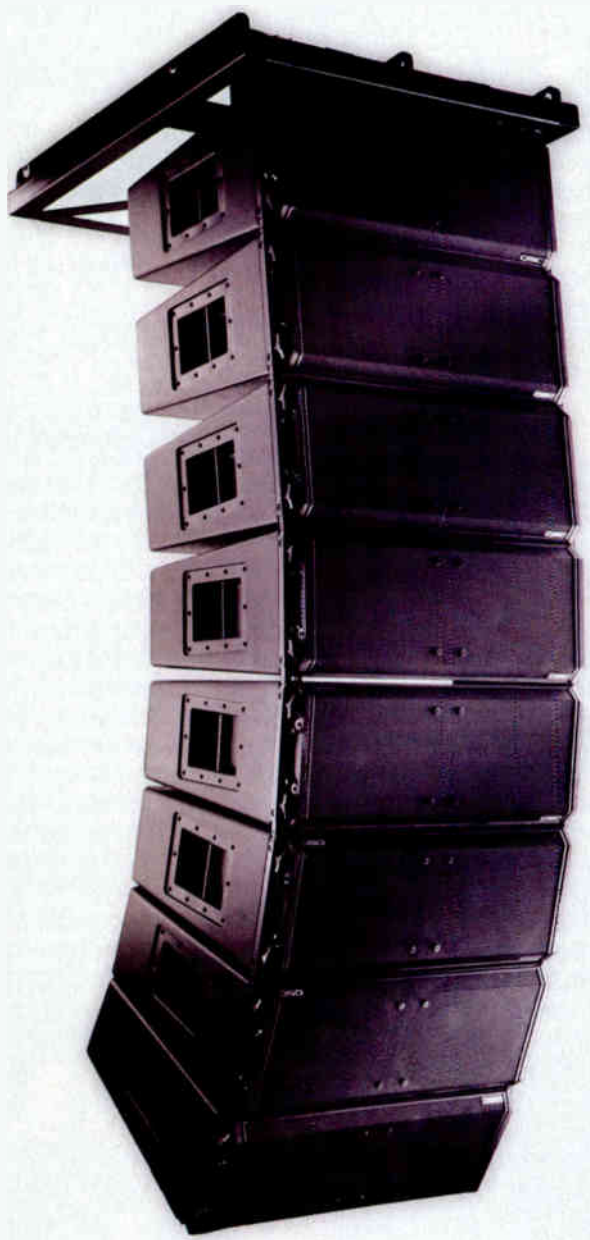


"Of the 18 to 20 people onstage," monitor engineer Monty J. Carlo says, "the only musicians who aren't on ear monitors are Bruce and the drummer, Lorry [Eagle]. They're both using Audio Analysts 1x15-inch wedges. Everybody else is set up with Westone ES2 IEMs and either Sennheiser G2s or Shure PSM 700s. I only had access to 16 channels of Sennheiser at the beginning of the tour and ended up putting four of the horn players on PSM 700s."



WideLine Series Gets Wider

The New Wood WideLine



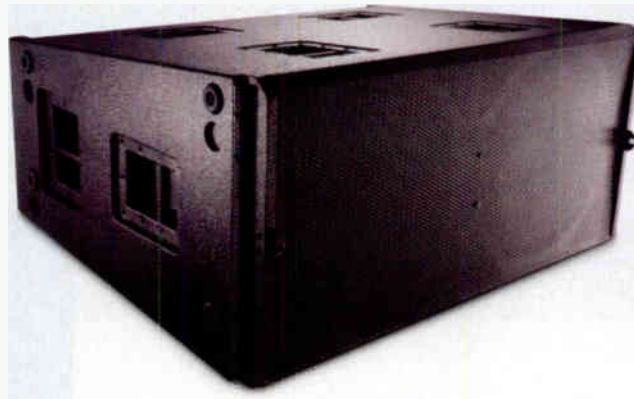
QSC's WideLine has obliterated the distinction between compact, unobtrusive line arrays for corporate gigs and high output rigs for arena rock. In today's market environment you've got to go from business casual to tour t-shirt without missing a beat. QSC's WideLine has the flexibility, diminutive footprint and professional appearance the corporate world requires. And if you need to dust off the formal wear, it's got the fidelity and finesse for a night at the opera. But behind that unassuming facade is an arena rocking machine just waiting to show you what it can do.

Housed in its original, weather resistant, Compositelite enclosure WideLine set the standard for compact line-array performance and value. Now, you can get the same performance at an even more attractive price with the WL2102-w (as in wood) version. Either way you get more than just a great line array system – you get a complete QSC solution.

So contact QSC and let us demonstrate how WideLine will raise your bottom line.

...and Deeper

The New WideLine Subwoofer



QSC's WideLine is an extraordinary line array system that deserves an equally extraordinary companion subwoofer. So we listened — to user needs and the best the industry has to offer. And the WL218-w is the result. Equally at home on the ground or in the air, this sub produces chest pounding punch and then just keeps going down to grab you with plenty of big, warm low-frequency extension.

There are plenty of good subwoofers available. But building a subwoofer this musical and powerful requires experience and attention to detail. On the road experience to know what live sound engineers

want and engineering experience to know how to achieve it. Add the attention to detail that puts handles everywhere they need to be and includes a dolly board that attaches or detaches with impressive ease.

Let QSC show you how a WideLine system with the new WL218-w can give you bottom end you crave and the bottom line you need.

For more information,
call 1-800-854-4079
or click online at
qscaudio.com



Hear the Power of Technology



FALL OUT BOY

Arena Rock for Punk's New Darlings

By Keith Clark

Hard to believe, but it's been more than 40 years since The Who released the seminal rock anthem "The Kids Are Alright." Catching up with young rockers Fall Out Boy recently in the midst of their first arena tour, it seems that Pete Townshend's lyrical sentiments are holding up just fine.

"These are guys you hang out with at the mall. They're just super-nice kids, with the only difference being that they have the souls of old metal and hardcore players," notes Kyle Chirside, front-of-house engineer

who's been onboard the Fall Out Boy train since they began club touring just a couple of years ago. The four-member punk-rock-tinged-with-pop band bring catchy (and often darkly humorous) wordplay, driving melodies and a whole lot of youthful frenzy to the stage. Their original compositions are the result of a collaborative process that sees the lyrics of bass player Pete Wentz married to a "musical engine" created by lead singer Patrick Stump and enhanced by the contributions of lead guitarist Joe Trohman and drummer Andy Hurley.

In late April, *Mix* checked in at the current tour's stop at The UIC Pavilion on the campus of University of Illinois-Chicago, the band's hometown.

SPEC'ING THE P.A.

This marks Chirside's fifth tour with the band, and though he's been mixing and doing system tech work since his mid-teens in St. Louis, it's his first experience with a full-fledged arena tour. He takes it in stride, joined by monitor engineer Mike Baehler and system engineer/crew chief Dave Coyle, a veteran working with Clair/Showco, the sound company that is supporting the tour and the Showco PRISM house system.

"I felt very strongly about this P.A. for the specific sonic and coverage needs of this tour," Chirside explains. His first exposure to PRISM involved mixing a radio show in Texas a few years ago for Audioslave, where he didn't get soundcheck before being thrown into the live mix. "The engineering



Lead singer Patrick Stump

ALL PHOTOS: KEITH CLARK

of the PRISM loudspeakers is inspired—all of those great components and how they're integrated. There was some serious time put into the design of this system. The power and coverage is tough to beat.

"The wrap of the clusters is seamless; there are no holes in the coverage," he continues. "We just scale the cluster structure to the specific coverage needs of the venue. We're able to attain a full 270 degrees of full-spectrum output from clusters that are usually only eight boxes wide by five boxes high, and I want the folks in the 'nose-bleed' territory to get the same thing as the folks on the floor. Line arrays would require more side- and out-fill boxes that make for more work in terms of both rigging and integrating coverage, and they'd also interfere with sightlines on the sides."

Coyle is filling the system tech role on this tour, but he's equally adept at both house- and monitor-mixing duties, and will be providing the latter on the upcoming System of a Down tour. "The thing a lot of people don't know about PRISM is that it's a very quick P.A. in terms of getting it in and out of the building," he notes. "I was concerned that maybe we hadn't brought enough subwoofers [there are six PRISM subs per side], but it would be overkill to



Front-of-house engineer Kyle Chirside at his XL4 prior to the show in Chicago.

Built Rugged for Reliability



CAT5e and AC Power Redundancy

The RSS S-4000 Digital Snake is a digital audio transmission system which uses CAT5e cable and features the XR-I remote controllable microphone preamps, configurable inputs and outputs and multiple pre-sets for storing recallable pre-amp scenes. The system pre-amps are remotely controllable in zipper-free 1 dB increments using either the S-4000 R unit or

S-4000 RCS PC/Mac software. 24 bit, 96 kHz digital audio is transmitted along a fully redundant CAT5e cabling system with intelligent switching circuitry. The system is re-configurable in 8 channel increments for integrated systems up to 160 channels. Additionally, the system features virtually unlimited audio signal splitting and optional redundant S-240P power supply.

REAC

Roland's 24-bit/96kHz Ethernet
Audio Communication Standard

RSSamerica.com • 800.380.2580

rss
by Roland

add more. We're getting plenty of low end from what we've got, supplemented by the solid low presence from the mains. Besides, this band doesn't have a lot of heavy 'double kicks' that would benefit from more on the low end."

Promotional screams (dictated by the tour sponsor) flown in front of both clusters obscure the view but haven't detracted from audio performance. Chirnside and Coyle both shrug their shoulders in a "what are you gonna do?" manner when asked about the screams, noting that a bit of mid-high boost in the system EQ has negated any perceptible loss.

The PRISM amplification package is Crown Macro-Tech Series, stowed in racks under the stage. Out front, dual PRISM 1041 digital system controllers are joined by Clair iO digital processors. "I don't ever want to go back to the 'grab the slider' approach for system EQ," Chirnside says. "With the iO, it's all right there, and you can wander around with a wireless tablet and tweak from wherever you want to be in the room. And there are so many frequencies between the 31 bands of EQ that can be addressed and fixed with the iO. It's mind-boggling how easy and cool it is to tune a rig within a room these days."

Coyle and Chirnside start the tuning process with the amplifiers because each amp is driving a different box in the air, optimizing long, medium and down throw. Then it's on to final EQ, with any anomalies addressed in the iO. "I'm using [SIA] Smaart Live for analysis help more on this tour than I've done previously because it's a lot easier to excite an arena due to so many large, flat spaces," Chirnside adds. "I also keep an eye on Smaart during a show, but am careful to avoid becoming a slave to it. The best tools are still your own ears."

FRONT-OF-HOUSE EFFECTS

Chirnside says his Midas XL4 FOH console is "the best board on the planet, period," noting its overall comfort zone and the warm signature of the mic preamps. All opening acts are on a Yamaha PM5D digital console, which is ideal due to its repeatability.

Just 22 inputs—and sometimes even fewer—are allocated to Fall Out Boy. If an arena proves especially boomy, Chirnside will cut a couple of inputs to tighten things up. "You won't see anything different on my desk than you would at a club show." The biggest mix challenge is presented by the band's frenetic action throughout a show. They sprint, jump and mount stage wings and anything else that can be climbed, banging their instruments on the drums.

"The theme is 'polish it up,'" Chirnside says. "Jumping around with a guitar, bending the head stock and whatever is going to present tuning issues. So the goal is staying on top of tuning and intonation."

One trick he's employing, first picked up on the Warped tour, is to apply the voice doubler of a Yamaha SPX-990 on guitar to help smooth out intonation during peak crazy times. Gates and compression are fairly minimal, with channels of dbx 160A applied to bass and drums.

An Empirical Labs EL8 Distressor compressor is used on Stump's vocal, via an Audix OM7 microphone, to keep it on top of the mix without having to constantly ride his fader, with an Eventide H3000 also used for just a touch of reverb depth. "Patrick's a really solid singer, so you don't have to do a lot with his voice, but the Distressor has a highpass filter that cuts down the boom and keeps things steady," Chirnside explains. Distressors are also used on backing vocals (also on wired Audix OM7 mics), snapping that portion in line with the lead.

Levels in the house tend to run at a consistent 105 to 107 dB at FOH, and within that framework, Chirnside focuses on presenting a compelling mix. "With this particular punk rock style, it's pretty much one level at all times—full force for three minutes and the song is done," he says. "As an engineer, you have to try to tastefully add dynamics as you go; for example, push up a guitar or quickly pan it to one side for a single-note solo, which brings up the subject of solos in general, and this band doesn't really do them. Rather, it's more melody riffs over harmony guitars and the like. You feel it out, move the mix around and make it different so it doesn't get stagnant."

WELCOME TO STAGE RIGHT

Monitor engineer Mike Baehler enjoyed his first "real gig" mixing monitors for Wayne Newton more than a decade ago. Since then, he has worked with bands such as Hot Hot Heat and Less Than Jake. He says his focus with Fall Out Boy, when he mans the Yamaha PM5D (running 17 mixes), is "trying to help the band have a good time so the audience has a great time. That's the biggest priority. None of us are big into rules."

Stump recently switched to in-ear monitoring, retaining his stage wedges as props only. This further helps clean up his vocal feed. However, Stump doesn't like to hear his vocals in his monitor mix, just guitar and kick/snare drum. "Patrick's got this



The Clair iO tablet and SIA Smaart at the ready at front of house.

'muscle memory' ability with his vocal, and it's kind of amazing. We get some strange looks when we do one-offs and request no vocal presence in the center mix," Chirnside notes with a laugh.

Given Stump's transition to in-ear monitors and that drummer Hurley has used them from the outset (both have custom-molded Ultimate Ears earpieces on Sennheiser wireless systems), the two musicians have become more tightly locked into each other, which has tightened up the overall sound. The other two players remain on dual wedges. Sidefills help fill in the gaps when the band runs around the stage, with one side stack providing bass and the other side guitar only.

The mic complement is relatively straightforward. Each guitar cabinet is miked with a Sennheiser MD 409 and Shure SM57 tandem. Hurley's drums feature an Audix D6 and Shure SM91 on kick. Audix D1 on snare top and SM57 on snare bottom, and Audio-Technica AE3000 condensers on each tom. "We had dynamic mics on the toms but the sound was a bit 'clacky,'" Chirnside explains. "Some of the newer metal and pop bands also seem to have this problem: getting too much of the attack rather than the sound of the drum. The switch to the AE3000 has cleared it up for us."

On the cymbals, he's gone with Audix Micro-D condensers mounted beneath as opposed to above. It's a move to negate the practices of both Trohman and Wentz, who tend to bang their instruments on the cymbals.

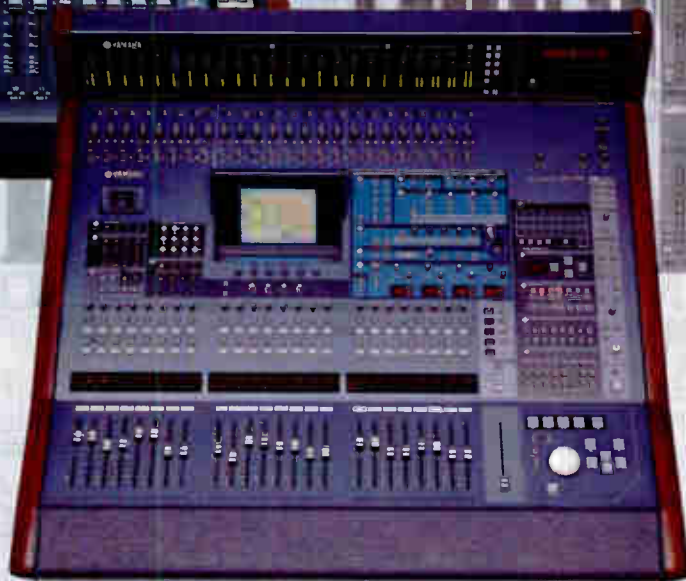
As Fall Out Boy continue their world tour, Chirnside reflects on his own path from doing club sound for bands in vans to this current arena tour. "I remember standing outside the American Theater in St. Louis when I was a kid, thinking I wanted to be on a tour like that someday," he remembers. "It took some time and a lot of work, but it's nice finally being here. And it's especially nice being able to work with these young, talented musicians who remain really good people despite all that's going on." ■

Keith Clark is a freelance writer/editor specializing in professional audio.

DM1000




DM2000



Control Freaks.

Feel like you're losing control? Put the power back in your hands with the DM Series of digital mixers from Yamaha. With the freedom to push buttons and slide faders, you can intuitively operate DAW's such as Nuendo, ProTools and Logic, while boosting your DSP with extra effects, EQ's and dynamic processors. Whether working in stereo or surround, everything you need from monitoring to panning is literally at your fingertips.

Drop the mouse, and take control of your mixes.



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.



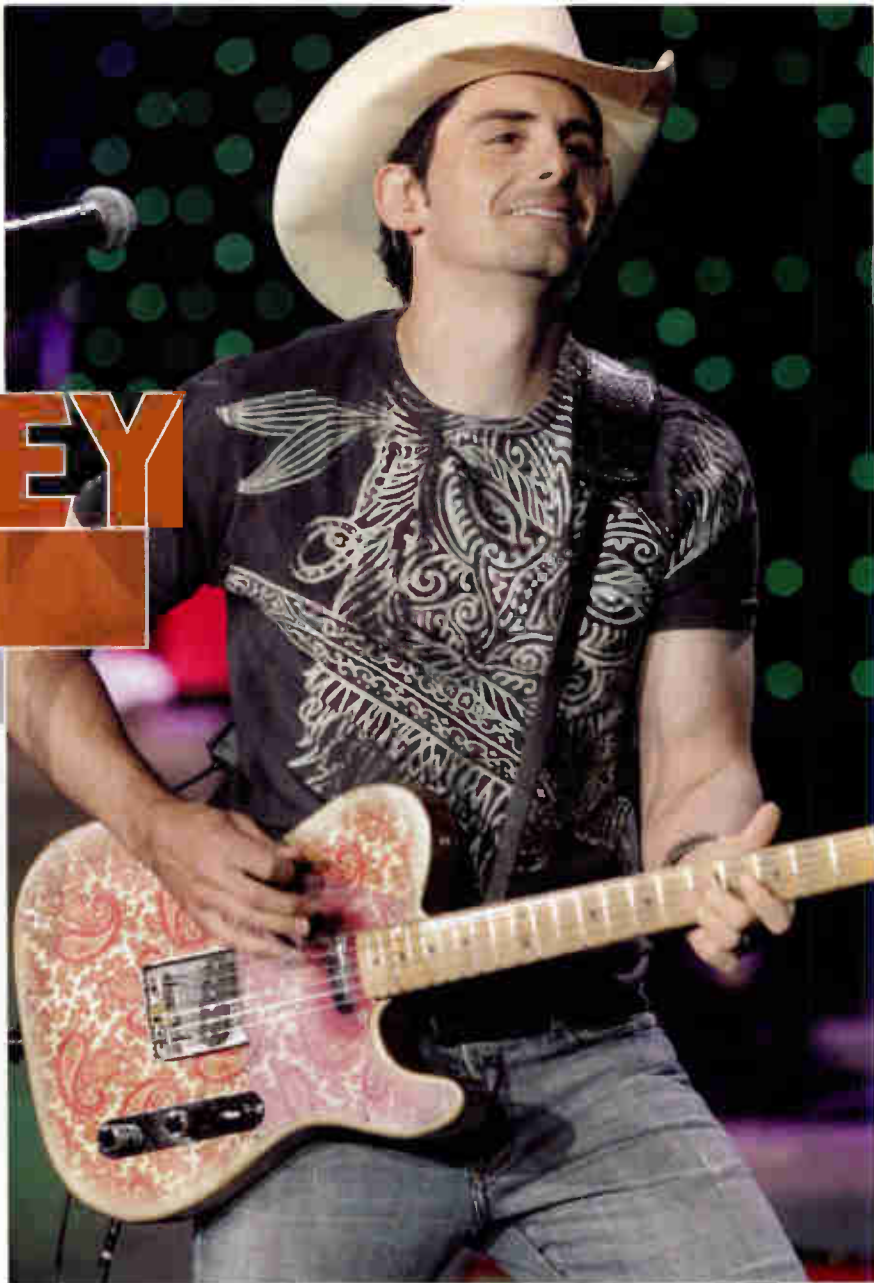
BRAD PAISLEY

A Balancing Act Between Big and Loud

By David John Farinella

For Kevin Freeman, Brad Paisley's long-time front-of-house mixer and production manager, touring with country music's guitar-slingin' hero has been going nowhere but up. "Last year in September, we had two buses, one truck, six guys in the band, five guys on the crew, a road manager, a couple bus drivers and that was about it," he recalls. "Now there are 40 of us, four buses and five trucks, plus the opening acts [Sara Evans and Josh Turner] and all their stuff. It's a seven-year overnight success story."

Paisley's latest Time Well Wasted tour has bounced between all sorts of venues, including smaller arenas and sheds, while still selling out larger stadiums and pavilions, including the Sleep Train Pavilion in Concord, Calif., where *Mix* caught up with Paisley and crew in mid-May. However, loading in and out of these differently sized venues hasn't made much of a difference for Freeman's FOH mixing style. "It's mostly about consistency and making it sound the same every day," Freeman says. "I don't



PHOTOS: STEVE JENKINGS

approach it any differently. I have Jeremy [Overall, Sound Image crew chief] out here taking care of making the P.A. sound good wherever you're sitting and I take care of making it sound good where I am. Maybe we have a little more plastic for any outdoor shows." Plastic? "You know, in case it rains."

In addition to the road case of plastic wrap, Freeman is packing a Sound Image-provided JBL VerTec 4889 line array system that's crucial to the success of the show's audio and visual aspects. "There are five video screens and two 32x32 LED screens," he reports. "That's 80 feet of video screen going on up there. We can't cover it up with a P.A., but you can't lower your standards."

The VerTec is also crucial because of Paisley's musical ap-

proach. "Brad plays with more dynamics than most rock bands out there," says monitor mixer Mark Gould. "He goes from a beautiful ballad to some of the fastest guitar playing you've ever seen and then right back into something else. I think the P.A. does a great job from that aspect. Brad does have an amazing range of dynamics. I can tell when Kevin is having a good time because there's more punch coming back to me."

In addition to the set of VerTecs flown on either side of the stage, Gould puts a pair of VerTec 4889s on the stage for sidefill. "There's not a lot of bleed or vibe coming back on the stage, so you have to add some back to put the vibe back on the stage and you can get it rocking," Gould explains.

GUITAR RACKS AND THEN SOME

In addition to enjoying the stellar musicianship of Paisley's onstage band (Ben Sesar, drums; Randle Currie, guitar; Kenny Lewis,



Front-of-house engineer/production manager Kevin Freeman at the Midas Heritage 2000—keeping levels in check

ADD AMBIENT SOUND,
MONITOR FEED,
COMPRESSION,
EQ AND LIMITING.
MIX TO TASTE.

IMAGINE THE PERFECT IN-EAR SOUND.
THEN BUILD IT WITH SD1.

OPTIMIZE MONITOR
SOUND IN ANY
ACOUSTIC SETTING
WITH SD1, THE
BREAKTHROUGH
SIGNAL PROCESSING
TOOLKIT

Ambient ear-level mics let you reconnect with your environment, audience, and band.

SD1 Bodypack with four selectable memory locations gives you dynamic, real-time control over your ambient and monitor mix.

Sound Design Audio Manager software lets you create personalized "sound environments" that you can save, edit, and use again and again. Compress and equalize both monitor and ambient signals using 20-bit DSP on your PC or Mac. Download up to four selectable memories to the SD1 Bodypack.



For the whole SD1 story, and a free copy of SDAM software, visit:

INEARSOUNDDESIGN.COM

World Radio History

Westone
GENNUM DSP

bass; Justin Williamson, fiddle; Kendal Marcy, keyboards; and Gary Hooker, guitar), the crowd is enthralled with—and perhaps came for—Paisley's well-known guitar licks. "Brad is a real guitar player," Freeman says. "That's a priority with him. He only sings to get to another solo."

Paisley's guitar rig—made up of an assortment of Dr. Z and a vintage Vox cabinet and a collection of pedal effects that includes names such as Axxes, Electro-Harmonix, Line 6 and Zendrive—takes up somewhere around 16 feet of backstage space. The clean amp, which is on all the time, is miked with a Shure KSM 32; the pair of effects amps gets a KSM 27. Paisley sings into a Shure 58. "We have to keep the pattern pretty tight because if we used any kind of condenser, the guitar would dwarf his vocal to where it's almost unusable," Gould says. "In fact, the four players in the band who sing backgrounds use a 58 for the same reason."

Drummer Sesar uses a fairly straight-ahead kit, so Freeman mikes it accordingly with a Shure 98 and 91 on the kick, a 57 on the snare, 98s on the toms, KSM 137 as overheads and KSM 109s on the hi-hats. In addition, Gould has added a KSM 109 on the bottom of the snare to use in the drummer's personal ear mix. Sesar also asked for the 98 and 91 combo because it sounded better for the ear mix.

Gould also adds VerTec 4880 subs to add punch to the Shure PSM 700 personal monitors. "When you hear the kick drum in the ears, you hear the low end right away with the subs instead of relying on the house, which would be delayed and that makes it hard to play in time," Gould explains. "Now that we are playing bigger stages, we have to add vibe back on the stage."

Currie's pedal steel is miked with a 57

and the bass is taken DI through an Ampeg SVT direct box tube; the fiddle and keyboards are also taken DI. Hooker's guitar rig is miked with a 57.

MINIMAL FUSS FOR A FULL SOUND

Freeman's FOH world is relatively straight-ahead, keeping his board and effects rack to a minimum. Mixing on a Midas Heritage 2000, Freeman says, "I don't feel like reaching over 19 knobs to get to the five that I use. It's about simplicity more than anything; everything is right there. If you are concentrating on the technology instead of what you are using the technology for," he says with a shrug, "it's kind of hard to focus on your band when you're going, 'Okay, now how do I make this console...'"

For the same reason, outboard gear is kept to a minimum, although both Freeman and Gould just added dbx 376 channel strips to their tool chests. "It really made the vocals in the [personal monitors] pop out," the monitor engineer says.

Standing at the side of the stage, Gould works eight personal mixes throughout Paisley's nearly two-hour set: seven for the bandmembers and one for himself so he can hear what they hear. Paisley and Sesar are the only two who get special mixes, and Gould throws a drum track and a vocal track through a splitter. Sesar, Gould reports, likes a certain sound on his snare and kick. "So I split that off to separate channels on the other end of the console so I can do for him whatever I want," he explains. "He's got to be comfortable for him to play well. He tends to want it quite a bit brighter than the rest of the band."

Paisley's vocals are split: one track is sent to him and one to the band. "That way, I can keep up with what he's doing and not change what the band is hearing," Gould says. "That vocal is louder and a lot more aggressive because it's got to be in his face. I'm fighting the guitar, I'm fighting the stage volume, I'm fighting the room. That's a neat survival technique I've learned."

Most of the band, Gould explains, is dialed in early on during the set so that the night's focus is on Paisley. And the key there, he says, is to stay flexible. "[Paisley's] constantly changing his mix and adjusting his guitars, usually when the opening act is onstage and he's in back fiddling with his guitar rack. I just sit there while he's tweaking and then I turn my gain knobs. He can turn it 10 dB either way and I have to compensate."



Sound Image crew chief Jeremy Overall

Paisley is also sensitive to nuances in his monitor mix—so much so that Gould recently returned to a Ramsa SX-1 console. "Brad just likes a warmer, smoother sound. We've had some other consoles out there, but it was really hard to get him to settle in," he says. "He'd like it when he heard it, but as the shows went on, it kind of picked at him and unnerved him."

Part of the reason that Paisley pays close attention to his sound is because he relies on it during such songs as "Whiskey Lullaby," which features a video and audio track of Alison Krauss. "That's the only tracked thing that we have," reports Freeman. "She sings the second verse and harmony on the song. When she's on the screen, there is no room for error." Then there is the instrumental "Time Warp," where Paisley and the band rev it up and do their best to play as fast as possible—while keeping the loudness in check.

Although he has a booming stack of Crown I-Tech I-T8000s, Freeman believes there is a distinct difference between big and loud. To that end, Freeman keeps the meter around 100 dB, topping out at 102 dB on occasion. Plus, he says, "Brad's audiences are getting younger, but at the same time, he is a member of the Grand Ole Opry and there's that element there, too. I think, 'What if my parents were here?' I don't want to hurt those people. Loud is painful and that's not pleasant. Big is what we're shooting for. We're here to take what's going on up on the stage, make it bigger and make the audience feel it. That's the difference between what we do and listening to a record. It doesn't have to hurt you, but you have to feel it. That's the concert experience. Beyond that, it's lights, bells, whistles and video." ■

David John Farinella is a San Francisco-based writer.



Monitor engineer Mark Gould creates eight personal mixes: seven for the bandmembers and one for himself.



feel the sound.

From acquisition to playback, SRS Labs delivers the ultimate audio experience. SRS Circle Surround® makes it easy to record and transmit surround sound for live events. Capturing up to 6.1 channels on a two-channel carrier, now your surround sound is free to travel anywhere your audience takes it. **Capture the Personal HD Experience with SRS Labs.**

For information on SRS Circle Surround production tools, visit www.srslabs.com or call 1-800-243-2733.

CAPTURE → **CREATE** → **CONVERGE** →

SRS (●)®

THE EELS

Unpredictable Band Delivers "Without Strings"

By Heather Johnson

As the crowd finishes their drinks and makes their way to the Fillmore Auditorium's (San Francisco) main floor, the retro lounge intermission music gives way to an ear-splitting wall of dissonant noise. Clearly, this will not be one of The Eels' quieter shows.

A departure from the 2005 Eels With Strings tour that supported their latest album, *Blinking Lights and Other Revelations*, The Eels current No Strings Attached Tour offers up much of the same material, but with amplified guitars rather than a string quartet, celeste, pump organ, melodica and lap steel. They're playing U.S., Canadian and European dates with two guitars, drums, keyboards and gruff vocals courtesy of frontman Mark Oliver Everett, aka E. A tattooed, mutton-chopped bouncer/boxer/good vibes generator named Krazy Al completes the lineup. With Krazy Al posturing on stage right and no bass guitar to be found, it's still an unusual assemblage, but it's about as close to a standard rock 'n' roll setup as this band gets.

Front-of-house engineer Kevin Madigan and monitor engineer Montaigne Benoit kept the needle in the middle with a pair of 64-channel DiGiCo D1 consoles supplied by Sound Image. Madigan says that the

compact console gives him more than enough inputs for The Eels and support act Smoosh without any repatching.

"I multitrack record every night's show with a MADi recorder, fed post-gain, pre-EQ from the D1," says Madigan. "I can play the recordings back through the console, channel for channel, with the relevant snapshot settings, which allows me to work on my soundcheck without the band being there. I also split the vocals into the D-Tube DiGiCo valve input section, which, when pushed hard, creates an overdriven effect for vocals. It works very well, sounds great and saves on having to carry any outboard gear."

Relying on the D1 for effects and EQ and the venue for P.A. allows the band to travel with less gear and fewer "kinks" to sort out. Madigan uses SIA Smaart software and the D1's parametric processors to ensure each P.A. is optimized and aligned; a Meyer M3D powered line array is flown at The Fillmore. The more standard instrumentation makes for a straightforward mix. "It's a rock 'n' roll-type mix that needs to be upfront, solid and aggressive,"

says Madigan. "The levels are quite high, but it's not horrendously hard to get on top of. The low end comes from either E's baritone guitars or from an octave pedal on Chet's guitar."

Going for an open-sounding yet high-impact feel for the drums, Madigan uses an Audix D6 on the kick. He uses Audix Micro-Ds to mike the toms and i5s to capture snare (top and bottom), and ADX-51 condenser mics are used on hi-hats and overheads.

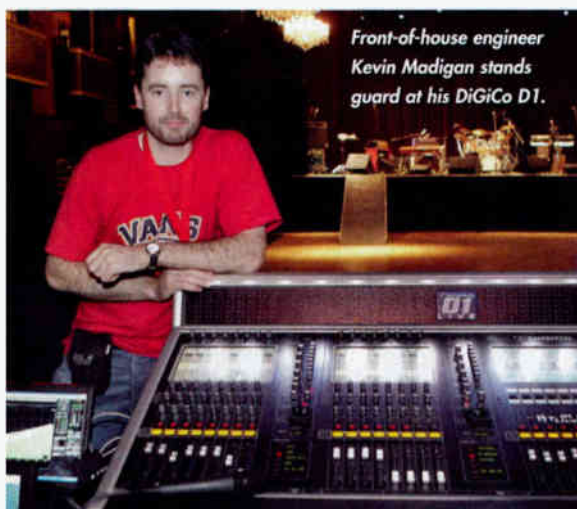
Mesa Boogie amps and Fender Bandmaster cabinets, miked with Shure KSM 27 and 57s, respectively, power the guitars. Madigan uses Audix OM7 at front-center on E's vocals "to get a little bit more stage noise rejection and better level control onstage," the FOH engineer says. "Monitor levels are quite high!"

Back in monitor world, engineer Benoit relies on the venue's Meyer MSL3s for side-fills and Meyer 2x15 subs paired with Meyer MSL-2As for two mixes. The DiGiCo takes care of any EQ and compression needed. Benoit uses Sound Image G2 wedge monitors for E's guitars and the Hammond B3, while the rest of the band listens through The Fillmore's Meyer wedges. As for using in-ears, "We're not there yet," she says. "Everybody wants to hear themselves and whatever instruments they use to cue off of, which took some of the pressure off for those first few shows. The learning curve came from navigating the DiGiCo. It takes a little bit of work to go from an analog mindset to digital thinking, but it's become really convenient. If something works one night, you just save it and it's in there for the next show." ■

Heather Johnson is a Mix contributing editor.



PHOTO: STEVE JENNINGS



Front-of-house engineer Kevin Madigan stands guard at his DiGiCo D1.



Monitor engineer Montaigne Benoit is also on a DiGiCo D1.

 **SENNHEISER**

Reality TV

Broadcast

West End, London

Broadway, NY

Live Concerts

Shows Theaters

Sports Events

Reliably covered by
Sennheiser RF wireless

You can always rely on Sennheiser RF wireless systems, wherever you are in the world, whatever the task you face. As one of our customers puts it, "Sennheiser RF works where others fail". Try the surprisingly small and rugged new SK 5212 bodypack and the awarded microphone SKM 5200 on any stage or broadcast situation. Choose from the world's most comprehensive RF wireless portfolio for proven quality and innovative products – with microphone and accessories of every sort of custom-made specials and global support service. Sennheiser equipment is upwards and downwards compatible so it always remains a reliable investment.

www.sennheiser.com



Allstar Audio

Finding the Perfect Balance Between Quality Gear and Service

When Mike Borne started Smyrna, Tenn.-based Allstar Audio (www.allstaraudio.com) in 1984, Nashville was riding high in the wake of the *Urban Cowboy* era and country music was experiencing tremendous growth. There were also only a few sound companies competing for numerous gigs. A lot has changed since then, and most of the locally based bands that have risen to production-carrying status have been gobbled up by large national sound companies.

"To say it's highly competitive would be an understatement," remarks Borne. "One of the most challenging things you do is to try to make a profit. Given the rising cost of all expenses—including labor, equipment, fuel, et cetera—it's becoming harder and harder to stay in the black. It's a constant balancing act."

After 22 years in business, Allstar has amassed an impressive list of credits from major record labels, meeting planners, booking agents, promoters, a who's who of artists and bands, and even a rodeo, among other clients. Some of Allstar's high-profile clients include NASCAR, the TNN/Country Music Weekly Awards and Thanksgiving at Fort Campbell with President Bush.

One of Allstar's recent productions was the huge annual Memphis in May Festival, which started with the Beale Street Festival. During the three-day event, Allstar did sound for three large stages and handled more than 50 bands, including Chicago, Huey Lewis & The News, Bryan Adams, Train, Bruce Hornsby, James Brown and Staind. Extensive inventories of EAW 850 and 750 speaker systems were used, as well as Midas H3000 boards.

Allstar can also supply its clients with top-of-the-line gear from names such as JBL, Electro-Voice, Crest, Lab-Gruppen, Klark-Teknik, BSS, Soundcraft, dbx, Shure, Thomas Lighting, StageRight Staging and StageLine Mobile Staging, to name a few. "We have tried to add the product lines that our clients wanted to see, as well as maintain relationships with manufacturers," Borne says.

But Allstar's gear selection wasn't always so plentiful. During Allstar's very early days, it was a struggle to find affordable equipment, and Borne acquired his first pieces of gear by watching the local *Trader's Post* and checking out pawnshops for useful components.

"I actually bought an AKG 451 condenser microphone for \$10 that the pawnshop owner said he didn't think worked," Borne recalls. "He had no idea what phantom power was, nor did he have a source of it in his store. I believe I still have that mic somewhere in my inventory. It took several years of eating a lot of macaroni and hamburger, but Allstar finally started to get some good clients, and as the revenue grew, we started looking at the new equipment and the continual upgrading began."

One of those first pieces of gear was from an up-



Allstar Audio's Mike Borne continually looks to enhance his inventory.

and-coming speaker manufacturer named EAW. "Man, what a stroke of luck that was for us, as the EAW KF-850 became the box to have and we had them in the beginning," Borne recalls. "It's kind of funny to remember back to the early days when only a few manufacturers would talk to you, and after they see you with a hundred boxes from the competition, all of a sudden you are discovered."

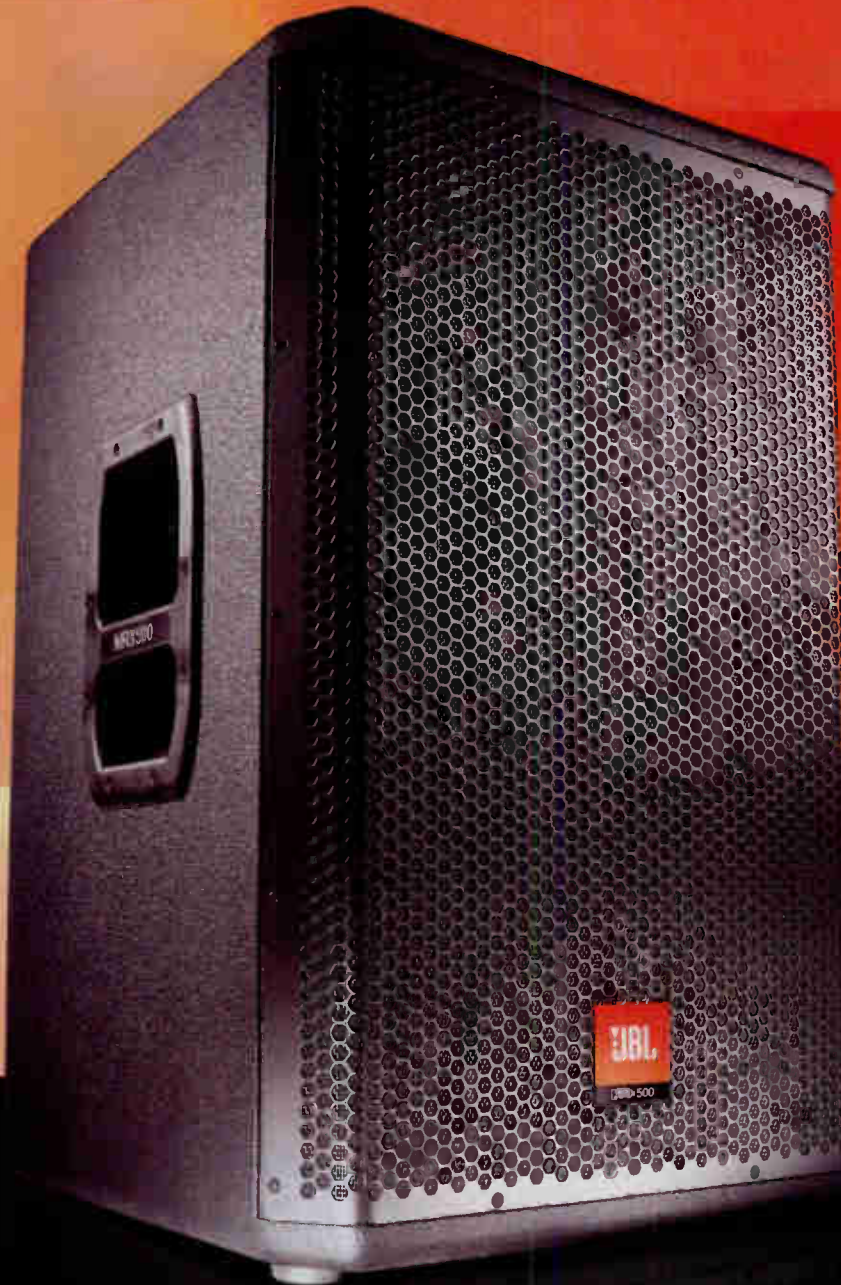
"But gear is gear without the service that goes with it," Borne continues, noting that more than 90 percent of Allstar's annual business comes from repeat clients or personal referrals. "Good employees are the true backbone of any successful business. Your personnel can take the most sophisticated, expensive sound system, and even when it sounds great, lose a gig or a client by just having the wrong attitude. A rock 'n' roll attitude is not always acceptable, especially when you're working with a CEO of a major corporation."

Allstar staff includes Ric Cassity (office and general manager); Dan Taylor (in charge of warehouse and inventory, as well as day-to-day rentals); Tony Cooper (acting crew chief and personnel leader); Sean Borne, Matt Michael and Corey Likens (technical staff); and Steve Smith, who Borne describes as "one of the best FOH engineers who has his ego in check that I have met." Borne handles the booking for large systems and VIP events.

"Challenges in the field are what keep us on our toes," Borne says. "When the customer says, 'Oh, by the way,' you feel the hair on the back of your neck stand up, but you have to deliver and continue making the client look his or her best. It's always fun to take on challenging and different types of events, and we are always looking for and anticipating our next adventure." ■

Rick Clark is Mix's Nashville editor.

Lighter. Louder. Legendary.



MRX500 S E R I E S

The legendary sound of JBL heard on tour with the world's greatest performers is now available in an ultra lightweight, high-powered, portable loudspeaker. Introducing the MRX500: a new series of extremely lightweight, powerful loudspeakers designed for the working musician and DJ. Featuring the same high-performance Differential Drive[®] technology used in the industry leading VERTEC[®] tour systems, the MRX delivers outstanding performance where smaller, lighter, more portable systems are required. As much as 30% lighter than similar systems, the MRX series is easy to transport and easy to store. From room to room or city to city, the MRX500 gives DJs, musicians and performance venues the power to move.

Visit jblpro.com to learn more or experience the sound at your local music retailer.



New Sound Reinforcement Products



SHURE KSM9 WIRED CONDENSER MIC

After months of field-testing on major tours, Shure (www.shure.com) unveils the KSM9; the hard-wired version of the KSM9 wireless debuted earlier this year. The condenser KSM9 has switchable cardioid or supercardioid patterns—a first for a handheld mic. Selectable via a switch under the pop screen, the KSM9's patterns bring flexibility, while the mic's dual gold-sputtered Mylar diaphragm design provides higher gain before feedback and minimizes proximity effect for accurate low-end response. Response is 50 to 20k Hz, sensitivity is -51 dBV/Pa and max SPL is 153 dB. A two-stage internal shock-mount stabilizes both horizontal and vertical movement.

This 48VDC phantom-powered mic is available in champagne or charcoal-gray finishes, and features a hardened-steel mesh grille and gold-plated internal and external connectors.

BAG END DOUBLE-18 POWERED SUB

The P-D18E-AD double-18 subwoofer from Bag End (www.bagend.com) is now available in a powered version. Part of the company's popular INFRA Series, the P-D18E-AD is a high-output sub designed to provide extended LF reproduction from a relatively small and low-profile enclosure. Designed for permanent installation, the P-D18E-AD can fit under platforms and in tight vertical spaces, with dimensions of 15x38x30 inches (HxWxD); weight is 131 pounds. Its 18mm, 13-ply birch plywood enclosure has a flat black finish and a black-coated steel grille. Used with the INFRA Integrator, the P-D18E-AD provides flat response down to 8 Hz. Its onboard Minima One amplifier has a continuous output rating of 1,000 watts; max SPL (40 Hz @ 1 m) is 121 dB.

MARTIN AUDIO LE MONITOR SERIES

Martin Audio's (www.martin-audio.com) LE monitors feature smooth cabinets with rear curves of pressed/machined beech laminate and a hardwood front rail for a rigid, tough and acoustically neutral design, with left- and right-handed versions available for use in pairs. Optimized for use with Martin's DX1 controller, which provides crossover, limiting and EQ functions, the monitors can also be operated in passive mode without a controller. The top-end LE2100 is a three-way bi-amp-only, differential dispersion monitor, offering a low profile and high power from its dual 12-inch woofers, 6.5-inch midrange and a 1-inch compression driver mounted on a differential dispersion horn. The compact LE1500 is a high-output design, with a 15-inch LF driver and 1.4-inch compression driver. The ultracompact LE1200 has a 12-inch woofer and 1.4-inch compression driver.



MC² E475 POWER AMP

MC² Audio (dist. by Group One, www.g1limited.com) expands its lightweight switch-mode E Series with the new E475 power amp. Ideal for stage monitoring use, this 4-channel amp produces 750W RMS per channel into 4 or 8 ohms. Inputs are via four XLRs, which are linkable to the next channel via a rear panel switch for greater flexibility in supplying speakers with the same input signal. Each channel has a separate Speakon output, but channels C and D are also routed through the second set of Speakon pins on channels A and B. This gives the user the option of running two separate bi-amped wedges from one amp. The E475 also fits front-of-house applications running small, distributed systems or mid/high sections of larger-scale systems. All E Series amps are two-rackspace designs and carry a five-year warranty.

AZDEN APS 25B SPEAKERS

The APS 25b battery-powered speakers from Azden (www.azden.com) use a rechargeable battery to operate up to eight hours before recharging. The speakers include four separate audio inputs, two of which are for plug-in, user-installable, wireless microphone receiver modules: VHF (30 channels), UHF (63-channel switchable) and Infrared (two user-selectable channels). The speaker's two other inputs are for a wired mic and a line output device such as a CD player. Each of the four inputs has a volume control for mixing. Speakers include wall-mount brackets and can also be stand-mounted vertically or horizontally.

LIGHTVIPER DISTRO SYSTEM

The LightViper 1832 fiber-optic system from FiberPlex (www.lightviper.com) combines a traditional-looking 32x8 audio stage box and a single-rackspace VIM-1832 at FOH. The two connect via a rugged, lightweight,



mil-spec, fiber-optic cable that weighs less than two pounds per 100 feet of cable run; they can be placed up to 1.25 miles apart. The stage box accepts balanced or unbalanced XLR or TRS mic/line-level audio, and 48V phantom is available. Optional optical outs on the stage unit allow separate feeds to a monitor console or broadcast/recording vehicles. All ADCs are 24-bit/96kHz, and a typical configuration is \$7,500.



 PRODUCTION

THE PROFESSIONAL'S SOURCE



real world solutions from industry professionals!

 www.bhphotovideo.com



800-947-5508 | 420 Ninth Ave, New York 10001 | We Ship Worldwide



Current Affairs

Bias Voltages and Tube Amp Maintenance

I'm glad vacuum tubes still exist, but owning vintage or retro gear is not a casual relationship. When vacuum tubes are part of a circuit, knowing when too much current is flowing—and taming it—will maximize tube life and go a long way toward consistent performance. And while there are plenty of sonic nuance issues, this month's focus is strictly nuts and bolts. Take notes as you tweak and listen.

ALL YOU NEED IS EYES

The technically challenged owner doesn't require any special apparatus to know if a tube amp is running too hot. All you need is eyes and some darkness. Figure 1 defines tube temps in a pair of snapshots. Seeing red in the wrong places means it's time to become proactive.

Common failure for power tubes ranges from fatigue to transit accidents, such as fall-out and breakage. Previously, power tubes were replaced as they went "bad"—as opposed to today's matched-pair, everything's-gotta-be-better-than-original mode—and users took a more haphazard, fill-the-missing-hole approach. Unless someone was particularly conscientious, only the broken tubes were replaced with whatever was lying around.

Before re-biasing, the plate side of the output transformer should be tested with an ohm meter. The resistance from the center tap to each end should be reasonably close; otherwise, no amount of tube matching or bias balancing will even things out.

DOES IT HAVE ISSUES?

There are three reasons to investigate the power stage of a vacuum tube amplifier: current consumption, tube balance and sonic nuance. The first goal is to optimize plate current so that it's safely within design parameters. If the tubes are truly very close, a quick test will determine if matching/balance is an issue. Variations within the safe

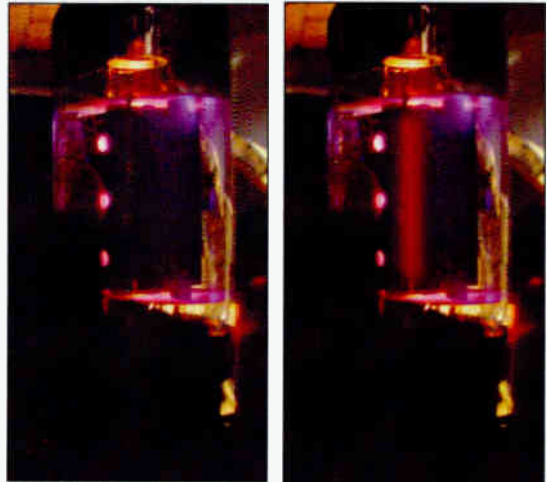


Figure 1: A 6L6 in the dark is a warm and wonderful thing. At right, the red glow from within is from the filament (think light bulb) and the hint of blue is normal, too (most of the time). The left picture shows the same tube, biased hot, with too many electrons striking the plate. This is reason to turn the amp off and have it serviced.

region for sonic purposes are your territory. Amps of 25 watts and more typically have adjustable bias, while low-powered amps have fixed bias. In either approach, the grid is made negative relative to the cathode.

Bias adjustments come in three flavors; let's call them global, balance and matching. Global bias applies the same voltage to both tubes (such as in a Fender '65 Bandmaster AA763). Balance varies the bias between the tubes ('77 Bassman 10), and matching adjusts the bias on one tube so its current matches the other nonadjustable tube ('67 or '68 Bassman AB165). Look on the Web or check out the CD-ROM companion to *The Tube Amp Book, Deluxe Revised Edition* from www.groovetubes.com to collect schematics for your model and learn about the production variations.

Excessive current will damage the tubes and, eventually, the output transformer. Both are costly failures. For amps with two or more tubes (always in pairs), knowing the current through each tube can help determine if the tubes are matched (electronically similar) and doing their fair share. Mismatched tubes (or other components) can also affect tone or possibly cause premature failure of the output transformer.

THE OPTIONS

There are three ways to adjust bias on a guitar amp: have it done by a service shop (usually about \$50), externally (D.I.Y. 1) or internally

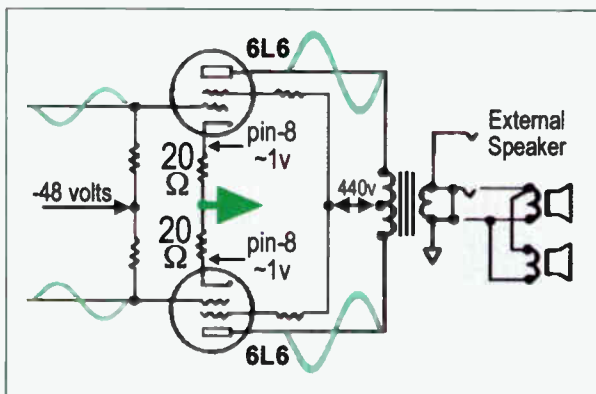
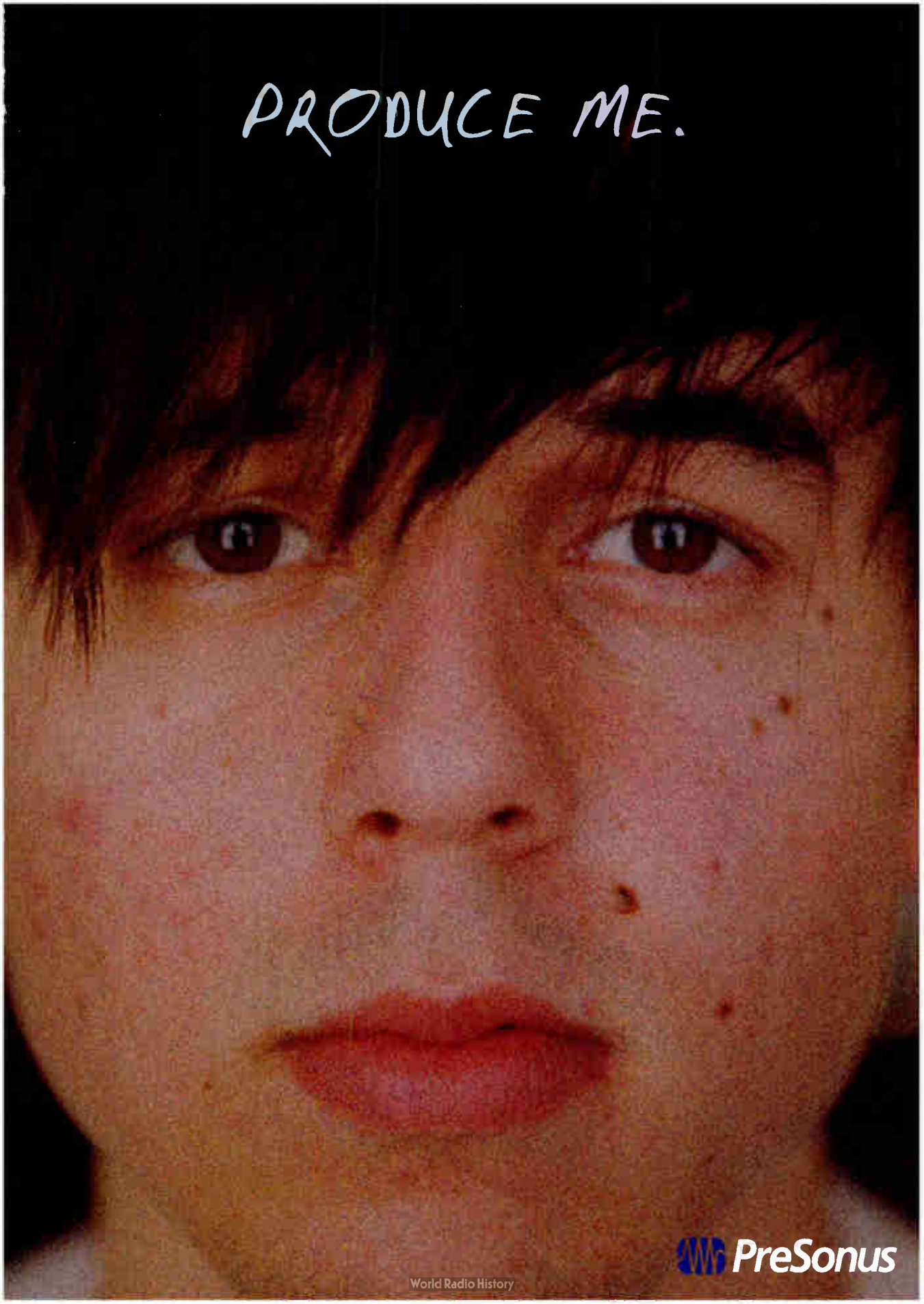


Figure 2: A typical power amplifier output stage

PRODUCE ME.



 PreSonus

World Radio History



FIREPOD – 24Bit/96k 10x10 FireWire Recording System

- Eight PreSonus microphone preamplifiers
- Two instrument inputs, eight analog line outputs
- SPDIF and MIDI input / output
- Free Cubase LE 48-track recording software
- \$599*



FIREBOX – 24Bit/96k Professional Compact FireWire Recording System

- Two PreSonus mic/instrument preamplifiers
- Two instrument inputs, six analog line outputs
- Zero latency mixer/control panel
- SPDIF and MIDI input / output
- Free Cubase LE 48-track recording software
- **NEW LOWER PRICE: \$299***

FREE for a LIMITED TIME

buy a FIREPOD between June and August 2006 and receive a free HP4 - four channel headphone amplifier.



EUREKA – Professional Recording Channel

- Class A transformer coupled microphone/ instrument/line preamplifier
- Selectable input impedance and "saturate" tube warmth control
- Fully variable ultra fast compressor w/ separate make-up gain
- 3-band Parametric EQ with bandwidth "Q" control
- \$499*

FREE for a LIMITED TIME

buy a Eureka between June and August 2006 and receive a free AD192 digital card.

AD192 – Optional Digital Output Card for the Eureka

- 24-bit resolution, up to 192K sample rate
- Simultaneous SPDIF and AES outputs
- Analog Line Input enables one AD192 for 2 Eureka's
- \$199*



FREE for a LIMITED TIME
buy a Central Station between June and August 2006 and receive a free CSR-1.

CENTRAL STATION – Studio Control Center

- Flexible stereo input/output switching & routing
- Talkback, mute, dim, mono; separate cue and main outputs
- 24-bit AD192K A/D converters (SPDIF and Toslink)
- Passive signal path (no op-amps) for ultimate stereo imaging and depth
- \$99*



CSR-1 – Optional Remote Control for the Central Station

- Main volume, input/output switching, dim, mute, mono
- Talkback microphone on remote
- Ergonomic design
- \$149*

*Estimated street price in the USA. Note: See your local retailer for details on all promotions.



WE MAKE THE TOOLS. YOU ENGINEER THE TRACKS.

FIREBOX FIREPOD CENTRAL STATION EUREKA

Learn more about these and other PreSonus products at www.presonus.com

World Radio History

 **PreSonus**

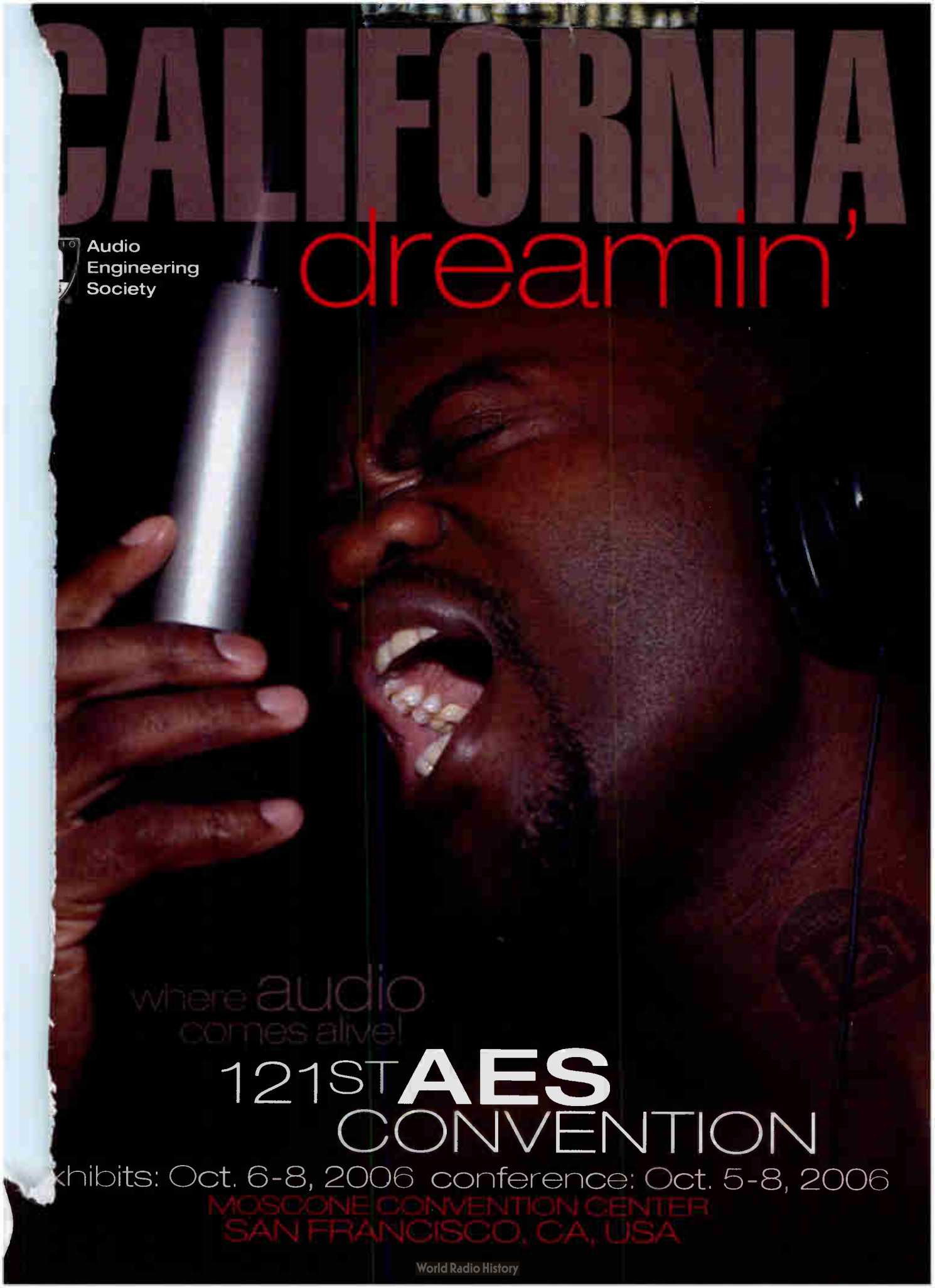


WE MAKE THE TOOLS. YOU ENGINEER THE TRACKS.

He expects a hit. But you know that tunes and talent are only part of the final master. It takes skill on both sides of the glass to make it happen – and that's why many of the best producers and engineers in the recording business trust PreSonus to get the sound they're after. Since 1995, we've built professional-quality audio tools for recording professionals and musicians that meet and exceed expectations over and over. We're serious about making music and fiercely committed to putting reliable, high-performance products in your creative hands.

And now, we are offering special promotions this summer on four of our hottest sellers – making it even easier for you to add some PreSonus magic to your sonic tool box. www.presonus.com

 **PreSonus**



Audio
Engineering
Society

CALIFORNIA

dreamin'

where audio
comes alive!

121ST AES CONVENTION

Exhibits: Oct. 6-8, 2006 conference: Oct. 5-8, 2006

MOSCONE CONVENTION CENTER
SAN FRANCISCO, CA, USA

Tools of the Trade



Saffire LE lacks the onboard DSP of the original Saffire, it's bundled with the same acclaimed compression, reverb, amp modeling and EQ VST/Audio Units plug-ins. Also included is Live 5 Lite, a Focusrite edition of Ableton's award-winning performance/sequencing software.

RME ADI-8 QS

Hot from the floor of AES in Paris comes the RME (www.rme-audio.com) ADI-8 QS, a full-featured 8-channel AD/DA converter. The single-rackspace unit features analog and digital limiters, four hardware reference levels up to +24 dBu, AES/EBU (25-pin) and ADAT I/O (including S/MUX) up to 192 kHz, optional MADI I/O, remote

control via MIDI, remote digital input trims for full input calibration and remote volume control of its eight analog outputs, either separately, globally or ganged. The unit also offers SteadyClock, RME's unique clock technology and jitter suppression, and RME's Intelligent Clock Control (ICC), SyncChec and SyncAlign. The QS uses the latest A/D and D/A converter circuits

SE ELECTRONICS REFLEXION FILTER

Now shipping is the Reflexion Filter (\$399) from SE Electronics (dist. by Sonic Distribution, www.sonic-distribution.com). This "portable vocal booth"—which comprises an advanced composite wall positioned behind any microphone, held by a variable position stand clamp (included)—allows the user to record live sources with reduced room ambience. Intended to help obtain a dry vocal or instrument recording, it's especially useful in studios that don't have proper acoustic treatment, but it can also be helpful for recording takes in control rooms, where the performer also has to operate the recorder, or in live or rehearsal studios.

FOCUSRITE SAFFIRE LE

Looking very monolithic in its black and silver case, Focusrite's (www.focusrite.com) \$399 Saffire LE offers affordable desktop I/O and more. It has six inputs and eight outputs (including stereo digital I/O) with monitoring and I/O control options, ACS and DTS compatibility, MIDI I/O, and a 470MB sample and software bundle, which includes BFD Ultralite, GURU demo version and B-Station. While

operating up to 192 kHz, boasting 120dB S/N ratios and a maximum conversion delay of eight samples. An expansion slot supports a MADI option card. All interface options can be used simultaneously under all conditions.

MXL MICROPHONES M3

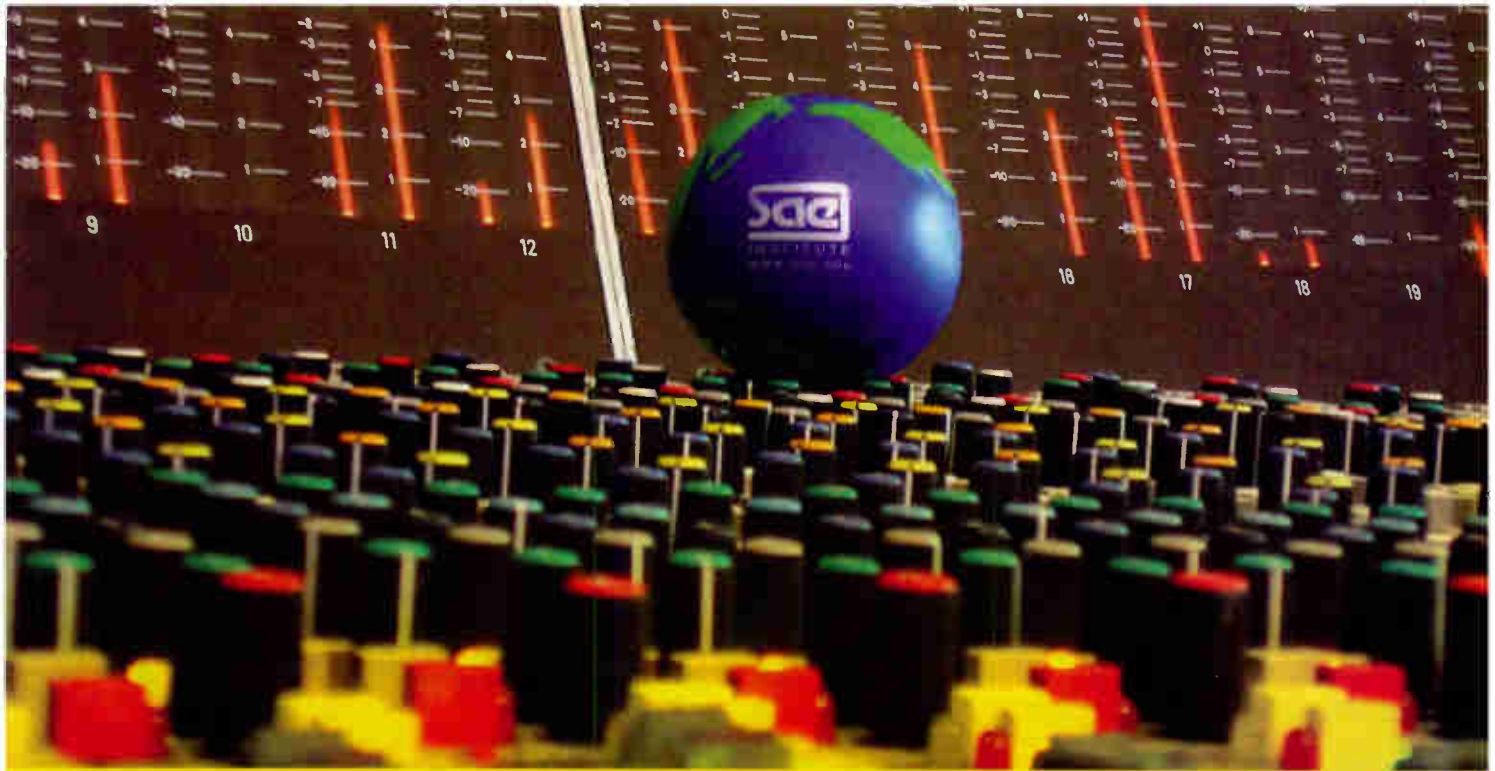
MXL Microphones (www.mxlmics.com) has unveiled a baby-blue beauty in the seemingly contradictory M3 Silicon Valve solid-state microphone. The title refers to the designer's promise to deliver a solid-state FET amplifier output stage that resembles the performance characteristics of a tube mic. The large-diaphragm, pressure-gradient condenser mic uses a 1-inch capsule with a gold-sputtered, 6-micron diaphragm, and is optimized for vocal work. It comes in two versions: one standard (M3, \$349), the other voiced specifically for female vocals (M3-P, \$369).



DTS HD MASTER AUDIO SUITE

DTS (www.dtsonline.com) ups the ante of the HD game with its \$1,495 DTS-HD Master Audio Suite (MAS). Used to prepare audio streams for next-generation and current optical disc media formats (Mac OS 10.4.x or Windows XP), the bundle includes an encoder module, a StreamPlayer decoder and StreamTools stream editing and verification tools. The Suite will encode bitstreams in DTS D-Surround, DTS-ES 6.1, DTS 96/24, DTS-HD High Resolution and DTS-HD Master Audio, which is bit-for-bit identical to a master soundtrack. MAS supports encoding HD DVD (HD) or Blu-ray Disc (BD) primary or main audio streams with up to 7.1 channels of audio at sampling rates of up to 192 kHz. MAS also includes a low bit-rate (LBR) encoder that will encode DTS audio streams for use as sub or secondary audio on HD/BD with bit rates optimized for Internet delivery. Streams that are





SEE IT FROM THE OTHER SIDE

training for a career in the audio industry

Over 45 Campuses Worldwide

Official Neve Training

SSL Approved Training

Individual Studio Time

Full and Part Time Classes

New York City • 212-944-9121

1293 Broadway, 9th Floor, New York, NY 10001

Los Angeles • 323-466-6323

6565 Sunset Blvd., Suite 100, Los Angeles, CA 90028

Miami • 305-944-7494

16051 W. Dixie Hwy, Suite 200, North Miami Beach, FL 33160

Nashville • 615-244-5848

7 Music Circle North, Nashville, TN 37203



877-27-AUDIO • WWW.SAE.EDU

Nashville offers federal financial aid for those who qualify

New York City and Nashville Accredited by The Accrediting Commission of Career Schools and Colleges of Technology

World Radio History

(D.I.Y. 2). D.I.Y. 1 does not require the amp to be removed from its case, but it does require that you own or have access to an external bias meter (such as the \$200 Alessandro Bias and Matching Meter from www.alessandro-products.com), which has socket adapters and direct reading meters so the user can avoid high-voltage contact. Other companies make less-expensive inline tube-socket adapters for connecting to your meter so that you can safely measure bias voltages. Both D.I.Y. approaches require that you know the adjustment location and the optimum bias voltage. Most kits include a table of suggested settings for a variety of tubes, as well as the bias adjustment location for popular amps.

D.I.Y. 2 requires that you pop the hood, but be warned of the hazards of high voltage (no water, no bare feet, one hand in your pocket). If you're uncomfortable with working around high voltages, skip this path entirely and stick to D.I.Y. 1 or have a pro do the dirty work. You must also own or have access to a multimeter, a soldering iron and a pair of resistors to make a small modification. Access to a real (or virtual) tube manual/databook is essential.

HOW I DO IT

The goal is to measure plate current, but measuring the high-voltage side of that circuit can be hair-raising. The safest place to measure bias is at the cathode. Fixed-bias amplifiers tie the two cathodes (pin 8) to ground with a single resistor. Measuring current is done via Ohm's law ($I=E/R$). Simply measure the voltage drop across the resistor and divide by the resistor value. (Divide again by two for the single-tube current consumption.) To

change the current up or down, make the resistor smaller or larger, respectively. In this circuit, the grid is at ground potential and the resistor allows the cathode to be above ground.

Higher-powered amps use an adjustable negative-voltage power supply. Each tube's cathode (pin 8, Fig. 2) is tied directly to ground (the green symbol pointing right) and the grid is made more negative to reduce plate current. I measure current by inserting a resistor on each cathode to ground using a value that's much smaller than fixed-bias designs, so as not to change performance too radically. A range of 1 to 20 ohms is suitable; the latter (as shown in Fig. 2) will allow an easily measurable drop. In this case, 1.76 volts across a 20-ohm resistor yields a current of 88 mA—about as max as you want to go.

I chose a 1-volt drop across the resistor before removing it. (The customer was very happy.) The table details RCA's suggested plate current range for a 6L6 and a 6L6GC; the latter has a higher power rating. Other nonadjustable variables include plate voltage and output transformer impedance.

STOP, LOOK AND LISTEN

Keep an eye on the plates (in the dark). If you see red, try reducing the current

by 5 or 10 milliamps until the tubes stop glowing and listen again. Now, if the amp's making groovy tones, its tubes will last longer. Be conservative with modern tubes, unless running close to the edge makes your sound and you can afford to replace tubes often.

Checking tube bias is quite similar to checking the oil in your car—it's not overly complicated, but keeping your tubes healthy and happy will provide better sounds, improved performance and a longer, trouble-free life for your amp. It's a small investment that pays off in the long run. ■

Eddie thanks Evan Dvorsak of The Gilded Age and Logan Erickson for allowing the '65 Bandmaster to fall under the knife. Visit Eddie at www.tangible-technology.com.

PLATE CURRENT OPTIONS, COMPARED

	6L6	6L6GC
Operating Class	AB1/AB2	AB1/AB2
Zero Signal Plate Current	88 mA/78 mA	116 mA/88 mA
Max Signal Plate Current	136 mA/142 mA	210 mA/205 mA
Power Output at 2-Percent THD	22W/31W	55W/47W

Table: Plate current options for two common power tubes. Class-A/B1 is closer to Class-A and is likely to be sonically richer. Class-A/B2 is more efficient and closer to Class-B. You be the judge.

Anthem DREAM



- **Music Tracking:** Classic Split Mode
- **Mixdown:** Traditional In Line Mode
- **Post:** DREAM Constellation Mode
- **Work** the way YOU want to work
- **Reconfigure** instantly for Music or Post
- **Derive** more business for your facility
- **Enjoy** the security of your diversified business

THREE 'application specific' consoles in ONE!



The World's first Multi Mode Audio Production and Mixing System

encoded in DTS-HD Master Audio bit-for-bit format support downmixing from 7.1-channel to 5.1-channel and from 5.1-channel to stereo, and are also backward-compatible with existing DTS decoders.

JOEMEER MC2 COMPRESSOR

Another Joemeer (www.joemeer.com) product aimed at making you "green" with envy, the \$199 mc2 compressor features balanced/unbalanced I/Os, sidechain input, front panel controls for input gain (with peak LED), compress (threshold), slope (ratio), attack, release and makeup gain. LED ladder meters monitor gain reduction and levels. Other features include gain-reduction hold and stereo width, variably modifying the stereo image from mono to normal stereo.

SADIE VERSION 5.5 SOFTWARE

Coinciding with the availability of the unique new SADiE (www.sadie.com) LRX location audio workstation shown at NAB, V. 5.5 (free download) introduces many powerful editing/recording functions, including a radically improved user interface with a new coloring scheme. It also features increased support for the PCM-H64 multitrack platform, with a new dedicated "MTR" multitrack recorder interface for simpler setups and operation of systems in the style of traditional multitracks. Also new is a comprehensive metadata interface for inserting metadata, and handling of file and take names



during the record process. Those with safety in mind will love the support for redundant recording to a mirrored disk in addition to the primary recording drive, providing simultaneous file backups. Other enhancements include improved and updated OMF import and export option, auto-conform enhancements and direct creation of DDPI and CIs from high sample-rate material.

PSP NEON, NEON HR

PSP Audioware's (www.pspaudioware.com) PSP Neon (\$149) and Neon HR (\$299) are fully featured EQ plug-ins. Neon offers eight EQ bands, each of which can be assigned one of seven filter types, and uses frequency-domain, fast, convolution-based linear phase algorithms for the best balance between CPU efficiency and phase accuracy. For those who want to use the excellent analog-modeled PSP Neon filters in even more CPU-critical applications, you can toggle off the linear phase mode and take advantage of PSP Neon's minimum phase error Infinite Impulse Response (IIR) mode. Neon HR offers even more with operation up to 192 kHz. PSP's proprietary FAT mode, independent processing and control of each stereo channel, stereo/mid-side operation, and high

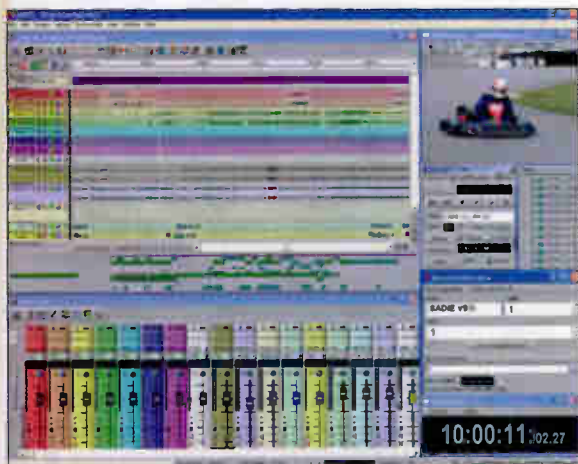
and max resolution modes. PSP offers 14-day fully functional demos of both PSP Neon HR (iLok required) and PSP Neon.

AUDIO PRECISION APX585 ANALYZER

Audio Precision's (www.audioprecision.com) APx585 (\$21,000) 8-channel



analyzer breaks new ground for surround, offering eight channels of analog I/O and a user-friendly interface for easily automating test sequences. A broad set of measurements can simply be made by selecting a checkbox and then clicking Run. Test sequences run on the APx585 are supported with an integrated reporting facility, which generates rich graphic reports on individual test settings and results. These exportable reports can be customized with a company's name/logo. Measurement settings and automated sequences are saved in the project file, which can be loaded and immediately run by another 585 user, allowing test results to be quickly reviewed and independently analyzed by different team members.





SONOSAX SX-ST8D MIXER

The Sonosax (www.sonosax.com) SX-ST now comes in a more compact, enhanced version titled the SX-ST8D. This digital version offers eight high-quality 24-bit

A/D converters offering sampling rates from 44.1 up to 192 kHz with output on four AES/EBU lines. Each individual ADC can be assigned either from the direct out of the channel or from the mix. A switchable fast limiter is also provided. The mixer will also soon be available with a new optional recorder module featuring eight tracks of hard disk and CompactFlash card recording integrated within the unit.

VIRTUAL KATY CONFORMER WITH PRO TOOLS

Pro Tools HD and DV Toolkit purchasers now get a free version of Virtual Katy's (www.virtualkaty.com) VK Conformer. VK Conformer

promises to accelerate Pro Tools post-production workflow. It features support for EDLs and change notes; list cleaner, eliminating unwanted elements from

lists; Preview mode, enabling the user to preview and modify region boundaries before committing to the conform; and conform, identifying necessary sound file changes and then automatically re-synchronizing the Pro Tools session. After a 30-day demo, customers who receive VK Conformer as part of their Pro Tools purchase can upgrade to VK2 for \$500.

NEUTRIK LIGHTED ETHERCON

Those wanting to see if the lights are on and someone is home will want to check out Neutrik's (www.neutrik.com) latest EtherCon connector. In addition to providing the components of Neutrik's Shielded EtherCon, first unveiled at NAB 2006, the Lighted EtherCon (\$6.87) offers two Lightpipes for standard 3mm LEDs to indicate data transmission and status. Typically mounted to a horizontal PC board, the LEDs fit into an opening at the bottom of the Lightpipes and transmit the light to the front panel.

Upgrades and Updates

IK Multimedia (www.ikmultimedia.com) is now shipping **Amplitube 2**. The guitar-god-in-a-plug-in features 14 preamps, 14 amp EQs, seven power amps, 16 cabinets, six mic models with four placement options each, 21 stomp effects and 11 rack effects...**Metric Halo** has released the **Universal Binary version of ChannelStrip AU**. Version 2.2 of ChannelStrip AU is supported for operation with systems running Mac OS 10.4.3 or later and Audio Units-compliant host applications. It can be downloaded free from www.mhllabs.com...**Ableton** (www.ableton.com) **Live 5.2** is a **Universal version** of this professional audio app designed to run natively on Intel-based Macs. The new version makes significant performance increases possible, and is a free bug-fix update for users running Live 5 on non-Intel Macs or Windows computers...**Cakewalk** (www.cakewalk.com) is offering a **free update for SONAR users**. Version 5.2 offers VST 2.4 support, MIDI output data from VSTi plug-ins, 4,096 (!) MIDI channels to any ReWire device and more...**The Portico 5043 compressor/limiter duo from Rupert Neve Designs** (www.rupertnevedesigns.com) is **shipping**.

The 5043 features two independent compressor/limiters in a half-rack, single-rackspace module...

Apogee Electronics (www.apogeedigital.com) is now

shipping Symphony,

a multichannel PCI Express card designed specifically for use with Mac computers. The card is a digital computer interface that is based on the PCI-Express architecture in Apple's PowerMac G5 computers, allowing access of up to 192 channels of audio simultaneously in a single computer...**M-Audio** (www.m-audio.com) announces a **free V. 2 firmware update for Black Box**, the Roger Linn-designed creative tool for guitarists that combines amp modeling, effects, guitar/mic preamps and drum tracks with an audio interface for computer-based recording. New features include 28 new guitar and bass amp emulations, five different reverbs, compression and new modulation options, as well as a host of new beat-synched effects for a total of 121 total



effects...**Rain Recording** (www.rainrecording.com) and **Tascam** (www.tascam.com) have buddied up. **Rain Recording computer systems have been tested and certified by Tascam for use with GigaStudio 3 software**. In addition, all Rain computer systems are now shipping with Tascam GigaStudio Solo. **Tascam has also released Universal Binary drivers for the US-122, US-224, US-428, FW-1884, FW-1082 and FW-1804**, making these interfaces compatible with the latest Mac-Intel computers...**Sony Media Software** (www.sony.com/mediasoftware) is **shipping ACID Pro 6 software**. The upgrade offers many new features, including unlimited tracks of audio and MIDI, real-time pitch and tempo matching, VST effect and VSTi support, more than 20 real-time DirectX effects and more. ■

NOW YOU CAN.



 **KORE**

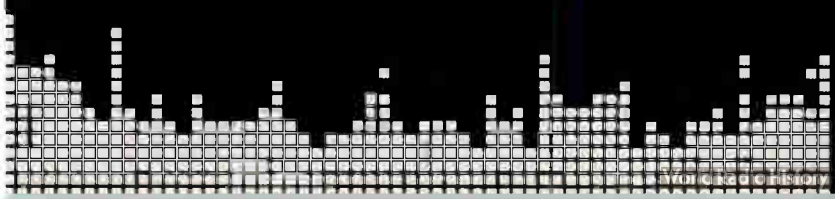
THE UNIVERSAL SOUND PLATFORM

www.native-instruments.com



NATIVE INSTRUMENTS
SOFTWARE SYNTHESIS

GENERATE THE FUTURE OF SOUND



Eventide H7600 Ultra-Harmonizer Processor

Computer Editing and Increased Performance With Extensive Search

Eventide, one of the founding companies of digital audio effects for professionals, has introduced the 24-bit/96kHz H7600 Ultra-Harmonizer™ effects processor. This is the “ultimate” Ultra, no matter how you measure it.

This stereo, single-processor version of the H8000FW is the progeny of the H3000, DSP 4000 and DSP 7000 systems, but the H7600 has more processing power and better performance. It has a faster clock and a new operating system that includes a search engine to quickly locate any sonic treatment for your mix.

POWERFUL ARCHITECTURE

The H7600's staggering power comes from the 230 effect building blocks or modules used to create the unit's nearly

the supplied Compact Memory card.

EXTENSIVE SEARCH OPTIONS

With so many programs, finding and loading what you want would be a daunting exercise without an extensive search feature. Each program is assigned a four-digit number, where the first two digits are the bank number and the second two are the program's number. You can enter a number on your keypad to load a specific program or search for it by category in a number of ways.

Program categories include name, number and the types of effects they contain, such as samplers (S; the H7600 has 174 seconds of sample memory), pitch shifters (P), reverbs (R), delays (D), modulations (M), complex (C), EQ and

B'ing. Both user groups and recent use will become frequent search methods after you have owned an H7600 for a few months.

FAMILIAR FRONT PANEL

Users of previous Ultra-Harmonizers need not worry about operating the H7600. The front panel starts with three pairs of LED level meters that show analog input, digital input and analog output, and the current sample rate. The Bypass button offers three choices: It will connect the inputs to the outputs with a relay; the “electronic” option allows the unit to pass audio without effects while maintaining any internal level trims; and the third option mutes output. I found this feature necessary for live sound and studio use, as



1,100 factory presets or programs. Just as in the DSP 4000, each program has its own evocative and descriptive name, as well as its own unique algorithm made up of these blocks and the myriad ways they are interconnected.

The included preset collection lists 85 banks of programs with titles such as Dual Machines, Front of House, Film, Atmosphere, Pitchtime, Reverbs (nine banks), Shifters (four banks), Vintage Gear and PX, as well as 15 banks of effects for film/TV, theme park and industrial/commercial use.

Using the front panel or the included VSIG™ (Windows) or VSIG-X (Mac OS X) software, you can easily edit programs or create your own unique effects from scratch. Program files run from 1 to 24 KB in size. A nonvolatile memory can hold up to about 50 user-contrived programs, and there is space for hundreds more on

filters (E), and dynamics (Y). Programs are also categorized by the source audio they were designed to effect. Source categories are guitars, vocals, drums, keyboards, special effects and surround.

Each program usually has several effects connected together, and whenever you look up a program in the manual or load it into the unit, the program category (named as above) indicates what individual effects went into that patch. Also listed is the highest sample rate supported (not all effects can run at 96 kHz); the number of input/outputs that are used; whether or not the input is summed mono; and the recommended uses for the effect.

You can also categorize programs in banks of similar programs, in user groups and by recent use. User grouping allows for your favorite and most-used effects to reside in a list that's easily accessible for immediate audition and quick A/

it allowed complete flexibility when I was using the H7600 as either a send/return or inserted effects unit.

Also well-known to veteran Ultra-Harmonizer users are the four soft keys, up/down/left/right cursor keys, numeric keypad, large LCD, parameter and setup buttons, and the large knob encoder wheel. There is a Tap button to enter tempos for loops or timed delays and a memory card slot for loading/offloading your own effect designs.

CREATING A SONIC PALETTE

I tested the H7600 as both a stereo insert and a send/receive effect at sample rates from 44.1 to 96 kHz. I connected the unit to my Pro Tools HD 192 I/O over AES/EBU digital cables and externally clocked the H7600 from the HD 192.

My first inserted effect was a stereo compressor for Pro Tools' stereo mix bus.

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



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

There is a whole bank called Mastering Suite, and program number 2310, called Bigger and Brighter, is a stereo EQ followed by a compressor followed by a stereo limiter with 5-band EQ. This one hit the spot for controlling my mix's wide dynamics and acted more "analog" than any plug-in I would normally use for this application.

Looking for something quirky for my Wurly piano, I went for the Perpetual Motion program, a fantastic filter sweep that sounds like it only sweeps downward (or upward if you select it), but I ended up using it on a drum loop. I found the Leslie speaker preset very realistic—complete with analog amp distortion and fully adjustable depth and fast/slow rotor speeds. It was perfect. And speaking of analog, I also tried out the Manual Tape Flange program; it's the best I've heard since I used to do it with two analog tape decks.

Mouth-a-Later Two worked very well for a vocal *uab* effect on a boring guitar track, but Dual Wa Pedals turned out even better. I came to realize that there are dozens of presets in the H7600 that can work well for any given task, and it is quite a luxury to choose from among them and then tweak to exact taste.

SEND/RECEIVE EFFECTS

After routing the H7600's digital output to a stereo aux input in Pro Tools, I went looking for a main reverb for my mixes. I sorted programs by effect and then searched by effect and found 455 reverb-based programs. With so many choices, I thought I would have to wade through a lot of useless, wacky stuff—wrong! I immediately found Masterverb Room within the first dozen. Far from the token reverb typically thrown into some multi-effects boxes, this reverb was dense and sonically beautiful with a naturally smooth tail and decay. It was perfect for adding a general ambience to many different individual tracks in my song.

I next wanted a stereo delay program for widening the lead vocal track. A search returned 653 delay-based programs. I liked a lot of these programs, but settled on TruPhase Delay from the Spatialization bank; it provided a cool thickening and width enhancement without sounding electronically fake.

For a percussion/breakdown section, I thought to use an extreme effect for which Ultra-Harmonizers are known. I tried Garden Halo, Sonic DisorderVerb,

Alien ShiftVerb and TapRing Plex—all great programs—but PyschoGyroscope fit the best. It was just the right audio chaos I was looking for.

JUST THE TICKET

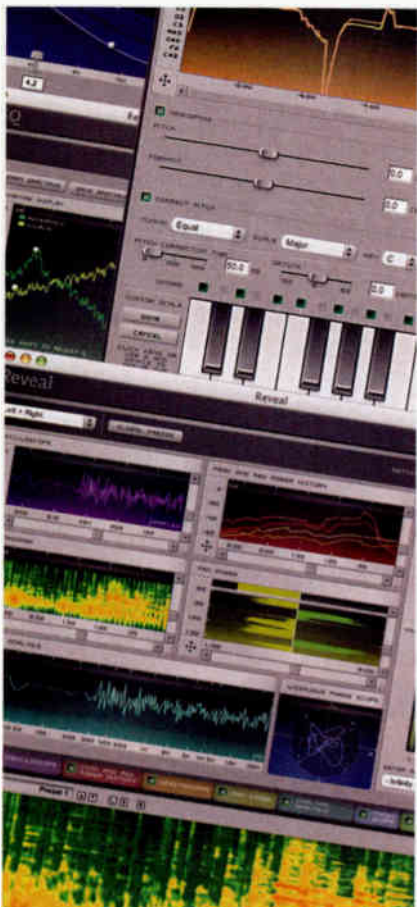
The Eventide H7600 Ultra-Harmonizer effects processor is a wonderfully deep effects unit that almost physically "glows" with its powerful processing energy and vast resource of effect programs. After woodshedding with it and consulting the well-written manual, I was crafting unique-sounding programs that always fit and often sounded magical within my mixes.

Apart from the dual-engine H8000FW, the H7600 is by far the best-sounding and most versatile professional multi-effects unit now available. If you could only buy a single piece of outboard effects gear, this would be a logical and solid choice.

Price: \$4,495 MSRP.

Eventide, 201/641-1200, www.eventide.com. ■

Barry Rudolph is an L.A.-based recording engineer. Visit his Website at www.barryrudolph.com.



Master the universe.

Designed from the ground up for mastering and sound design professionals, these state-of-the-art plug-ins were originally available as part of Peak Pro XT™. Now the Master Perfection Suite™ is available for virtually every host application on Mac and Windows, offering more features and many interface improvements over other plug-ins in their class.

PitchCraft™ — Real-time pitch correction/transposition

Reveal™ — Seven-tool analysis suite

SuperFreq™ — 4-, 6-, 8-, and 10-band parabolic EQ

Repli-Q™ — Spectral matching with linear phase EQ

Squeez™ -3 & -5 — Linear phase multiband dynamics

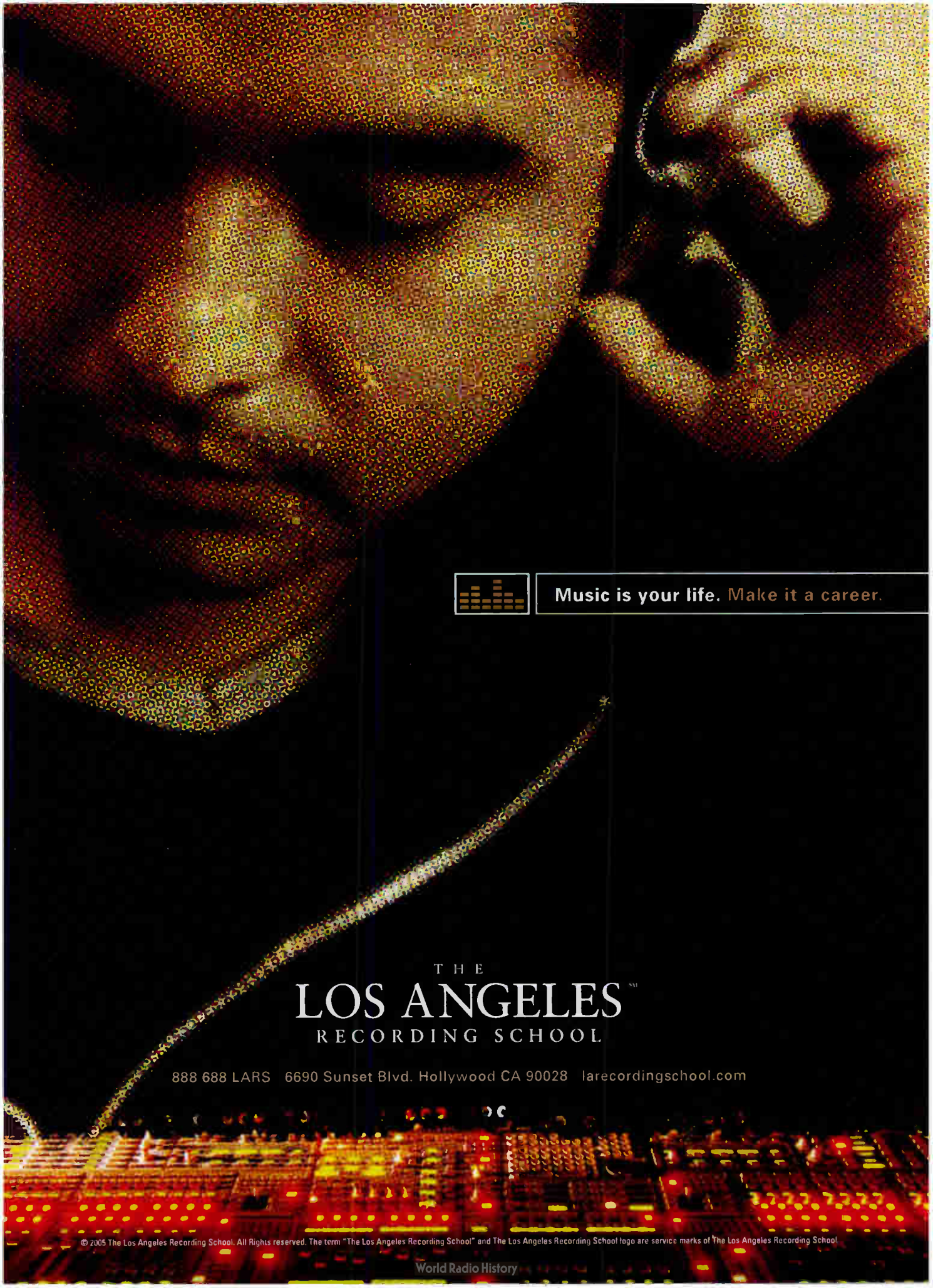
GateEx™ — Professional Gate/Expander

Find out more at www.bias-inc.com



Master Perfection Suite™

bias
sound creative™



Music is your life. Make it a career.

THE
LOS ANGELESSM
RECORDING SCHOOL

888 688 LARS 6690 Sunset Blvd. Hollywood CA 90028 larecordingschool.com

© 2005 The Los Angeles Recording School. All Rights reserved. The term "The Los Angeles Recording School" and The Los Angeles Recording School logo are service marks of The Los Angeles Recording School.

World Radio History

Sony PCM-D1 Handheld Recorder

Portable Digital Powerhouse With Flash Memory

Sony's strong background in broadcast is showing in a handsome field recorder that will please ENG pros and recording folks alike. The Sony PCM-D1 portable field recorder features built-in electret condenser mics in a stereo X/Y configuration, analog and digital meters, signal limiting, highpass filtering, an LCD and 4 GB of Flash memory that can store up to two hours of stereo WAV files recorded at 24-bit/96kHz.

For projects that require extended recording times, a Memory Stick Pro slot is included. Connected to a computer via USB 2 port, the PCM-D1 acts like any other removable drive on a PC or Mac, allowing for an easy transfer.

TOP-NOTCH BUILD

Besides great specs that feature quality Analog Devices signal path components, what really makes the PCM-D1 so exciting is that Sony packed this much power into an attractive titanium housing that weighs less than 19 ounces. That's with batteries—regular, find-'em-anywhere AA batteries. Rechargeable batteries included with the unit provide five hours of recording time; long-life lithium batteries provide between seven and eight hours. Considering everything the PCM-D1 does, that's not a complaint, and as with any type of audio gear, it's nothing new.

OUTSTANDING IN THE FIELD

I started recording with the PCM-D1 as soon as I could get it out of the box. It's intuitive to use and does not require a manual. I loaded it with batteries, and suddenly the world was my studio. The first test for the recorder was an interview conducted outside during lunch. I simply set the PCM-D1 on the table, tilted the mics up a bit (the tilt mount comes in handy), set the levels and let it rip. The highpass filter did a nice job of eliminating some of the wind and traffic noise.

The PCM-D1, like Sony MiniDisc recorders, has a handy feature that allows you to divide recordings in real time or later during playback. When it came time to edit the interview, I wasn't stuck with one huge WAV file that I had to hunt through to find my bites.

For fun, I used the PCM-D1 to record some of the springtime downpours we've had in the San Francisco Bay Area, along with various sounds in the distance such as fire trucks and police cars. Then I compared the results to some of the previous recordings I had done with a different, and larger, rig. Although the mics were not of the same type and quality, the PCM-D1 lacked some of the body of the large-diaphragm mics I had used previously. My point with this comparison is, so what? It required zero setup, and for gathering sounds for picture in a pinch, it could be a real lifesaver.

LIVE, QUICK DEMO RECORDER

Later, I had a gig with a rock band I play with in the Bay Area. Because I play drums, I wasn't able to monitor the recording. I handed the PCM-D1 to a friend in the audience and told him to point it at the stage and watch the levels. It doesn't get any simpler than that. The PCM-D1 is especially strong at recording middle to high frequencies. Guitar and vocals really shined, while the drums and bass lacked a little body.

I recorded a solo artist singing and playing acoustic guitar, and the PCM-D1 sounded very good. An acoustic artist or songwriter would be happy with the PCM-D1 for this purpose alone. The PCM-D1 was placed just a couple of feet in front of the artist closer to the guitar with the mics tilted slightly upward; again, the tilt feature comes in handy. A little compression and EQ and—voilà!—instant demo CD.

My final project with the PCM-D1 was recording a high school choir, and the results were very impressive. The handy threaded slot on the bottom of the unit made it a breeze to mount the PCM-D1 on a standard camera tripod. The X/Y configuration of the mics makes the PCM-D1 ideal for capturing a live stereo performance, such as with a choir. Again, with a little sweetening, you'd have a usable recording you could be proud of.

THAT'S A WRAP

The PCM-D1 is a reporter's dream. I told a couple of my friends at local radio stations KCBS and NPR about the capabilities of the PCM-D1, and they just looked at me incredulously. Budget would be the only



thing holding them back from making the leap. At \$1,800, the PCM-D1 is an investment. That might be hard to swallow for some radio stations getting by just fine with MiniDiscs and other portable recorders, but the PCM-D1's versatility makes it very enticing.

I also have a couple of other things to add to the wish list. Because the mics and controls are all part of the same unit, there's no way to ride the levels without handling noise being picked up by the mics. A simple remote connected via USB for turning levels up and down would be very cool. Also, when the user is navigating the menu, the volume control is in the perfect spot to the left of the menu for scrolling through the menu options. I kept wanting to scroll through the menu using the volume knob vs. the buttons on the face of the PCM-D1. However, these are minor ergonomic tweaks.

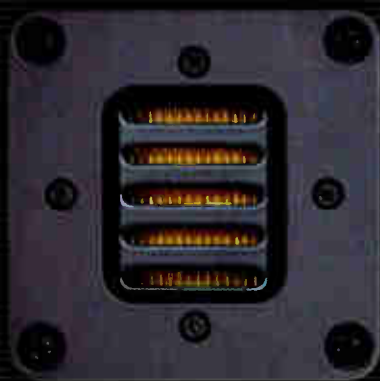
Overall, I really enjoyed using the PCM-D1. It performed very well, and I was just getting started. The PCM-D1 should be on the short list of anyone considering a portable, professional, solid-state recording device.

Sony Pro Audio, 800/686-7669, www.sony.com/professional. ■

Rick Spence is the owner of AVT Pro, a production company in the Silicon Valley.



ADAM
PROFESSIONAL AUDIO



The ADAM A.R.T. Tweeter Accelerated Ribbon Technology

ADAM's unique folded ribbon diaphragm moves air four times faster than any driver in any other professional monitor, resulting in incredible clarity, breathtaking detail and imaging like you've never heard before. You'll work faster, better, and more confidently than ever.

S6A MK2



THRILLING EARS AROUND THE WORLD

(805) 413-1133 | usa@adam-audio.com | www.adam-audio.com

Waves MaxxBCL Signal Processor

Hardware Compressor, Bass Enhancer and Limiter

Although Waves is mainly considered to be a software company, it has occasionally released hardware that has been well-received in the industry, such as the discontinued L2 Ultramaximizer peak limiter and the MaxxStream narrow-band audio streaming box.

The MaxxBCL processor, designed to replace the L2, includes Waves' Renaissance Compressor, MaxxBass bass enhancer and L2 Ultramaximizer peak limiter in a sturdy and feature-packed double-rackspace box.

MEET MAXX

The first thing I noticed when I took the MaxxBCL out of the box is that it's built like a tank. It's heavy and the switches are top-quality. One gripe is that the slim rear panel toggle switches could easily be broken off in a road situation or accidentally tripped when the user is accessing cables at the back of the unit. In my opinion, it would have been better to use recessed switches.

If you're familiar with Waves' plug-ins, then the front panel layout will immediately make sense. Even if you're new to these



processors, the manual is excellent and takes you deep into the unit's operation, even getting into the theory behind the obvious controls.

The front controls are accessed via quality LED buttons and knobs, and, in addition to dedicated controls for the three processors, there is a section for switching

the sample rate (44.1, 48, 88.2 and 96 kHz), an input selector (S/PDIF, AES or analog), sync options (word clock, digital or internal) and bit rate (16 or 24). Four buttons dedicated to user presets operate like your car radio: Once you've set up the unit to your liking, simply push and hold one of the preset buttons for a few seconds, and there you have it. Sixteen-segment vertical input and output meters include a Peak Clear button, along with separate buttons allowing a two-second hold or infinite hold of the peak value. Next to each input meter is a trim knob that will take you from -6 through unity up to +3.

The back of the unit offers word clock input with a termination switch, providing word length impedance matching when word clock sources are chained together. Digital input can be AES or S/PDIF/optical; the latter is switched via a toggle. Analog input is on XLRs, while output can be XLR or balanced/unbalanced TRS. (Both are active simultaneously.) There are separate ground lifts for the left and right input, and both ins and outs offer six level-calibration choices on a six-position recessed rotary screw (+9, +12, +15, +18, +20 and +24).

IN-STUDIO TEST DRIVE

My first use of the box was to put it across the stereo bus on a track I was mixing

Maxx Live

It's important to remember that MaxxBCL isn't just for studio applications; it's also a great live tool. To put it to the test, I gave the box to front-of-house engineer Eddie Mapp (Evanescence, Taking Back Sunday), who used it across the digital insert of a Digidesign VENUE live sound console.

Mapp first added it to a bass using all three processors in the chain with MaxxBass first, then the Renaissance Comp and L2. (The L2 is always last in the chain by default.) He had the ratio set at 8:1 and threshold set to taste, while the MaxxBass frequency was set to 71 and intensity at 65 with the HPF off and the L2 at -3 dB. Mapp preferred to use all three units chained together and felt that the effects of the opto vs. electro were better heard if he included the L2 at the end. He preferred opto for this application because of its smoother attack and the way it rounded out the transients. The sum of all three processors added more bottom to the bass and tucked it into the mix nicely.

Next, Mapp put it across the stereo bus, this time opting for the electro setting on the compressor with the attack set to 20 and ratio at 4:1. He used MaxxBass' frequency set to 63 with the intensity set to 60 and the HPF engaged. "The limiter brought everything out front without squishing it while the dynamic range seemed to be good," Mapp says. "MaxxBass made the mix a lot fuller, and with all three engaged, it made the mix more out front and filled out the bottom."

—Kevin Becka

Can the performance features of Neutrik's XX series connectors improve your love life?



Possibly. You see, research has long established that the key to a better love life is greater confidence. And that's where we can help.

While our X series connectors are the industry standard, our next generation XX series provides even greater performance. The increased durability, ease, and speed of XX brings a fresh new sense of self-assurance to every area of your life.

Exactly how do we improve performance? Notice the ingenious "cage" type female contact. It creates multiple contact points that increase conductivity and reduce wear.



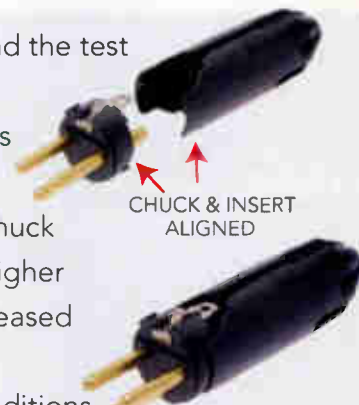
Now check out the aptly named "solder cup." It keeps the solder away from the contact, for faster, easier assembly. You're feeling remarkably in sync with your mate, and you're not even sure why.



How else does the XX help? Our new ground contact enhances conductivity between the chassis and cable connector. And our unique latch design improves security, ease, and speed. Your co-workers keep asking you why you're smiling.



But can the XX stand the test of time? No problem. Our unique guide flaps ensure easy, secure alignment. And our chuck type strain relief has higher traction teeth, for increased retention under the toughest operating conditions. You're going to have a great time on that cruise to nowhere.



The moral of this story? If you want a better love life you need a better connector. The XX series from Neutrik.



NEUTRIK
CONNECTING THE WORLD

www.neutrikusa.com

from analog tape on an SSL 4000G+ console. I'm very much at home with the box's three processors in plug-in form, so it was easy to get into it right away. I bypassed the Renaissance Compressor and MaxxBass and went right to the L2. The operation of this "bigger and louder" plug-in couldn't be easier: Just lower the threshold and listen to your mix tighten up. Of course, too much limiting means less dynamic range, but the L2 is so musical, it's hard to screw things up unless you go crazy.

I chose to turn off the Link button, which ties the Threshold and Out Ceiling controls, allowing you to lower the threshold without changing the makeup gain. Out Ceiling does just what you'd think—adjusts the limiter's output ceiling, never letting you exceed maximum. Right away my mix started to take shape and had that finished quality that I'm used to hearing when I use the plug-in. It was a strange thing to have this processor working on the SSL from analog tape, and it sounded great. The converters in this box are so good that I wouldn't hesitate to use this box as a converter or sample-rate converter on its own.

Next, the box was used across the insert on an electric bass track as it was being recorded. In this case, the L2 was bypassed and I went straight to the Renaissance Compressor and MaxxBass. Once again, it was very easy to dial in a compression setting using the Threshold knob with the ratio set at 3:1. I experimented with the eight attack settings, arriving on 15 ms. I also chose to have the MaxxBass follow the compressor and set to opto with the two-position buttons. These either/or lit switches have their operation results clearly screened next to the button, so there's no doubt about what you're doing.

I got the compression I was looking for and then went next door and added a bit of MaxxBass centered about 100 Hz. It was instant love and the bass player loved it. If you've never used MaxxBass, you're really missing something. The Waves manual and Website explain its operation better than I have space for here, but it is truly something to behold and stupid-simple to operate. The *CliffsNotes* version is that it creates the perception of increased low frequency without EQ via the ear's ability to interpret those frequencies from the

upper harmonics. In addition, if you've got some leakage or other mud in the track (in a live situation, for instance), you can use the HPF to decide whether or not you want to keep the original low frequencies or not. In this way, you can get more perceived low end, have your system work less and reduce rumble in the system.

MAXX-IMIZE YOUR ASSETS

The MaxxBCL is a clear winner that works exceedingly well when used during tracking/overdubbing, live recording, mixing or in a front-of-house application. In every test, the unit showed versatility in the I/O available and in the user's ability to employ one, two or all three processors in line with stellar results.

As an added bonus, the converters are excellent and the unit can operate as a stand-alone A/D or D/D sample-rate converter. At \$3,200, it's not cheap, but this box is so deep and well-built, you get the most out of every dollar.

Waves, 865-909-9200, www.waves.com.

Kevin Becka is Mix's technical editor.

BUY A PRE - GET A MIC FREE!!

USA Made ADK Custom Shop Signal Processing and Top Import Class A Solid State Condenser Mic. Not just Any Free MIC - Great-Sounding Belgium-Design Hamburg or Vienna Edition!

FOR LIMITED TIME, PARTICIPATING ADK DEALERS*

AP-1 Package \$995 - with your choice of Class A Hamburg or Vienna Edition!
AP-2 Package \$1995 with 2 Mics - Choose Hamburg or Vienna Edition Mics!

For Each Channel of ADK Custom Shop Signal Processing, get a HOT VIENNA Edition or COOL HAMBURG Edition. Great One-Two Combination! Fine Tune the Color with Real Analog Plug-Ins. ADK Pop-N-Swap is Bare Wire Theory: Colorize Without EQ!!



Soundcheck doesn't have to be so painful.



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

Matthew Peskie, Jars of Clay
Production Manager

Musicians and engineers alike know that, even under the best of circumstances, soundchecks can be tedious and frustrating. By giving performers the ability to adjust their own monitor mixes, Aviom's Pro16 Monitor Mixing System guarantees a smoother, faster soundcheck—with better results in less time.

Live performance is always unpredictable. No matter what combination of wedges, headphones, and in-ears you're working with, Aviom's Pro16 Monitor Mixing System makes soundcheck—and the gig itself—a better experience for all.



To learn more about Aviom's solutions for Live Sound, visit www.Aviom.com

AVIOM

IK Multimedia Classik Studio Reverb

Ambience Plug-Ins With Easy-to-Use Interface

From Modena, Italy, comes IK Multimedia's Classik Studio Reverb, or CSR plug-in bundle. This is a solid collection of four reverbs that every music mixer, sound designer and film sound effects creator should own. The four plug-ins are Plate, Room, Hall and Inverse. Sold for \$399 MSRP in VST, Audio Units and RTAS versions for both Mac OS X and Windows XP platforms, the product authorizes using a supplied Syncrosoft USB dongle.

SMOKIN' INTERFACE

The Easy mode offers six virtual knobs to adjust the parameters of each of the four reverbs. For example, the Plate reverb has control knobs for mix, diffusion, reverb time and low time; high dampening changes the decay time in the high frequencies; and high frequency changes the frequency of high dampening. As you instantiate any of the four reverbs, these six parameter knobs will change function to accommodate each reverb type and, for about 80 percent of the time, that's as far down as you'll have to drill to arrive at a proper reverb to fit your mix. However, when you select Advance, the whole ball game changes.

Advance uncovers up to eight submenu buttons, including macro and mod buttons (more on these later) on CSR's virtual front panel. The five common submenu categories/buttons are I/O, Time, Reverb, Color and Reflections.

I/O sets up the wet/dry mix, I/O levels and phase coherency using the Image control. Stereo image control is one of the best things about this plug-in and sets the plug apart from others when used creatively. The Time section controls pre-delays and everything about the reverb's length in the low and high frequencies. Reverb is about the size, diffusion, build-up, dispersion and modulation of the reverb's tail, while Color controls EQ. The Reflections menu has controls for the early reflections.

Clicking on any of these buttons changes the same six virtual knobs used in Easy mode to a new set of parameters for each of the five submenu categories. The Plate reverb has an additional Echo submenu for



Interfaces for the Classik Studio Reverb plug-ins include, from top-right, clockwise: Hall, Inverse, Room and Plate.

feeding up to 500 ms of echo delay into either the left or right reverb channels.

MOD AND MACROS EXPLAINED

Mod uses a reverb modulation matrix or grid to modulate any eight of the available 19 parameters. There are four modulation sources: two LFOs (with square, sine, triangle, sawtooth or noise waves) and two envelope generators with adjustable attack and release time, trigger input selection, and gain or sensitivity. The Mod grid lets you select the modulation source, be it LFO or envelope; the destination or the parameter to be modulated; the minimum and maximum range of modulation (a kind of depth control); and Curve, or the modulation's evolution over time with linear, logarithmic and exponential choices.

For sound design, Mod worked well for tailoring a reverb to react dynamically to sources; these are treatments whose finished sound relies predominately on the reverb. In film sound effects, this might be a horrific scream or a huge explosion reverb. I could change the reverb's length depending on the level sent to it using the envelope generator or vary the reverb's output level using the LFO at a 3Hz sine wave rate.

Macros are four faders you can individually map to adjust several parameters at the same time. The Macro matrix is identical to Mod, and because the four Macro sliders and 29 other parameters of the plug-in are automatable, there is a lot of potential here.

CREATING AMBIENCE

I tested the RTAS version of CSR using Pro Tools HD 3 Accel (Mac OS 10.4.6 and Pro Tools 7.1cs6) and the VST version in

Steinberg Nuendo 3.3 running in a PC Win/XP Dual-Core system. After a trouble-free install in both rigs, Classik Studio Reverb worked well in every mix I tried. There were a couple of bugs I found only in Pro Tools: I could get echoes only on the right side in the Plate Advanced Echo settings, and changing Mod destinations from low-cut frequency to low-cut gain (or vice versa) would crash my Pro Tools session. IK says an update will fix these issues.

I liked Plate set short for vocals and some percussion, and the Room was realistic for drums and strings. The Hall reverb worked well for very long reverbs; it's smooth and luscious—the best of the four for its convincing spatial quality. Hall is great for legato strings, choirs or film/TV effects.

Inverse is the "big hair" '80s effect, where the buildup is fully adjustable, unlike some of the original reverb boxes "back in the day." Inverse used in tiny amounts can fatten snare drums and percussion, and certain vocals sounded better with a pinch of this very distinctive effect.

IS IT A CLASSIK?

With 90 presets you can recall, modify and save, Classik Studio Reverb is a good collection of tools destined to become standard equipment for anybody starting a music mix or new sound design. Having access to four separate plug-ins—each with its own Easy controls and deep Advance parameters—is a great way to organize and manage the complexities of reverb design with a determined exactitude. Get a free trial at www.classikstudioreverb.com.

IK Multimedia, 954/846-9101, www.ikmultimedia.com. ■



**DESKTOP
AUDIO**

THE PROFESSIONAL'S SOURCE



real world solutions from industry professionals!

www.bhphotovideo.com



800-947-5508 | 420 Ninth Ave, New York 10001 | We Ship Worldwide



Algorithmix reNOVator Spectral Editor

Powerful Noise Removal and Audio Restoration Tool

ReNOVator is one of five programs in a suite of serious audio restoration/mastering tools from Algorithmix. (The others are ScratchFree, NoiseFree, LinearPhase PEQ Red and LinearPhase PEQ Orange.) reNOVator is available as a plug-in or stand-alone application (Windows only). The plug-in version works with Pro Tools on a Mac or PC and runs on the PC in Sequoia, Pyramix, Wavelab and Adobe Audition, with more apps to come.

Handling sample rates up to 384 kHz, reNOVator excels at removing extraneous noises, such as door slams, chair scrapes, coughs and even rude cell phone disturbances from musical passages. No more ruined takes from audiences hacking, sneezing or coughing, or rumble from passing trucks and other urban sonic gremlins.

Deceptively simple at first glance, yet amazingly powerful, this spectral editing tool visually displays audio information in three useful ways: time (left to right), frequency (top to bottom) and amplitude (with user-selectable colors; the default setting has dark blue representing the quietest levels and yellow/white the loudest, with orange and red in the middle levels).

After you become familiar and comfortable with reNOVator, removing specific noises and impurities is as easy as finding the region to repair, drawing a highlighted box around the area in question and hitting the Process button.

All the usual function controls of an audio editor are provided, including stop and play. User-adjustable time and frequency sliders let users zoom from full view to single frequencies and/or shortest available audio segments. The Process button applies selected changes, with multiple undos (and redos) available.

reNOVator samples part of the audio material just before the offending sound and some of the material immediately after, and replaces the "bad" area at a preset (but user-adjustable) level. Steady tones (such as bells, organs, pianos, strings) are less affected, while randomly based sounds get the default "sonic airbrush" treatment.

A user-defined Blocksize button determines the depth of the repair. Smaller

sounds such as clicks and pops require less, while a frequency-dependent interpolation (discrete tones or harmonics) needs larger block sizes and deeper amplitude cuts. With a little practice, the results can be seamless and undetectable.

ARE YOU READY TO DE-RUMBLE?

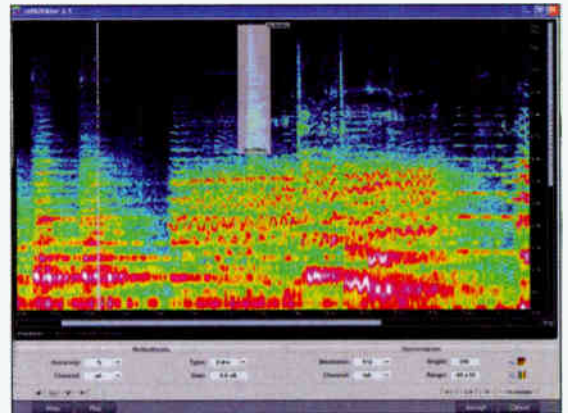
In situation after situation, reNOVator saved recordings that were otherwise doomed.

With the spectral viewer (pictured), you can see the offending material in three dimensions. Although sometimes easy to spot (large segments of color show low "p"s popping, truck rumble, etc.), other times a more detailed view is needed (single overtones from sloppy violin playing, flute over-blows, HF whine).

A live choral recording presented what would have previously been an irreparable problem. On an unaccompanied soprano duet, one singer entered a half step lower than the other. They soon got on pitch, but not before ruining the first two words of the opening. With reNOVator's ability to zoom in and examine the waveform, it was easy to see the two pitches on the timeline, one literally over the top of the other. I first highlighted and removed the wrong fundamental and its basic overtones (an octave and a fifth) while leaving the rest of the upper harmonics alone.

The nearly miraculous result still gave the impression of two singers (especially with the remaining overtones still in place), yet only the fundamental pitches from the *correct* singer were left behind. (The grateful client and the embarrassed singers could hardly believe the repair after hearing both versions, back to back. Go to www.mixonline.com and click on Online Extras for examples of this and other repairs.)

Some things reNOVator does not handle well—which is often the case with any specialized tool such as this—including some digital artifacts or spurious waveform-destructive noise generated by data glitches, power surges, etc. But these are not what



The highlighted area is a cough about to be removed by reNOVator.

this tool is intended to fix. In other words, organic impurities added to existing sounds are more likely to be removable with reNOVator, while radically torn, interrupted or data-damaged files may need other types of repair.

Even so, reNOVator recently rescued an entire project—an expensive, live tracking session on location—that was nearly ruined by an external hard drive power supply switching noise that surreptitiously leaked back in on every track via the mixer. This one save more than justified reNOVator's cost (\$3,183).

BOTTOM LINE FOR THE TOP SHELF

For high-end production work, reNOVator is an essential tool for anyone who does serious audio work. Movie soundtracks, restoration, transfers and location recordings can all be plagued with unwanted noises. All are fair game for reNOVator's powerful retouching features.

In more than one year of use, I've removed countless trucks, buses, crying babies and even birdcalls from otherwise perfect recordings. I can't imagine being without it now; it's an indispensable part of my workflow on every project.

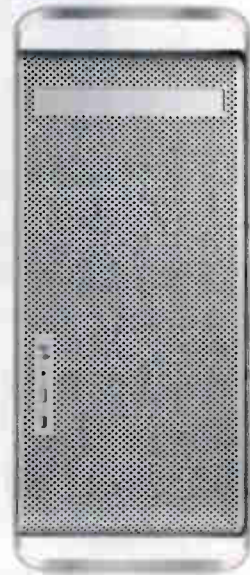
With the new multichannel Pro Tools version available for Mac users, there's no better choice for spectral editing, regardless of platform.

Algorithmix, (+49) 7741-91930, www.algorithmix.com. ■


Joe Hannigan runs Weston Sound & Video in Philadelphia.

Instant Pro Studio

Just add creativity.



LOGIC PRO® — THE PROFESSIONAL'S CHOICE FOR CREATIVE AUDIO PRODUCTION

 Logic Pro has long been the professional's choice for creative audio production. Pair it with a dual processor Power Mac® G5, and you've got an unbeatable combination of power, flexibility and expandability. With 34 software instruments, 70 effects and distributed audio processing, all that's missing is a way to get high-quality audio into and out of the Mac...

ROSETTA 800 — THE PROFESSIONAL'S CHOICE FOR AUDIO I/O.



...which is where the Apogee Rosetta800 comes in. A name synonymous with top-notch digital I/O for two decades, more professionals get audio in and out of their DAWs through Apogee converters than any other standalone pro A/D/A converter.

- 8 channels of balanced analog I/O
- 8-channel digital I/O via AES/EBU & ADAT/SMUX
- Up to 24-bit/192kHz resolution
- Ultralow-jitter Intellclock
- SoftLimit clip protection
- Plug-in play FireWire connectivity*



Sweetwater puts it all together for you. Our Apple® Certified sales engineers can answer any and all questions you may have about building the perfect Apple audio system, and our computer audio install techs have built more systems than any other retailer on the planet. Let us help you design the perfect system for the way you like to work. We'll build it, configure it, test it, and ship it straight to you. All you've got to do is unpack it, plug it in, and start making music.

*Optional XFireWire card required.

CALL SWEETWATER TODAY!

(800) 222-4700

www.sweetwater.com

Sweetwater
music technology direct™

World Radio History





The Tool lineup, from left: Maynard James Keenan, Adam Jones, Justin Chancellor and Danny Carey

THE MAKING OF TOOL'S "10,000 DAYS"

By Jeff Forlenza

Tool is a dynamic band: intricate and intense, brutal and subtle. Each album is an aural adventure full of high-caliber musicianship, sick humor and sonic surprises. They create hard-edged, surreal portraits with driving polyrhythmic drums, deep churning basslines, dense guitar textures and passionate-bordering-onderanged vocals interwoven with interesting sounds and effects. Obviously, they're doing something right; the band has never been bigger.

Mix caught up with recording engineer mixer Joe Barresi and mastering engineer Bob Ludwig to discuss the making of Tool's latest album, *10,000 Days*. Barresi has an extensive track record of working with hard-rock bands such as Queens of the Stone Age, Kyuss and The Melvins. Ludwig is the man with the golden ears who has mastered countless albums in every style. Both engineers relished the opportunity to work with Tool.

"I'd always been a fan," Barresi says of the band. "And I had always wanted to work on their records just 'cause I thought it'd be an interesting combination—what I do and what they do. What really sticks out is their amazing musicianship. They are just ridiculous."

After recording two albums with engineer David Bottrill (*Aenima* and *Lateralus*), Tool wanted to change things a bit. Melvins frontman Buzz Osborne,

who is good friends with Tool guitarist Adam Jones, recommended Barresi for the gig. The band appreciated Barresi's work on The Melvins' records, noting his willingness to experiment with sound and recording techniques. Barresi describes the overall sound of *10,000 Days* as "*Undertow* [the band's 1993 debut album] on steroids." To re-create the vibe of that album, the band returned to Grandmaster Recorders in Hollywood to track guitars, bass and vocals on the vintage 24-input Neve 8028 console. Drums were tracked on the API console at O'Henry Studios in Burbank, Calif.

"Part of the reason I chose Grandmaster was because they recorded *Undertow* [with engineer Sylvia Massy Shivy] there," Barresi explains. "They were familiar with the studio; I've worked there. I just figured being there would bring back the sentiment of *Undertow*. They had tracked almost all of their records on Neve consoles, which I totally love. But Danny [Carey] wanted to do something different with his drums this time. He wanted to track on an API. He and I looked around town, and we settled on O'Henry. That's where we spent a couple weeks tracking drums."

Barresi tracked Carey's extensive drum kit at the now-defunct O'Henry using the studio's massive API console (more than 16 feet long!), which has 88 inputs fitted with enhanced API modules and traditional API-style 2520 amps. Barresi explains how he captured Carey's kit: "I used a lot of close miking since he has such a large kit. I used three overheads: left, center and right. Then I filled in the other cymbals with spot microphones. The toms were all miked top and bottom. Kick and snare, pretty normal stuff. I had a couple of different stages of room mics: fairly close, middle of the room and then very distant. It was the kind of room where you could use the distant mics fairly loud without getting too much delay. What a beautiful-sounding studio!"

—CONTINUED ON PAGE 120



RASCAL FLATTS

DOING WHAT COMES NATURALLY

By Elianne Halbersberg

Some Rascal Flatts stats:

- Bassist Jay DeMarcus, vocalist Gary LeVox and guitarist Joe Don Rooney's latest CD, *Me and My Gang*, produced by Dann Huff, was certified Platinum within two weeks of its release.
- It's the highest-selling country title so far for 2006.
- It debuted at Number One on the *Billboard* Top 200 albums chart, making it the highest-selling CD across all genres.
- "What Hurts the Most," the first single from the new album, was Rascal Flatts' fastest-rising single yet.
- All totaled, the Rascal Flatts catalog, which includes *Feels Like Today* (2004), *Melt* (2002) and *Rascal Flatts* (2000), has sold more than 10 million albums.
- In 2005, Rascal Flatts were re-crowned ACM, ASCAP, CMA and CMT Vocal Group of the Year. They were also named *Billboard* and *Radio & Records* Artists of the Year and Breakthrough Touring Act at the Billboard Touring Awards, besting Coldplay.
- Rascal Flatts spent 10 weeks at Number One on the radio singles charts in 2005, making them the year's most-played artists on country radio.

So, to paraphrase an age-old Passover question, what makes this group different from every other group? According to Joe Don Rooney, it's luck, plain and simple. "I have buddies who can play circles around me



From left: singer Gary LeVox, guitarist Joe Don Rooney and bass player Jay De Marcus

and they can't get a break," he says. "In my eyes, we're living a dream and we're lucky to have people who believe in us. I feel for artists who don't have the right core group of people behind them. I wish everyone could experience what we're experiencing. We're truly blessed."

Joe Don Rooney—a country star name if ever there was one—uses the word "blessed" repeatedly throughout a conversation and never does it sound rehearsed or contrived. Perhaps that's part of the secret behind Rascal Flatts' success: Nothing this trio does sounds contrived. Rehearsed, yes—almost to perfection, with LeVox's instantly recognizable voice giving them something most of today's groups lack: identity. But despite the rock and pop flavorings behind the country licks and lyrics, Rascal Flatts is anything but formulaic. They're seasoned musicians, multi-instrumentalists, an energetic, tight live act and studio professionals.

That's not bad for a band that came together almost by accident. DeMarcus relocated to Nashville in 1992, with his cousin LeVox joining him shortly after. While DeMarcus produced and toured with Christian artists, opportunity knocked to join Chely Wright's band. Between tours, he and LeVox had their own three-piece playing Nashville clubs. In the meantime, Rooney was hired into Wright's band. Filling in for DeMarcus and LeVox's guitarist one night for a three-piece club gig, they all realized they were onto something, and Rascal Flatts was born.

"It's been a long path," says Huff of his working relationship with the band. "I knew them when they first started; I played some guitar solos on their records. Even though it has been a dream of mine to work with them, they're friends, and you don't do that. Ironically, with all the success they've had, they needed to shake it up, and when they asked if I would produce this record, I thought about it for five seconds and said, 'Yes!'"

Huff spent some time on the road with the group, beginning in 2004. "I wanted to make that translation between live and studio," he says. "They have a bit more of a rock show, and I wanted to bring that energy and push them to flex their musical muscles. Once I adjusted my ears to a level above the screaming of the crowds, I was able to hear exactly what they were doing."

Me and My Gang was two years in the making, and while Huff is calm in describing the joint effort, Rooney expresses disbelief. "We're huge fans of Dann," he says. "As a guitar player, he's one of my heroes. He really got it as to what we needed to do. He stole our hearts. There was so much energy in the studio with him. The first day, my nerves were shot: 'I'm working with Dann Huff!'"

"From day one, we had this belief in him, and he fully reciprocated," Rooney continues. "He built us up and made us look at ourselves in ways we never had before. He's a true musician, composer and artist, and he knows how he wants it to sound. Doing guitars with

—CONTINUED ON PAGE 122

WILLIE NELSON'S "ON THE ROAD AGAIN"

By Barbara Schultz

Like most country singer/songwriters worth their salt, Willie Nelson operates outside the Nashville mainstream—not necessarily because he's a major rebel like his friend and fellow Outlaw Waylon Jennings was, but because he just didn't fit in. With vocal phrasing that owes almost as much to Tony Bennett as to Hank Williams, Nelson didn't sound the way producers expected country to sound. The consensus in Nashville seemed to be that he had a great voice for songwriting.

Nelson moved to Nashville from his home state of Texas in the early '60s, after playing honky-tonks and DJ'ing for several years in the Fort Worth area. While still in Texas, he'd sold a song called "Family Bible" to a guitar teacher for \$50. The song was later a hit recording by Claude Gray, and Nelson felt encouraged to try his luck in Music City. He found a friend and admirer in Hank Cochran, who helped Nelson get a publishing deal with Hal Smith's Pamper Music.

"I started working in a garage at the Pamper office," Nelson recalled in his 1988 autobiography, *Willie*. "There was a door, a window, a guitar and the walls. I started talking to the walls, like I had done when I was a child in Abbott [Texas], reading the pages of the *Star-Telegram* that kept the wind out. Hank walked into the garage, and on a piece of cardboard I had written, 'Hello Walls.'"

The composition that began with Nelson writing simply "Hello Walls" became a monumental hit for country star Ray Price, and success began to follow success for Nelson: Billy Walker recorded "Funny How Time Slips Away," Price recorded "Night Life" and Patsy Cline had an unforgettable hit with "Crazy."

Nashville still failed to embrace him as a performer, but Nelson, itching to blow some of his sudden wealth and take a break from his home life (the moods of his marriage to first wife Martha Jewel Matthews apparently ranged from drunk to violent), won a spot in Price's touring band, the Cherokee Cowboys. "I heard Ray Price's bass player, Donny Young—now better known as Johnny Paycheck—had quit," Nelson wrote. "I talked Ray into hiring me to play bass with the Cherokee Cowboys. Ray didn't ask if I knew how to play bass, which I didn't."

The next 10 years were a professional and personal roller coaster for Nelson. He partied away piles of cash, divorced and remarried, scored a couple of Top 10 duet singles with his second wife, Shirley Collie, and became a member of the Opry. He changed labels a few times, releasing records with decreasing success, changed wives again and ultimately found himself back in Texas—Austin, this time—and ready to start the most fertile period of his career.

Nelson's breakthrough album, *Red Headed Stranger* (Columbia, 1975), was a huge and surprising success—a concept album with spare arrangements, including Nelson's heartfelt cover of Roy Acuff's "Blue Eyes Crying in the Rain." Nelson



soon followed this with one of the biggest-selling country albums of all time, the collaborative compilation *Wanted: The Outlaws*, which glorified the Nashville-outsider status of Nelson and his good friends Jennings, Jessi Colter and Tompall Glaser. The Outlaws became more than an album; it was a crossover movement that won the hearts not only of country listeners, but also of college kids, rock fans and hippies—outsiders all, and all under the radar of the Nashville establishment.

Nelson rode the success of *The Outlaws* to make his beautiful collection of standards, *Stardust*, which Nelson says moved his tough friend Jennings to tears and, like a handful of popular recording artists of the time, he was propelled to the big screen. He was tapped to make *Honeysuckle Rose*, a movie that's part fiction, part concert film. Many of the songs to be used in the movie were already well-known, such as "Blue Eyes Crying in the Rain" and "Whiskey River," but the filmmakers wanted Nelson to come up with a new song about touring to be the signature track.

"I was on a plane with Sydney Pollack and Jerry Schatzberg shortly after I signed to do the movie *Honeysuckle Rose*," Nelson recalled in *Willie*. "Sydney was the executive producer and Jerry the director, and they were talking to me about the music. They wanted a song 'What kind of song?' I said, 'Either Sydney or Jerry said, 'Well, some kind of song about people traveling all over the country making music.' I said, 'You mean being on the road again?' They said, 'Yeah, that's it!' I like to show off occasionally. I picked up an envelope, or maybe it was an airsick bag, and wrote:

"On the road again.

I just can't wait to get on the road again.

The life I love is making music with my friends.

I just can't wait to get on the road again.

"How about this?" I said."

For much of the picture, live shows by Willie Nelson and his Family Band were recorded before audiences filled with lucky fans who had won the chance to be "extras" in radio giveaways. They were real concerts, with real audiences, filmed to be part of a road movie about a fictional artist.

RETURN OF THE FADER.

{ music production USB Automation/Transport controller | mouse-free music production }



FADERPORT

{ music production USB Automation/Transport controller }

The FaderPort puts the joy, ease and efficiency back into music recording and production. No more clicking through menus and dragging automation edits with a mouse. The easy-to-use Fader Port delivers complete transport control for fast and efficient recording along with touch-sensitive motorized faders for writing perfect takes and automation. Pan, mute, solo, and record enable can also be easily controlled with the FaderPort along with window selection, play, stop, record, and managing markers (locate points) for fast and easy recording. The FaderPort works with all Mac or Windows-based recording software including Pro Tools, Cubase, Nuendo, Solar and more. Over the past 25 years, Sweetwater have become experts at getting the best music production tools in your studio, and the FaderPort is another essential. Call Sweetwater today and experience the return of the fader.

FEATURES:

- 40-point motorized transport control
- Touch sensitive, long throw motorized fader
- Write slope control (programming automation)
- 200 velocity, mute, solo, record enable
- 4000 Hz window selection, solo, stop, transport
- Footswitch jack for boost foot pedal input
- compatible with all major recording software including:
Pro Tools, Cubase, Nuendo, Solar, Digital Performer and more!
- Mac and Windows compatible

www.presonus.com

© 2006 PreSonus Audio Electronics, Inc. All rights reserved. PreSonus, FaderPort, and the PreSonus logo are registered trademarks of PreSonus Audio Electronics, Inc.

Sweetwater
music technology direct™

800-222-4700
www.sweetwater.com

PreSonus

World Radio History

L.A. GRAPEVINE

by Bud Scoppa

My 'hood in the San Fernando Valley has been known as Studio City since the early days of the movie business, long before recording studios existed. As it turns out, the closest facility to my house, less than a mile to the north in fact, is Bay 7 (www.bay7studios.com), situated not in Studio City but in a gentrified section of North Hollywood that adopted the more appealing name Valley Village 15 years ago.

The two-room facility is on the eastern end of Magnolia Boulevard's studio row,

this list, you'd think Bay 7 was wired directly into KROQ, three miles to the east.

Sheehan and Rouze got to know each other in the mid-'90s while the former was engineering independent projects at Drive-By, Rouze's North Hollywood home studio. They soon discovered that they shared what Sheehan calls "this affliction of buying gear. The place was packed out—it was overboard with outboard gear," Sheehan says of Drive-By. "Dave had a Neve frame sitting in storage, and we had enough modules for it so we decided to get a studio to put all this stuff to use."

In June 1998, the partners took over the second-tier, two-room facility Lighthouse, its lone distinction being that John Fogerty had spent five years in the room working at his typically glacial place on the 1998 *Blue Moon Swamp*.

They gave it the odd moniker Bay 7 after an obscure Keith Richards pun meaning "Bass Heaven"—

"as opposed to Freebase Heaven," Sheehan quips—and the mysterious name suited the underground character of the place.

With Rouze frequently called away by the Rolling Stones (he's worked as a live guitar tech for the Stones and for U2's Bono for a number of years), Sheehan has handled the day-to-day operations. When asked how Bay 7 became a go-to place, Sheehan deflects the question: "I don't know—is it? We're still booked and we're still here, so I guess there's a lot to say for that."

Somewhat less-conveniently located—for me, I mean (especially in these days of \$65 fill-ups)—is Sonikwire, a snazzy studio tucked into a modern industrial park in Irvine, practically next door to Orange County's John Wayne Airport and a 15-minute straight shot from Newport Beach on the 55 freeway.

When Josh Gordon and Justin Schier opened Sonikwire in August of 2001, they

—CONTINUED ON PAGE 128



Justin Schier at work in Sonikwire Studio A

but you'd be hard-pressed to find it if you didn't know it was there, and the two guys who own the place, veteran engineers Dave Rouze and Jeff Sheehan, prefer it that way.

One of the reasons Sheehan is pressy is that he has all the business he can handle, thanks in large measure to the near-continuous presence in Studio A of Howard Benson, who is to Bay 7 as Don Gilmore is to NRG or as Jack Joseph Puig is to Ocean Way. Among the albums Benson has made in the room are Hoobastank's breakthrough, *The Reason*, and their recently released follow-up; My Chemical Romance's *Three Cheers for Sweet Revenge*; the All American Rejects' *Move Along*; and Flyleaf's self-titled debut.

Another frequent client is Joe Barresi, who mixes in Studio B. Tool's *10,000 Days* (see "Recording Notes," page 116) and Queens of the Stone Age's *Lullabies to Paralyze* were also done here. Considering

NASHVILLE SKYLINE

by Rick Clark

The success of *American Idol* has, not surprisingly, spawned a number of imitators. Probably the most successful is the USA Network's *Nashville Star*, which focuses on mainstream country music. The program, which runs each year from March through May, is performed live to air every Tuesday night. It is shot at the BellSouth Acuff Theater at Opryland in Nashville.

Nashville Star features 10 contestants (five male, five female) selected from approximately 20,000 people who auditioned from around the country. Like *American Idol*, the show includes judges, but viewer votes cast by phone and the Internet ultimately decide the winner, who is awarded a deal with RCA.

I hooked up with Paul Special, one of the broadcast music mixers on *Nashville Star*, to get the lowdown on the making of a typical episode. The production crew usually meets on the Sunday evening before the Tuesday of the broadcast to discuss the upcoming show. "Each week will require a different amount of input channels, RF mics and RF channels due to both the number of contestants and what the guest artist will be bringing. Between guitar and bass rigs, in-ear monitors and handheld RF mics, some guest artists will bring in 10 to 20 channels of wireless gear," Special says.

The music mix for the house band and contestants is done by Kooster McAllister in the Record Plant Remote truck, using a 54-input API analog console and outboard gear. A Yamaha DM2000 digital console is used to mix the guest acts, and there's one in the Record Plant truck configured for 48 inputs and run by Special. "I do not use any outboard gear [for the broadcast]," says Special, "as the DM2000 has plenty of DSP for EQs, gates and compressors on each channel, as well as up to 12 stereo reverb/delays built in."

The shows are recorded onto 48 tracks of RADAR 24, as well as 48 tracks of Tascam DA-98 for backup. A stereo mix is then sent to Tom Davis, the production mixer, in the video truck. "Ryan Smith from Shure has supplied us with a wonderful package of

NEW YORK METRO

by David Weiss

mics for the entire production, and Clair Bros. handles FOH duties, as well as supplying monitors,” says Special. Clair Bros.’ front-of-house mixer is Bob Bussiere, who handles the house band with the contestants, the judges’ mics and various production elements sent to him from the video truck.

Bussiere uses a Midas Heritage H3000 with 53 inputs, running 11 different zones using the Clair iO drive system with control by wireless tablet. Bussiere runs a total of eight Clair R4 cabinets and four Clair ML18 sub cabinets for his main P.A. He is also running four Clair P2s and eight Clair P110 cabinets for fills and hot spots.

Clair Bros. monitor mixer Shane Hamill uses a Midas Heritage H3000 console and

—CONTINUED ON PAGE 128

PHOTO: JOHN BESSLER, BESSLERPHOTO.COM



The Nashville Star crew. Top row: stage techs Danny Breedan (left) and Billy Hunter. Second row down, L-R: broadcast music mixer (guest artists) Paul Special and stage tech Jackie Brooks. Third row down, L-R: RF technician Jeff Brigette (standing), broadcast music mixer (house band and contestants) Kooster McAllister, broadcast production mixer Tom Davis. Bottom row (from left): monitor mixer Shane Hamill, FOH Bob Bussiere.

Headphones, iPods, boom boxes, radios, living room stereos, computers, TV speakers—all perfectly legit outlets for the on-the-rise producer. But there are other less-obvious destinations for new recorded music. The Hayden Planetarium inside New York City’s American Museum of Natural History is home to a stunning new space show called *Cosmic Collisions*. The 429-seat planetarium stands as one of the world’s largest virtual-reality simulators, and with a 23-speaker discrete surround setup and low-frequency butt-kickers in every chair, sound is a huge factor in creating that reality.

In *Cosmic Collisions*, Robert Redford narrates as simulations and visualizations fly audiences through the galaxies. Film composer Marcelo Zarvos (*The Door in the Floor*, *Kissing Jessica Stein*) is credited with the vibrant classical score (with composer Robert Miller contributing one section), and his multitalented collaborator Lawrence Manchester assisted every step of the way.

“It was an orchestral palette that told a story where the main characters are galaxies and comets,” says Manchester from his Pro Tools HD-equipped mix suite at Avatar Studios. “There’s a challenge there: evoking human emotions in a story about space.”

First, Zarvos scored to QuickTime movies, with rough animations serving as storyline reference, while NASA and museum astrophysicists programmed supercomputer clusters to finish the final renderings. Sheet music in hand, Manchester then flew to Prague, where he met a 50-piece orchestra at Smecky Studios, the scoring stage for Barrendoff Film Studios, and recorded 23 minutes of music in one 14-hour block.

“I brought five TLM 50s and an 8-channel Millennia HV-3D mic pre with me,” Manchester says. “What I like most about that combination for recording an orchestra is that it’s clean and reliable. We had consulted beforehand with the show’s mixer, Peter Hylenski. He was in favor of recording with a Decca Tree and getting a good, natural room sound with the orchestra, concentrating on the natural ambience.”

Manchester returned to Avatar, where the tracks were mixed not once but

PHOTO: DAVID WEISS



Lawrence Manchester (above) recorded Marcelo Zarvos’ classical score for *Cosmic Collisions*.

twice—first by Manchester in 5.1 listening on ProArc and Yamaha NS-10 monitors with a Bag End sub, only to be turned over to Hylenski for the full-blown 23.1 in-dome mix. “We mixed in a 5.1 environment,” Manchester notes, “but I knew that image wouldn’t hold up in the dome because there’s lots of speakers, and depending on where they sat in the space, each person would hear something different.

“I knew if I provided Peter with individual orchestra, string quartet, piano, percussion and electronics 5.1 stems, he would have great flexibility to matrix it into the multispeaker playback for the dome. The approach was for him to take the mix, which sounded cohesive as 5.1, and then spread it out into the space however he felt would be tasteful and most effective.”

Although they’re not usually as well-funded as a NASA-partnered show, the sonic backdrops for New York City’s myriad art installations can be equally inspiring. One of the city’s emerging specialists in this field is Mike Skinner, an active drummer/producer who creates thickly layered soundscapes for museums, galleries and performance spaces.

Recently working in the laid-back confines of Brooklyn indie fave Headgear Recording, Skinner was recording a live

—CONTINUED ON PAGE 130

JOHN LEE HOOKER JR.'S *COLD AS ICE* "CURRENT EVENT BLUES" COME TO PAJAMA RECORDING

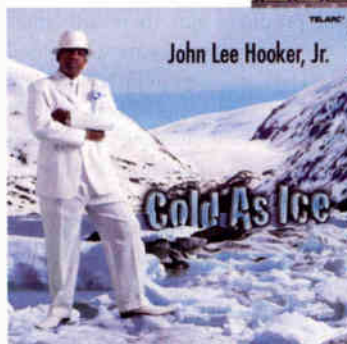
John Lee Hooker Jr. and keyboardist/producer Will "Roc" Griffin were at Pajama Recording Studios in Oakland, Calif., recording and mixing Hooker Jr.'s *Cold As Ice* album, which was released last month on Telarc International. Pajama owner Jim Gardiner engineered the sessions, and Griffin and Hooker Jr. co-produced.

Though his father popularized Delta blues music, John Lee Hooker Jr. has his own blues style and distinctive voice. He calls his music "current event blues." He sings about everything from Internet dating to text messaging to chat rooms. Stylistically, the music is a blend of blues, R&B, funk, jazz and hip hop. The musicianship on the album is excellent, with tasty horn arrangements accentuating Hooker Jr.'s vocals. Sonically, the album is well-produced and powerful.

"We recorded a blues album, but we wanted it to be hip," Gardiner says of the songs on *Cold As Ice*. "Our goal was to make it as traditional as possible, but also to reach a younger audience. Being in Oakland, there's a real emphasis on sonically powerful music. You know, real tight and hitting."

Gardiner used Pajama's Otari Series 54 console with API EQs, a combination of Cubase and Pro Tools DAWs, and two Alesis HD24 digital recorders to track and mix the project. Gardiner reveals one of his secrets

PHOTO: PAULA TELANDER



John Lee Hooker Jr. (left) and producer/keyboardist Will "Roc" Griffin during the mix of *Cold as Ice*.

for getting such a great drum sound on the album: He judiciously used Wavemachine Labs' Drumagog, a drum replacement plug-in that has a vast array of custom drum samples, to enhance the live drum tracks performed by Michael Skinner and Michael Rogers. Gardiner supplied 24-bit CD-ROM masters to Telarc International, where the project was mastered.

—Jeff Forienza

BEHIND THE GLASS

RIBOT AT DUBWAY SCORING *THE DRUNK BOAT*



From left: engineer Keith Rigling, Marc Ribot, assistant Eric Spring and music editor John Carbonara at Dubway Studios.

Guitar master Marc Ribot was in Dubway Studios (New York City) to record the score to the upcoming film *The Drunk Boat*. Ribot has studied at the temple of Tom Waits, and some unusual instruments were used, including baliphone (an African instrument like a marimba, with wider wooden notes and resonating gourds

underneath), glass harmonica (a handmade contraption of water-filled spinning wine glasses) and water gong (basically a gong in water). Ribot produced the sessions, which were recorded by Dubway engineer Keith Rigling and assistant Eric Spring.

LINETT DRIVES CARS NEW LINEUP, LIVE ALBUM



From left: New Cars members Todd Rundgren and Elliot Easton, engineer/producer Mark Linett and New Car Prairie Prince.

Engineer Mark Linett brought his Your Place or Mine mobile rig to Center Staging (Burbank, Calif.) to record the New Cars in front of an invite-only audience. The tracks were used for the band's latest release, *It's Alive*, which features performances of many of the old Cars' new-wave hits. Linett recorded to Genex 9048 running at 96k, 24-bit, with Pro Tools as a backup. He also brought along a rack of API 312 modules. ("Not the most mobile of racks, but worth the hassle," Linett says.) The album was mixed by producer Todd Rundgren in his home studio in Hawaii.

RETREAT IN THE HILLS BLUE ROCK GRAND OPENING



L-R: Blue Rock engineer Keith Gray, Congress House owner Mark Hallman and Rupert Neve

Blue Rock Studios is a new 4,000-square-foot residential facility on 20 acres just outside of Austin. Designed to cater to Texas folk artists, Blue Rock celebrated its grand opening with a party attended by members of the local audio elite. Studio owner Billy Crockett also invited Rupert Neve, designer of the studio's Portico 5043 compressor/limiter.

AUSTIN TO HOUSTON WALTERS AT SUGARHILL



The track's not that scary! Maggie Walters (left) and Dan Workman in SugarHill Studio B

Singer/songwriter Maggie Walters tracked her latest EP, *Real Life Cowboy*, at SugarHill Recording (Houston). Walters recently performed with Dan Workman—producer of the EP—at a SXSW showcase in her hometown of Austin. Other than bass and drums, Walters and Workman played all instruments on the EP, and Workman recorded and mixed all but one track.

TRACK SHEET

SOUTHEAST

At ZAC (Atlanta), OutKast mixed their latest single "Mighty O" with producers Rico Wade and Ray "Yoda" Murray. Mark "Exit" Goodchild engineered, assisted by Tony Terrebonne. Interscope artists Flipsyde, Keyshia Cole and Hayes were also in, tracking with producer Akon, engineer Terrebonne and assistant Clay Anderson...Saint Claire Recording (Lexington, KY) hosted producer/engineer Neil Dorfsman, mixing a new album by Toronto-based Celtic rockers Enter the Haggis. Dorfsman was assisted by Zach McNees and Rosco Weber...Marc Broussard and his live band booked two weeks at Platinum Lab (Nashville). He's being produced by Drew Ramsey and Shannon Sanders; Matt Hyde is engineering, with Erik Jahner assisting...At Catalyst Recording (Charlotte, NC), gospel keyboardist Samuel Obie recorded a six-song demo of original tunes. Obie produced; Rob Tavaglione engineered...Rappers Dem Franchize Boyz were in Doppler (Atlanta) Studio E to record "clean" lyrics for the album *On Top of Our Game*. Aaron Holton engineered, and Alex Lafer assisted.

SOUTHWEST

At press time, Pedernales (Austin) reports that studio owner/artist Willie Nelson will be in with engineer Rich Loud to record an album at the studio during the first two weeks of June...Producer/Congress House (Austin) owner Mark Hallman and engineer Ned Stewart are in the studio finishing overdubs with the Alice Rose for their upcoming album, *Phonographic Memory*, and Malcolm "Papa Mali" Welbourne is in producing the new disc from Ruthie Foster. Also in the works: a new solo record from Elana James, formerly of Hot Club of Cowtown, and tracks for Meat Purveyors, We Are Scientists and Jason Weems.

MIDWEST

Chicago-based musical comedy troupe The Cupid Players recorded their second album at Chicago Recording Company with engineer Mathieu LeJeune and assistant Todd Fitch. LeJeune also engineered vocals by Saint Louis native Phil Jones; Dusty Robenaldt assisted. CRC also reports that Chris Shepard's remote studio captured *Taking Back Sunday* at the House of Blues in Chicago for a future DVD release...At E Labs Multimedia (Madison, WI), *Seven Day Run* recorded the single "True Love Rise" for their third CD, *What Drives*, with producer/engineer Jack Letourneau. The *Midwesterners* were also in, laying tracks for their new release *Ridin' With Chuck* for Darlington Records. Richard Wiegel produced, and Mark Haines engineered.

NORTHEAST

At Bennett Studios (Englewood, NJ), Tony Bennett tracked songs for an upcoming CD in celebration of his 80th birthday next month. The album, which will be



Identical twin singer/songwriters Helena (left) and Maria Mehalis recorded their debut album at StarCity Recording (Bethlehem, PA). Production and tracking duties were shared by StarCity's VP of engineering, Carl Cadden-James, and producer Steve Carman.

released in September, features a 56-piece orchestra arranged and conducted by Jorge Calandrelli, and guest vocalists including Elvis Costello, Diana Krall and Billy Joel. Phil Ramone produced, and Dae Bennett engineered...Recent sessions at Avatar (NYC) include producer David Foster in Studio A recording Peter Dinklage for Warner Bros. Engineer Humberto Gatica was assisted by Pro Tools operator Peter Doris. In Studio B, the Goo Goo Dolls mixed a *VH1 Live* performance with engineer Paul Hager, assisted by Anthony Ruotolo...Engineer/musician George Petit recorded and produced Ryan's Octet in Right Track/Sound on Sound (NYC) Studio A...At The Cutting Room (NYC), Art Garfunkel spent more than a week in Studio B tracking for a new album with producers Lauren Wylde and Richard Perry, and engineer Dylan Margerum.

NORTHWEST

Nettleingham Audio (Vancouver, WA) engineer Kevin Nettleingham mastered releases for Portland-area artists The Aught-Threes, Mark Bosnian's band Voodoo BBQ and Ray Ottoboni; and Salem, OR-based metal band Saint.

SOUTHERN CALIFORNIA

Ben Harper was in Studio D at The Village (West L.A.) taping a live performance for KCRW's *Morning Becomes Eclectic*. Jason Wormer engineered, and KCRW's Ariana Morgenstern produced. The same crew also tracked a KCRW performance by V2 artist Isobel Campbell. Other projects in Studio D included Switchfoot with producer Steve Lillywhite and engineer Todd Parker and the Flying Other Brothers with T Bone Burnett producing and Mike Piersante engineering. In Studio B, jazz artists Al Jarreau and George Benson were writing new material together...Eric Sarafin was in Total Access (Redonda Beach) mixing an album for View From Everest with assistants Mike McMullen and Wyn Davis. Paul Leary finished tracking for an album by Pepper; Wyn Davis engineered. ■

Send news for the Track Sheet to bschultz@prism2b.com.

already ran the successful Web-design outfit Sonik Newmedia, with clients ranging from large corporations to local musicians. But the partners were, and are, music junkies—Gordon plays bass while Schier is a keyboardist—and so is their equity partner, a successful businessman. Moreover, as locals, they discerned what appeared to be a significant void in the bustling Orange County music scene. “When we started,” says Gordon, “there weren’t really any serious studios in our area, so we saw this as an opportunity, and we’ve enjoyed steady business with relatively little marketing.”

Sonikwire has hosted acts ranging from The Surfaris to Whitney Houston, as well as producers Kenny “Babyface” Edmonds, Jimbo Barton, Ken Marshall, Steve Evetts, Fulton Dingley and Chris Colbert.

And no wonder, considering the lack (until recently) of local competition, the lure of the O.C. beaches and the facility’s striking design—all blond woods and white-painted surfaces, featuring a spacious 900-square-foot tracking room with an 18-foot ceiling inset with six skylights that bathe the room in natural light. Facing the control room on the back wall of Studio A is a glassed-in second-floor lounge, where

musicians on downtime can watch their handmates work.

“We love design and architecture, so we wanted to bring those elements into our studio,” says Gordon. “Also, the shape and size of our facility caused us to make some unorthodox choices about how the rooms should function.” As for the gear, “We wanted to have as much of the warm vintage equipment as possible, so we went with Neve—lots of Neve,” Schier explains, referring primarily to the 60-channel custom 8028 board. “We also went after as many vintage mics as we could get our hands on.” They balanced out the tube gear with a Pro Tools HD3 Accel setup with Apogee Rosetta 800 and Digidesign 192 interfaces.

“Our involvement in the studio business ranges from administration to production to engineering to being session players,” says Schier. “We’re constantly thinking of ways to find a relevant niche for the studio that can play on our strengths, our various in-house skill sets and our location near the beach.” Ah, yes, the beach.

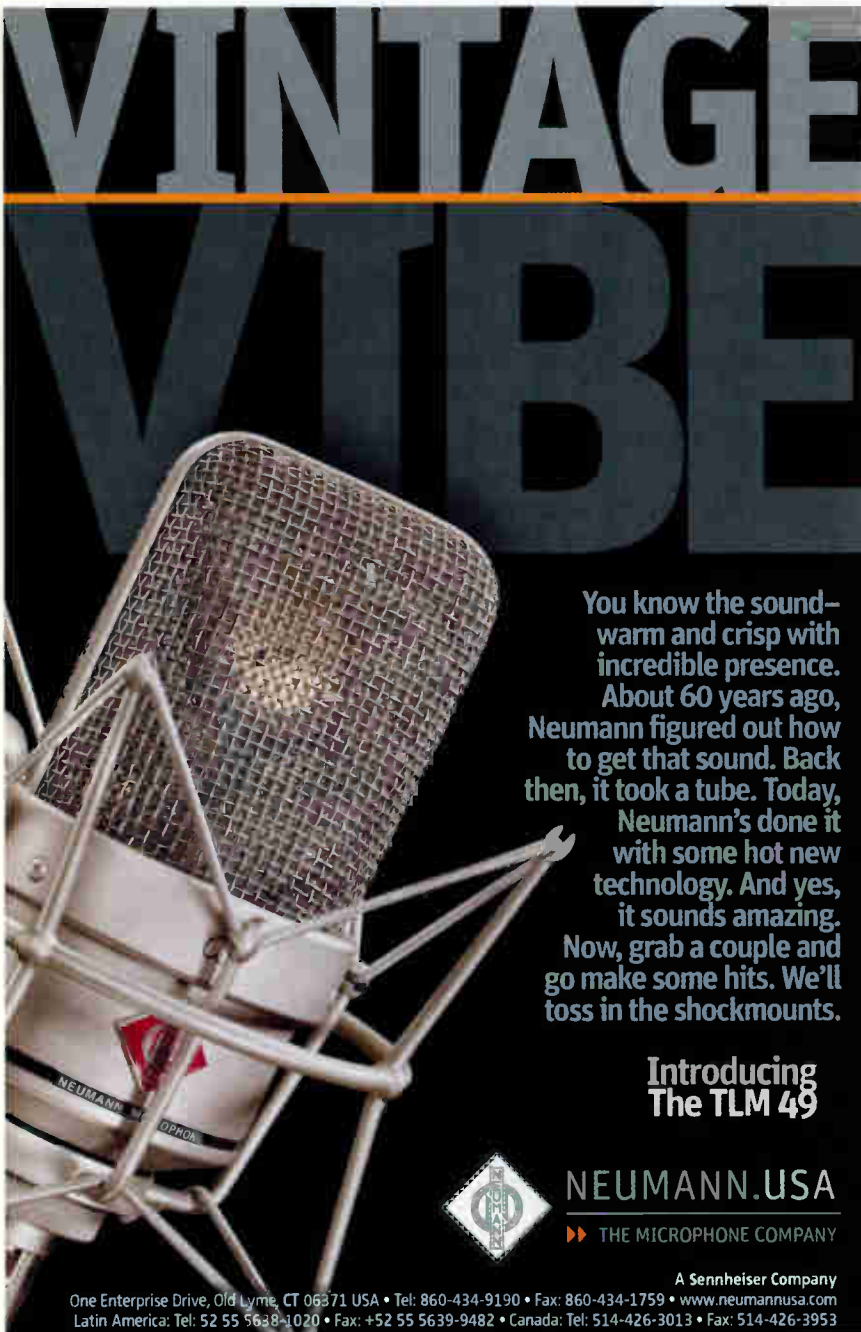
Presently under construction is a mix room. “We’ve been pleased with the mixes we’ve heard from our various clients in Studio A,” says Gordon. “But we wanted to go for a killer mix facility with a 100-input 9000J SSL console and 5.1 wall-mounted speakers in a traditionally designed control room, along with a wood-floor tracking room. We’ve been working with George Newburn and the geniuses at Studio 440 on the design. There’s also a dedicated post-production studio in the plans for next door.” ■

Send your L.A. news to bs7777@aol.com.

NASHVILLE SKYLINE FROM PAGE 125

a sidecar for a total of 70 inputs. He is running 18 different output channels. These include four mono wedge mixes and three stereo in-ear mixes for the house band and four stereo mixes for the downstage wedge monitors and sidefills for the contestants. Hamill uses the Clair MD1202 wedge monitors with the Clair iO drive system and Crown 36x2 power amps.

The Wireless First RF technician on the production is Jeff Brigitte, whose job is wrangling the 16 channels of Shure UR4D dual-channel diversity receivers and UR2 mics with KSM9 capsules. The Shure rigs are for each contestant’s performance mics, as well as two contestant backup mics and the two hosts’ mics with two host backups. Brigitte also coordinates the RF channels for the house band’s three in-ear mixes, as well as eight wireless guitar, bass and fiddle channels, and 10 to 15 channels of stage

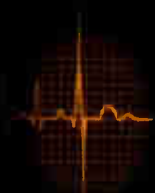


You know the sound—warm and crisp with incredible presence. About 60 years ago, Neumann figured out how to get that sound. Back then, it took a tube. Today, Neumann’s done it with some hot new technology. And yes, it sounds amazing. Now, grab a couple and go make some hits. We’ll toss in the shockmounts.

Introducing The TLM 49

NEUMANN.USA
▶ THE MICROPHONE COMPANY

A Sennheiser Company
One Enterprise Drive, Old Lyme, CT 06371 USA • Tel: 860-434-9190 • Fax: 860-434-1759 • www.neumannusa.com
Latin America: Tel: 52 55 5638-1020 • Fax: +52 55 5639-9482 • Canada: Tel: 514-426-3013 • Fax: 514-426-3953



studio network solutions
HIGH PERFORMANCE STORAGE NETWORKING



ZEN AND THE ART OF LOW-COST SANS.

THE HEART-POUNDING X-4™, THE SAN FOR PRO TOOLS®

What do you do to enhance the performance of Pro Tools - the most powerful audio editor on the market? You engineer a low-cost SAN for it, one "seat" at a time.

globalSAN™ X-4 for Pro Tools. Start small. Share. Stack to expand. At a price so low, it will make your heart pound.

Toll-free 1.877.537.2094

www.studionetworksolutions.com

manager, cameraman, audio tech and lighting tech belt packs and wireless IFB channels.

Tom Davis handles the final broadcast mix on a 48-input Neve Libra digital production console, located in All Mobile Video's Crossroads video production truck. "Tom deals with all of the music elements Kooster and I send him: the eight audience mics, the various hosts' RF mics, the judges' mics, the audience sweetening elements, audio from videotape packages, et cetera," Special explains.

The Internet music mixer is Tony Green of CrowFly Entertainment. Green takes his line-level feed off of the multitrack bus outputs of both Special's DM2000 and McAllister's API console, then creates a downloadable music mix. For that, Green uses two Yamaha 02R96s, cascaded together recording onto 48 tracks of Nuendo. Green, who monitors through ATC speakers, typically records the soundchecks on the first day of rehearsal and mixes through the night so he has all of the contestants' material uploaded and ready to go by showtime the next day.

"No matter how many times you do a live-to-air show, you get a little bit nervous right before," says Special. "You hope you have all of your bases covered and know your backup plans. If the show is running

long, little bits are removed on the fly. You must listen to the associate director for cues as to any omitted items, as it can affect what mics need to be used at any given moment. Everyone goes through their notes and snapshots, and we usually have a great show with no problems." ■

Send your Nashville news to mrburje@mac.com.

NEW YORK METRO FROM PAGE 125

sound installation called "8-Track Attacks." Ten antiquated 8-track recorders, some of which are matched pairs, are miked and arrayed in a 360-degree circle, recording to Pro Tools though a Trident 80C as they play out dense, slowly evolving mosaics of sound and noise whose cycles may be hard to predict, but are anything but random.

"The idea of using the 8-track machines and these archaic formats came out of the idea that music is so easy to steal digitally, download and walk around with," says Skinner. "I miss the idea of people being in the same space to experience music. I wanted to craft something that would be three-dimensional, but also with a lot of components so, depending on where you

were, it would be a different sound in the room.

"Each one of these is a 90-minute tape, so every track is 22-and-a-half minutes long. If I'm doing a feedback guitar track, I'll sit there for hours with it going, but it doesn't record over itself; it'll just accumulate more and more layers of sound on the cartridge. I'll play those all at the same time, and it creates dense, very murky textural environments." Skinner also backs up the tapes in his G5-equipped home studio running Logic.

At Headgear, Skinner supplemented the recording by constantly blending digital and analog resources. Present were a Roland HandSonic electronic percussion module running through a Schuman PLL square wave generator/octave pedal, as well as a simple screensaver toy that he plays off a Mac laptop through an Eventide H3000 Harmonizer to create unusual sounds.

"These pieces have movement, even if they're not going somewhere," he says. "You get these loops of sound that your brain will start to recognize, and the longer you're exposed to it, the more sense it starts to make." ■

Send Metro news to david@dwords.com.



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
1-800-562-6383
www.audiorecordingschool.com/mix.html

HUGE SOUND.

TOTALLY VERSATILE :: TOTALLY PRO

INTRODUCING THE ULTRA-COMPATIBLE DIGIMAX FS DIGITAL PREAMP AND I/O.

8 HUGE-SOUNDING, High headroom, Class A Microphone Preamps / Line Inputs / Instrument Inputs.

96k Sampling Clock With **JETPLL™** Low Jitter Technology.



::ADAT SMUX::
8 Channels of
Digital I/O at 96k.

::DAC OUTPUTS::
Add 8 Output Channels
to your DAW or
Digital Mixer.

::DIRECT OUTPUTS::
Analog Preamp Outputs
for Digital/Analog Splits.

::INSERT POINTS::
Insert Compressors, Limiters,
Gates, and Effects.



CONNECT DIGIMAX FS TO ADAT INPUT/OUTPUT ON DAW OR DIGITAL MIXER.



DIGIMAX | FS

8 Channel Preamplifier with 24-bit/96k ADAT I/O (Dual SMUX)

The DIGIMAX FS is an exceptional ultrahigh-performance 24-bit/96k ADAT dual SMUX preamp with 8-class A microphone preamps, 8 direct outputs, 8 DAC outputs, and 8 insert points. The DIGIMAX FS is the perfect solution for recording studios, live performance venues, and broadcast facilities. It's the only preamp that offers 24-bit/96k ADAT I/O, 8-class A microphone preamps, 8 direct outputs, 8 DAC outputs, and 8 insert points.

The DIGIMAX FS is loaded with new patented JetPLL™ jitter reduction technology from TC Applied Technologies, ensuring ultra-high converter performance, fast and robust locking through a wide range and variation of frequencies and noise shaping to remove nearly all audio band jitter.

Superb and full-time analog recording systems for over 25 years and across the world and into all corners of the planet. Call Sweetwater today to find out how your system can take advantage of the huge sound and flexibility of the Digimax FS!

FEATURES:

- 8 Class A microphone preamps
- 24-bit resolution, 44.1k, 48k, 88.2k and 96k sampling rate
- 96k ADAT input and output (dual SMUX)
- JetPLL jitter reduction technology for ultra-high converter performance
- Direct outputs and inserts on every channel
- Word clock input and output
- Works with DigiDesign's HD and 002, RME, YAMAHA, Allen, Mackie and many others.
- \$599

www.presonus.com

Sweetwater
music technology direct™

800-222-4700
www.sweetwater.com
World Radio History

PreSonus

—FROM PAGE 26, FAST LANE REMEMBERED

stared at me. "You trained as a writer, right?" he demanded. I hadn't really, but I wasn't going to disagree at that moment. "So you think through what you write, and you're very careful to be clear and dispassionate. Well, I don't do that. I write fast and get all of it out at once, and say what I feel I have to say. That's my voice. And you know what those people want to do?" he almost screamed. "No, what?" I replied meekly.

"They want to edit me!"

—Paul D. Lehrman, "Insider Audio"

ALL SHOOK UP

There's something a bit ludicrous about eulogizing Stephen St.Croix. After all, he seemed positively larger than life—at least 120 percent of a normal person. Stephen, you meant a lot to me. I have fond memories of you, your writing style, your ideas, your unpredictability, your edge-of-danger persona, your unbelievable luck/experience/karma fusion. I think of you always as someone who has made the world a better place. And, somewhat like Andy Kaufman and Elvis before you, we may never be sure whether you actually passed on or just changed dimensions.

—David Schwartz, co-founder, Mix

HOT-ROD LINCOLN

One of my most memorable times with Steve he took me with him to St. Croix, where he taught me the fine points of dealing with "no-see-ems" and how to totally destroy a small rental car in four days. Truly, Steve was one of the great men of our industry.

—Tom Oberheim

SURF CITY

In the mid-1960s, Steve blew into Baltimore fresh from the desert Southwest to take the town by storm. For us preppy Park Schoolers, Steve was our Hell's Angel, surfer, beat poet, exotic sports car enthusiast and heavy metal guitarist rolled into one.

—Bob Brudford

WAR

Most folks are aware of the great musical and electronic contributions Steve made to the world. Most folks do not know that Steve was an intense patriot. After 9/11, Steve called me and told me he wanted to get involved. I put him in touch with a number of people and his contribution has made a great difference. We had the opportunity to work together in a number of areas, and he brought his expertise and energy to every one. Steve St.Croix was a true warrior-poet.

—Jeff "Skunk" Baxter

CALL ME

Long before I became publisher of *Mix*, I used to phone up this entrepreneurial signal processing company with the daunting task of convincing this guy Stephen St.Croix that *Mix* was a worthwhile place to advertise his Marshall Time Modulator. I didn't get very far with the advertising concept, and I often wondered why he even took my phone call; *Mix* was way below his radar and not up to his standards at the time. During those conversations, I repeatedly asked him to consider writing for *Mix*, but his loyalty to *RE/P* and Mel Lambert (former editor of *RE/P*) was paramount.

Thank you, Stephen, for the conversations, your respect, your knowledge and for making *Mix* a better publication.

—Jeff Turner

BLUE HAWAII

If I had to pick an all time-favorite [column] to remember him by, it would be the one about the helicopter tour in Hawaii. It was about how music, *the right music*, is such an important part of our peak experiences. My heart goes out to all who new him.

—Ike Zimbel, Zimbel Audio Productions

HAWAII

I met Steve on my first trip to the U.S. in 1977 to exhibit my latest product, the Synton Syntovox 221 vocoder. Steve actually became the guy to show me around—me, this first-time exhibiting hick from Holland—and introduce me to his friends. We formed this little group of cronies, having drinks and dinners together, talking about our products and our dreams. [He shared] a few brilliant stories related to his school years.

At an event when students, teachers and professors were gathered in the hallway, an accomplice of Steve's opened the doors on one side and Steve thundered in on his Harley Davidson, roared through the hallway at full speed, while at the other end another accomplice opened the doors to let him out.

At a medical checkup, a traveling team would make thorax X-rays of all pupils. Steve had prepared for the occasion. Out of thin sheet lead, he cut arrows and letters and glued them inside his T-shirt. The words on the X-rays said, Heart, Lungs, Liver, and the arrows indicated these particular organs.

Steve was one of the most remarkable persons I've known in the industry. You either loved him, or you hated him.

—Felix Visser ■

Stephen St.Croix has left the building.

which I am rapidly losing faith in. Certain manufacturers have admitted to me that this dye family can have a virgin (raw unrecorded) shelf life of as little as one year and a date-integrity life of only five years.

NOVEMBER 1995: NAMING NAMES

Some time ago, I did a series of columns that were, in a way, similar to this recent CD-R series. You probably know what I'm talking about. In those columns, as in the CD-R series, I refrained from mentioning the company names of the offenders on that particular issue. And an interesting thing happened...One company that I didn't even know was one of the offenders and went completely ballistic, claiming I had aimed the column at them. Hey, if the shoe fits...

MARCH 1997: THE 8-BIT CLUB

Fifteen years ago, the only people who dared to even dream the digital dream were its own developers. Then around 10 years ago, this elite 8-bit club grew to (a somewhat generously named) 16 bits and included a token handful of bleeding-edge artists and studios. Remember the Sony 601 PCM converter for video transports? How about the Nakamichi DMP-100 integrated same-thing? Simply a reworked video deck for recording PCM digital audio data instead of *Star Trek*.

FEBRUARY 2002: PROSUMER

And so I predict, with a lowered head and sad eyes, that each year we will see less and less true pro gear, made by us for us. Instead, we will be buying more and more of the best "prosumer" gear, with its dramatically better interface and tools and shockingly better price/performance ratios, even with its insanely wide spread of actual audio quality. Brave New World and all that.

SEPTEMBER 2004: VIRTUAL REALITY

Reality is in the mind of the beholder. And if I be holdin' four or five choice virtual instruments, I just might be able to build a reality that those who be buying might behold as real. If you fake it, they will come. And buy. It's either disturbingly cool or disturbingly horrible. Maybe both.

FEBRUARY 2006: LAST WORDS

I know a lot of you personally, others by working with you and still others by reputation. And we as a group certainly cover the whole range, from angel to asshole.

As a regular guy who just took stock of his entire life, I offer you the same experience. Find out who you are and decide if that's who you really want to be.

Ten years ago I first did this, and decided that what I was, was not in fact what I wanted to be. I worked hard since then, and now I am pretty close. Just in time.

—FROM PAGE 30, *TWO HEARTS*

of gear. The project would have been unaffordable without their equipment. Plus, they helped us build a custom isolation unit for each of the musicians so they wouldn't be harmed by stray electricity—like if lightning struck the hall." What do they get out of it? "Well, they get nice pictures of Keith for their Website," she says with a laugh. "They like the idea of having arts applications for their products, too."

In addition to the sensors, Lockhart wore an armband made by the Pittsburgh-based company BodyMedia containing a two-axis accelerometer, a body temperature gauge and a galvanic skin response monitor, which measures a person's excitement: As the excitement level increases, skin resistance goes down. The armband, which is the sort of thing you might see worn in very posh health clubs, wasn't wired to anything; it collects data by itself. The data can then be downloaded via a USB port. However, the team time-synched the device with the main computer before the concert to make sure all of the data would be coordinated.

In her previous work, Nakra was able to determine that a conductor experiences physiological changes along with the music, but with this experiment, she was able to ask, "How are those signals received?" The first people to receive them would be, of course, the players in the orchestra. So five musicians were wired up similarly to the conductor, with armbands, EKGs and two EMGs each. "All of the members of the BSO got a letter explaining what we were doing," says Nakra, "and the five we ended up working with were the first to respond. They were among the younger, more science-y types in the orchestra; definitely not the older crowd." The players were nicely spread throughout the orchestra: one player each from the bassoon, percussion, trumpet, bass and violin sections.

And finally there was the audience. "The orchestra has a 'Kids Club,' who are regular subscribers to the Family Series," explains Nakra. "We sent all of them a letter inviting them to participate. We told them we were doing an experiment in how science can reveal emotions in music. Several wrote back and signed up, but we still needed to recruit some audience members at the last minute. We had a bunch of volunteers from McGill, Immersion Music and Northeastern University greeting people in the lobby and getting them equipped."

Sixteen audience members—children and parents—got the BodyMedia armbands, as well as finger cuffs made by Thought Technology, a Montreal biofeedback company, to measure blood pulse vol-

ume, heart rate and galvanic skin response. Four more were given wireless heart-rate monitors. In addition, 30 concertgoers were given boxes with slide potentiometers on them marked "weak" and "strong" at the two ends. They were given instructions to "Continuously rate your impressions concerning the strength of the emotional reaction you have to the music as you are listening" and move the slider accordingly. The instructions were careful to point out that their response should not be determined by whether or not they *liked* the music—just how strongly they responded to it, either positively or negatively.

Who got the sliders depended on where they sat: The researchers didn't want to run the ribbon cables connecting them more than 100 feet, and so only people in the front few rows, on the side of the hall closest to the Green Room, could get them. "Through the education office, the box office sent letters to everyone who had tickets in that section," says Nakra, "and people responded. But the worst part was getting everyone to sign releases just before the concerts, and so we had a big team of guys running around with clipboards."

Another interesting chore was running the cables, which couldn't commence until after 10:30 the night before the experiment as there was a concert in the hall that evening. It kept the researchers and volunteers very busy until past two in the morning. "We could get under the stage, which was a big help," recalls Nakra. "And it was important to protect the cables. The ones connecting the backpacks to the isolation boxes cost about \$700 each; they're very lightweight and were built for laboratory experiments, not heavy-duty use. One hit from a stiletto heel and they would have been toast.

"It was pretty strange under there," she continues, laughing. "Piles of cables and some evidence of rodents, but the weirdest thing is that there are holes in the stage and so there are these odd streams of light coming through. Crawling around down there I sort of felt like Indiana Jones."

The concert-cum-experiment, which was also recorded and videotaped in HD by a crew from the local PBS station, went off almost without a hitch. During the first number, a Mozart overture, one of the accelerometers fell off of Lockhart's wrist. The researchers realized that something had gone wrong when that sensor's data stream, which was being processed using custom software that Nakra's husband Jahangir wrote, turned into gibberish. After the piece ended, they could see on their video monitor the sensor hanging down and flopping around, so after a brief debate,

one of the technicians went out onto the stage with a roll of duct tape. "Be careful," warned Lockhart as the man started to reattach the sensor to the conductor's Lycra sleeve, "it's Armani." It got a big laugh, at least from the parents in the audience.

So what did the researchers get out of all this? They don't know yet. "It's our summer project," says Nakra. Not counting the video and audio, they gathered 4 GB of data, which they now have to sift through. "The first task is to look at the muscle activation of the performers. We expect to see the score realized in that data pretty clearly. We're most curious about heart-rate activity. It was the first time we have collected high-resolution, clean EKG data. We're wondering how the heart rates of the performers and the audience will correlate. Not that they'd beat in sync, but whether they'd move up and down together.

"Then we'll look at the skin response, the excitement level. We expect that the performers' response will be more intense than the audience's, but we don't know for sure. Performers are so used to this and comfortable with it that they might be more casual about it than the audience. And we're looking at delays: The conductor's responses will be a little ahead of the music, the performers will be in the moment, although there is some anticipation there, too, when they prepare to play a phrase, and the audience's will be a little behind. But we want to see how large those delays really are."

A second experiment is scheduled soon, which will play the *recordings* from the BSO concert to a similarly wired audience. The main question this experiment hopes to answer is how different, and in what ways, an audience's response to a recording is from an audience present at a live event.

Nakra, Levitin and McAdams know that they're just getting started on this idea of quantifying physiological responses to music, but their work could turn out to be very important to the way people make, hear, record and, dare I say it, sell music. Not that we need any more bean counters determining what music we listen to, but these are scientists and musicians, as well. Besides, as Lockhart said in a television interview just before the concert, "They're measuring something that musicians intuitively have always known is there: the power of music to transport you." It will be interesting to see what kind of science can be found driving that mode of transportation. ■

Paul D. Lehrman wrote a satirical article on the practical uses of perfect pitch in 1977. It was never published, but his predictions have all come true.

ADVERTISER INDEX

ADVERTISER	WEBSITE	PAGE	ADVERTISER	WEBSITE	PAGE
Acoustics First	www.acousticsfirst.com	53	Remix Hotel Atlanta	www.remixhotel.com	65
Adam Audio USA	www.adam-audio.com	107	RØDE Microphones	www.rodemicrophones.com	6
ADK	www.adkmic.com	110	Roland Corporation	www.rssamerica.com	81
AES Convention	www.aes.org	97	Rolls Corporation	www.rolls.com	30
AKG Acoustics	www.akgusa.com	3	Royer Labs	www.royerlabs.com	60
API Audio	www.apiaudio.com	15	Rupert Neve Designs	www.rupertneve.com	61
Argosy Console	www.argosyconsole.com	62	SAE Institute of Technology	www.sae.edu	95
Audio Technica	www.audio-technica.com	37	sE Electronics	www.seelectronics.com	38
Aviom	www.aviom.com	111	Sencore	www.sencore.com	122
B&H Pro Audio	www.bhphotovideo.com	93	Sennheiser Electronic GmbH	www.sennheiser.com	89
B&H Pro Audio	www.bhphotovideo.com	113	Shure	www.shure.com	11
BIAS	www.bias-inc.com	104	SLS Loudspeakers	www.slsloudspeakers.com	14
Cakewalk	www.cakewalk.com	25	SRS Labs	www.srslabs.com	87
Conservatory of Recording			Studio Network Solutions	www.studionetworksolutions.com	129
Arts & Sciences	www.cras.org	130	Sweetwater Sound	www.sweetwater.com	13
dbx Professional Products	www.dbxpro.com	48	Sweetwater Sound	www.sweetwater.com	115
Digidesign	www.digidesign.com	39	Sweetwater Sound	www.sweetwater.com	119
Dolby Labs Inc.	www.dolby.com	IFC	Sweetwater Sound	www.sweetwater.com	131
DPA Microphones	www.dpamicrophones.com	9	Sweetwater Sound	www.sweetwater.com	148-149
E-MU	www.e-mu.com	7	Sweetwater Sound	www.sweetwater.com	150-151
Fairlight	www.fairlightau.com	96	Tannoy North America Inc.	www.tannoy.com	70
Fostex Corporation	www.fostex.com	27	Tascam	www.tascam.com	47
Full Sail	www.fullsail.com	50	TC Helicon	www.tc-helicon.com	35
Future Sonics	www.futuresonics.com	34	That Corporation	www.thatcorp.com	49
Grace Design	www.gracedesign.com	IBC	Toft Audio Designs	www.toftaudiodesigns.com	121
Groove Tubes	www.groovetubes.com	26	Trident Audio	www.tridentaudio.co.uk	14
Guitar Center	www.gcpro.com	21	Universal Audio	www.uaudio.com	55
Guitar Center	www.gcpro.com	57	Wave Machine Labs	www.drumagog.com	54
Hear Technologies	www.heartechnologies.com	51	Waves Ltd.	www.waves.com	1
Holophone	www.holophone.com	31	Waves Ltd.	www.waves.com	23
Ilio	www.ilio.com	2	Westone	www.westone.com	85
Institute of Audio Research	www.audioschool.com	123	Yamaha (HS Monitors)	www.yamaha.com	71
JBL Professional	www.jblpro.com	91	Yamaha (DM2000)	www.yamahaca.com	83
Klein+Hummel	www.klein-hummel.com	63			
Lexicon	www.lexicon.com	4	MARKETPLACE		
Location Sound Corp	www.locationsound.com	68	Atlas Pro Audio	www.atlasproaudio.com	138
Los Angeles Recording School	www.larecordingschool.com	105	Audio Engineering Associates	www.ribbonmics.com	139
Lynx Studio Technology	www.lynxstudio.com	52	Audio Accessories, Inc.	www.patchbays.com	138
Mackie (Digital X Bus)	www.mackie.com	5	Bayview Pro Audio	www.bayviewproaudio.com	141
Mackie/Tapco	www.tapcoworld.com	29	Buzz Audio	www.buzzaudio.com	138
M-Audio	www.m-audio.com	43	Clearsonic	www.clearsonic.com	138
Millennia Media	www.mil-media.com	69	Coleman Audio	www.colemanaudio.com	135
Mojave Audio	www.mojaveaudio.com	36	Crystal Clear Sound	www.crystalclearcds.com	138
MOTU	www.motu.com	BC	Cypress Media, Inc.	www.cypressmediainc.com	137
MPathX	www.mpathx.com	51	Discmakers	www.discmakers.com/mix	137
MPathX	www.mpathx.com	49	D.W. Fearn	www.dwfearn.com	137
MPathX	www.mpathx.com	53	Gator Cases	www.gatorcases.com	140
Music Marketing	www.musicmarketing.ca	45	Josephson Engineering	www.josephson.com	140
MXL Professional Microphones	www.mxlmics.com	103	LaChapell Audio	www.lachapellaudio.com	138
Native Instruments	www.native-instruments.com	101	Little Labs	www.littlelabs.com	141
Neumann/USA	www.neumannusa.com	128	Lonely Records	www.lonelyrecords.com	137
Neutrik USA	www.neutrikusa.com	109	Media Services	www.mediaomaha.com	135
NHT Pro	www.nhthifi.com	17	Pump Audio	www.pumpaudio.com	136
Peavey	www.peavey.com	75	Odds On	www.oddsoneRecording.com	139
Primer Technology	www.primer.com	59	Play-It Productions	www.play-itproductions.net	137
PrismSound	www.prismsound.com	54	Rainbo Records	www.rainborecords.com	140
QSC Audio Products	www.qscaudio.com	78-79	Sonic Circus	www.soniccircus.com	137
Radial	www.radialeng.com	73	Ultra Disc	www.cdsfast.com	140
Recording Workshop	www.recordingworkshop.com	123	Vancouver Film School	www.vfs.com	140

MIX ADVERTISER SALES REGIONS AND REPRESENTATIVES



Northwest/North Central

Greg Sutton
847/968-2390
gsutton@prismb2b.com

Southwest

Albert Margolis
949/582-2753
amargolis@prismb2b.com

East Coast/Europe

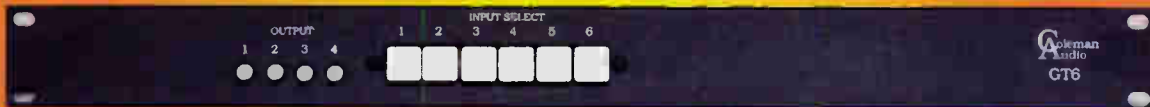
Michele Kanatous
732/851-5937
mkanatous@prismb2b.com

Classifieds

Kevin Blackford (National)
800/544-5530 or 510/653-3307
mixclass@prismb2b.com

MARKETPLACE

"For Nickelback's most recent tour, Mike Kroeger has brought five Spector basses. Each bass is fitted with a transmitter for a wireless system. The packs run on different frequencies, so David "Shuu" Guidish uses a Coleman Audio GT6 switcher to route the appropriate signal to Mike's rig."



Coleman Audio

www.colemanaudio.com

(516) 334-7109

coley@colemanaudio.com

The **IBP** puts you **IN PHASE** when the polarity button won't.



The **IBP Analog Phase Alignment Tool** **Little Labs**

- Real-time all analog phase adjust sweepable between 0° and 180°
- No more compromising mic placement due to phase problems
- +4dB XLR balanced in and out
- Internal re-amplifier and super quality xfrmr isolated direct box
- Rack mountable 4 to a 1U space

323 851 6860 • 800 642 0064
www.littlelabs.com

MEDIA
SOLUTIONS

ATTACK OF THE DIGIPAKS

1000 QTY

\$1.59 per/unit

2000 QTY

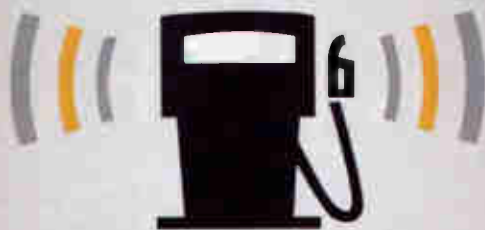
\$1.36 per/unit

3000 QTY

\$1.26 per/unit

Package include: 4 Panel DIGIPAK, 3 color cd, free barcode, and CDBaby.com registration entry. Chipboard (recycled look) also available for no extra charge.

WWW.MEDIAADMAHA.COM or 1.888.891.9091



PUMPAUDIO
Independent Music

Stop using stock music.



Channel



Playgyrl Silm



Matt A. Thorne



Dhebel



The New Dealers



Deathray Davles



Izm & Skyler Mic



Bitstream Dream



Lassic



Hillbilly Hellcats



Gary Robinson



Five O'Clock Heroes



Zilo Groove



Edward Ratliff



Ivan Rosenberg



K.P. Devlin

Music licensing made easy—and better.

Over 65,000 of the world's best independent tracks:
pre-cleared, production-ready, competitively priced.

www.pumpaudio.com

New York London Los Angeles Amsterdam Toronto Melbourne Tivoli

CD/DVD Replication Duplication

1,000 Retail Ready CDs
for only **\$930**

1,000 Bulk CDs \$450

www.cypressmediainc.com
CYPRESSMEDIA 1-888-333-0343



CDs/DVDs MASTERING/EDITING GRAPHIC DESIGN MULTIMEDIA

WHERE SIGHT AND SOUND MERGE

PLAY-IT PRODUCTIONS

259 W. 30th Street, NY, NY 10001 TOLL FREE: 1-800-815-3444 or 212-695-6530 WWW.PLAY-ITPRODUCTIONS.NET

Lonely RECORDS Get a FREE Catalog
1.800.409.8513
www.lonelyrecords.com

National Price Guarantee

GRAPHIC DESIGN, MASTERING, POSTERS,
DVD, CARDBOARD, BARCODES AND MORE.

500 PRESSED
Retail Ready CDs

\$799




Anyone who has heard it knows . . .

NEW VT-7 Vacuum Tube Compression Amplifier




D.W. FEARN 610-793-2526
www.dwfearn.com

SONIC CIRCUS
Serious Studio Infrastructure



The most comprehensive selection of recording equipment in the world

Shop online and take advantage of frequent buyer benefits.

 **SONIC CIRCUS**
617.696.9360
www.soniccircus.com

1,000 CDs in jewel boxes for \$1,290.

Plus get 60 extra discs FREE!

Work with the leader in independent CD manufacturing; get free online distribution, a free UPC barcode, a review from TAXI, and much more.



Act now and save \$25!

Visit www.discmakers.com/mix to get your discount coupon.

Coupon offer expires 8/15/06

1-866-677-7912

DISC MAKERS
CD AND DVD MANUFACTURING MADE EASY

CDS • DVDS • SHAPED DISCS • SPECIALTY PACKAGING • CASSETTES

NEED CDs? THE CHOICE IS

CRYSTALCLEAR

DISC AND TAPE

CHECK OUT OUR CURRENT SPECIALS!

1000 CDs • \$999 (COMPLETE RETAIL READS)
 1000 PROMO CD PACK • \$599
 1000 DVDS • \$1499 (COMPLETE RETAIL READY)

TRUSTED EXPERIENCE FOR OVER 35 YEARS!

WWW.CRYSTALCLEARCDS.COM • 1-800-880-0073

Got ProTools? Need a Patchbay?

- Mini/TT Patchbay to DB25
- All Normals & Grounds are Reconfigurable



audio accessories
audio-line

Audio Accessories, Inc. • 603/446-3335 • www.patchbays.com



NEW MegaPac Isolation Package
 7-feet of Headroom and Even More Isolation!

CLEARSONIC PANEL
 Drum Shields

SORBER
 Absorption Baffles

Portable and Free-Standing

1.800.888.6360
 clearsonic.com
(CLEARSONIC)
Manufacturing Inc.

Introducing the Model 992!

Two Channel Vacuum Tube Preamplifier

NEW!

- Eight Total Vacuum Tubes
- Authentic 6072 Sound
- Fully Balanced Circuitry
- Ultra-Premium Components



LaChapell Audio

209-383-3486
 www.lachapellaudio.com



Specializing in over 60 Brands of New High End Recording Studio Gear

Microphones - Preamps - Compressors
 Speakers - EQs - A/D/A Converters

www.AtlasProAudio.com



The OSA MP1-L3 "Big Daddy"

"On the lead guitar recording, we all ended up picking out the L3 as the best one. The open way the L3 handled itself under extreme dynamics and SPL encourage us to use it on drum overheads...the L3 handled our stereo ribbon with room to spare and really captured the full spectrum of the kit with ease." - Craig Shumaker
 Tape Op Magazine Issue #50

Buy 1 OSA Pre & an OSA Rack, Get \$100 OFF
 Buy 4 OSA Pre's & an OSA Rack, Get \$200 OFF
 Buy any 8 OSA Pre's & Get a FREE OSA Tech Pack (A \$600 Value)

buzzaudio

Shown Above: The MA.2.2 Class A stereo preamp

Whom? 2006 Pro Audio Product (P) Excellence Award for the MP1 L3 Class A Stereo Preamp


Ask about our demo program!




US Toll Free 1.866.235.0953
 International calls 813.662.5028
 Open until midnight EST 7 days!

"The only preamp I'll use to record guitar, voice and percussion."

Ney Mello
 www.neymello.com



the MA.2.2 True Class A Microphone Amplifier



buzzaudio
 the future of great recordings

visit www.buzzaudio.com to learn more

Distributed in the USA by
 Atlas Pro Audio
 Toll free 866-235-0953
 www.atlasproaudio.com

Photo by Jer Olsen, KulturShok.com

OUR PRICES NUKE THE COMPETITION

BARE BONES PRICES!



Odds On
cd & dvd manufacturing
14 Sunset Way, Henderson, NV 89014
Call Odds-On Customer Service Direct
at (702) 376-6001
www.OddsOnRecording.com

ORDER TODAY

VISA MasterCard DISCOVER AMERICAN EXPRESS

Odds On Blow-Out Discounts!
Includes on-disc printing, full-color printed booklet, barcode and cello wrapping.

100 CDs	250 CDs	500 CDs	1,000 CDs	2,500 CDs
\$299	\$499	\$699	\$1,099	\$1,999

Toll-Free 877-ODDS ON 1
6 3 3 7 6 6 1

REACH FOR THE STARS



TEC
2006 NOMINEE

Electronic Musician
2006 EDITORS CHOICE

AEA Audio Engineering Associates
www.ribbonmics.com 626-798-9128

millimeter


The Professional Resource for Production and Post

Millimeter is the leading source of information for the motion picture and television production and post-production industries!

Place your Marketplace or Classified ad in the next issue!

Call Robin Boyce-Trubitt
at (800) 544-5530
for rates and deadlines.

www.digitalcontentproducer.com



millimeter
The Professional Resource for Production and Post
www.digitalcontentproducer.com

CUTTING THE CORD
Roving, Wireless HD Systems Take the Field

DI AT NAB 2006
End-to-end Choices

ALSO
Avid Symphony New
Compositing
Wim Wenders

JOSEPHSON ENGINEERING C42MP

"They have an excellent transient response, dimensionality and high-end clarity, making them great for stereo recording.



...
The C42s sound like they cost twice as much, and they will get plenty of use in my studio."

- Gino Robair

(Electronic Musician, Senior Editor)

josephson.com



www.gatorcases.com

Rolling Laptop Rack Case
GSRW-2U

The Next Generation



Tel: 813.221.4191

Email: sales@gatorcases.com

Fax: 813.221.4181

NOW MANUFACTURING DVD'S IN-HOUSE CALL FOR DETAILS



300 CD Package: \$775.00

1000 CD Package: \$1099.00

Includes: 1-color booklet & 1-color CD label from print-ready film, jewelbox, shrinkwrap

Includes: 4-color booklet & 2-color CD label from print-ready film, jewelbox, shrinkwrap

D.J. VINYL PROMO

100 12" VINYL \$799.00 Additional LPs: \$1.30 each

500 12" VINYL \$1,279.00 REORDER \$710.00

1000 12" VINYL \$1,889.00 REORDER - \$1319.00

PACKAGES INCLUDE: WHITE JACKET w/ HOLE • MASTERING • FULL PROCESSING • TEST PRESSINGS • 2-COLOR LABELS (stock background) • SHRINKWRAP • QUICK TURN AROUND ASK FOR OUR FREE BROCHURE!



The heart listens... it's the same beat.

Part on the Beat! **Rainbo Records** CD • DVD • VINYL • CASSETTE
1738 Berkeley St. • Santa Monica, CA 90404 • (310) 829-3476
Fax: (310) 828-8765 • www.rainborecords.com • info@rainborecords.com



CDs FAST!

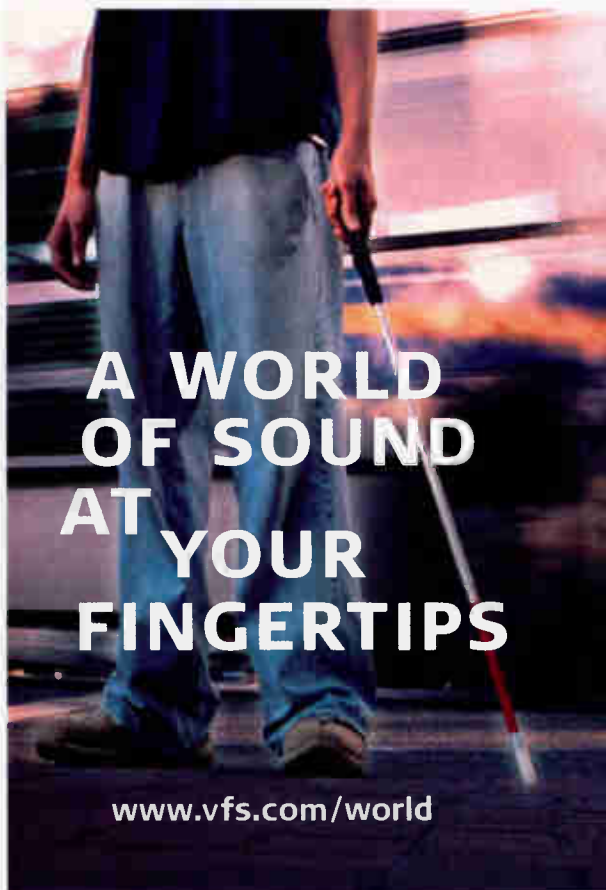
Complete CD packages in just 7-10 days! Ultradisc is committed to giving you a product that'll blow you away — and you'll get it in record time at a great price.



ultradisc



Give us a call at
(866) 2 CDSFAST
or visit us at
www.cdsfast.com



A WORLD OF SOUND AT YOUR FINGERTIPS

www.vfs.com/world

Sound Design for Visual Media at VFS

From Film Production to 3D and Classical Animation, Sound Design to Makeup Effects, and plenty more, all the programs at VFS are designed to prepare the next generation of talent for specific careers in the most exciting and creative industry in the world. How? Every student graduates with a demo reel or a portfolio of original work — the ultimate calling card.



Vancouver Film School
Where Results Matter

BAYVIEW PRO AUDIO

"America's #1 Online Professional Audio Dealer"
www.bayviewproaudio.com

888.718.0300

MarketPlace is a cost-effective, high-profile buyer's section offering advertisements to enhance your company's products and services, websites, product catalogs and ancillary products.

MOVE PRODUCTS FAST

Contact your sales representative today!

Order Line: (800) 544-5530 or online at:

www.svconline.com • www.mixonline.com • www.emusician.com
www.digitalcontentproducer.com • www.remixmag.com



Electronic Musician

MIX

digital content producer

millimeter

Sound & Video contractor

REMIX

CLASSIFIEDS

MIX Classified Ads are the easiest and most economical means to reach a buyer for your product or service. The classified pages of **Mix** supply our readers with a valuable shopping marketplace. We suggest you buy wisely; mail-order consumers have rights, and sellers must comply with the Federal Trade Commission, as well as various state laws. **Mix** shall not be liable for the contents of advertisements. For complete information on prices and deadlines, call (800) 544-5530.

Acoustic Products



www.SoundSuckers.com
Be Professional, Buy the Best!
Sound Isolation Booths
Soundproofing Products
Custom Projects & Free Advice Toll Free 1-888-833-1554 (or) 541-947-2602

RPG AcousticTools
PROVEN, AFFORDABLE ROOM SOLUTIONS FROM THE MUSIC INDUSTRY'S LEADING ACOUSTICAL INNOVATOR.



RPG DIFFUSOR SYSTEMS, INC.
WWW.RPGINC.COM/PROAUDIO

ACOUSTIC
Design Consulting Products
www.soundcontrolroom.com
toll free 866-788 1238

Subscribe to
Electronic Musician
www.emusician.com

SUBSCRIPTION QUESTIONS?

Call
866-860-7087

ACOUSTICAL SOLUTIONS inc. Sound Control & Noise Reduction Products
Call (888) 529-9220 Free Catalog
www.acousticalsolutions.com

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

SILENT Source
58 Nonotuck St., Northampton, MA 01062
Info: (413) 584-7944 Fax: (413) 584-2377
ORDER: 800-583-7174
Acoustical Fabric Panels •
Sound Barrier • Isolation Hangers •
Tube Traps • Silence Wallcovering •
WhisperWedge • ProFoam • Cislers •
• Hushfoam • R.P.G. Diffusers •
Sonex • Sound Quilt • More
www.silentsource.com
info@silentsource.com
QUALITY • PRICED RIGHT • INTEGRITY

VOCAL BOOTH
Vocal, Practice and Broadcast Booths
4 1 6 - 8 8 5 - 4 3 1 8
Simple Assembly (Steel Framing)
Various colors available
Cost Effective
Vocal, Practice & Broadcast Booths
www.seulxacoustics.com
Soulx Acoustics

SILENCE CASES
Record. Edit. Mix. Master...

THINK in PEACE.
Attenuation cases keep your PC gear QUIET and COOL
Multiple designs available starting at \$429
510-655-3440
www.silencecases.com


REALTRAPS®
High-Performance Acoustic Treatment
Rave Reviews From Top Pros

"RealTraps totally have the market cornered. Their traps are extremely effective at making even a bad room sound great!" —Charles Dye
Multi-Platinum, Grammy-Winning Engineer / Mixer / Producer, author of *Mix It Like A Record* DAW mixing course



Learn why REALTRAPS has fast become the most sought-after brand for treating pro recording studios and listening rooms. Please visit our website for a wealth of product information, demo videos, and some of the clearest explanations of room acoustics you'll find anywhere.

Toll-Free: 866-732-5872 www.REALTRAPS.com

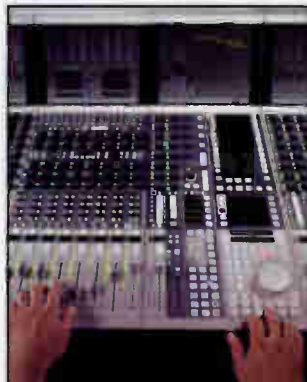
WhisperRoom INC.
SOUND ISOLATION ENCLOSURES
Celebrating over 15 years of reducing sound to a Whisper!
Recording, Broadcasting, Practicing

MDL 102126S (8'5" X 10'5")
19 Sizes and 2 Levels of Isolation Available
New! SoundWave Deflection System (Change parallel wall-to non-parallel)
Immediate Shipping!
www.whisperroom.com
PH: 423-585-5827 FX: 423-585-5831

VocalBooth.com
MODULAR SOUND REDUCTION SYSTEMS

Listen to your dreams. Follow your heart. Don't ever stop.
- Calvin Mann
541-330-6045
www.VOCALBOOTH.COM

Cases/Covers

UNDER COVER
 Custom Covers and Bags
 Speaker Cabinets / Consoles
 Anything!
 www.undercovernyc.com
 917 237 1535
 Get your gear Under Cover!



**Strut your stuff
 and watch the
 projects come
 a knocking.**

**Mix Studio Showcase
 found monthly in Coast-
 To-Coast
 (800)
 544-5530**



**Sign up for the
 REMIX HOTEL Newsletter
 www.remixhotel.com**

Computer Systems

**The
 Ultimate
 Music
 Production
 PCs!**

Optimized for:

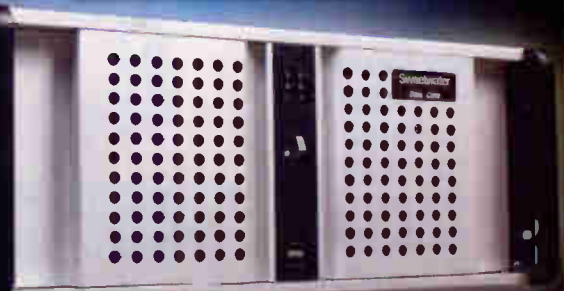
- Pro Tools**
- SONAR**
- GigaStudio**
- Nuendo**
- Cubase**
- Acid Pro**
- Live**
- Reason**
- ...and more!**

Sweetwater®
 music technology direct™

- **Single/Dual Core Racks**
- **Towers**
- **Mid-towers**

**starting under
 \$1000**

- **Super Reliable**
- **Whisper Quiet — Certified by Auralex**
- **Maximum Audio Horsepower!**



Visit sweetwater.com/PC or call today!
1-800-222-4700

Employment



Be a part of the most exciting and innovating computer entertainment in North America. Sony Computer Entertainment America (SCEA) markets the PlayStation® family of products and develops, publishes, markets, and distributes software for the PS one™ console, the PlayStation®2 computer entertainment system and the PlayStation Portable (PSP™).

Senior Sound Designer • San Diego, CA

- **THIS IS NOT AN ENTRY LEVEL or JUNIOR POSITION**
- **APPLICANT WILL HAVE TO "HIT THE GROUND RUNNING"**



We are seeking a talented candidate to be responsible for: Audio post production for all cinematics/movies in our Sony Computer Entertainment projects. (Sound Design, Dialog Editing, Foley Editing, Music Editing, Surround Mixing, & Dolby Encoding). Localization of Dialog assets for these Sony Computer Entertainment projects into multiple foreign languages for different territories. (Primarily French, Italian, German, and Spanish). Provide support to our in-game SFX designers by creating and/or recording sound effects when available. Coordinate, prepare, and attend Foley recording sessions for our Sony Computer Entertainment projects when needed. Coordinate, prepare, and attend Field Recording sessions for our Sony Computer Entertainment projects when needed.

Skills required: Minimum 3-5 years of audio post production experience (working in commercials / TV/ or Film). Minimum 2 years working in surround mixing environment (Dolby Pro Logic II or discrete). Must know Pro Tools software (plug-ins) and hardware, timecode synchronization, and surround mixing techniques. Must be a very strong sound designer with some major project titles to their direct credit. Must be well versed in dialog, sound effect, Foley and music editing. Must work well under pressure and tight deadlines. Must have experience working with clients and possess very strong "people skills". Must be eager to join and become a member of a dynamic and collaborative creative team. Must be a team player. Must be self motivating and have an inner passion for doing great work. Must be open to new techniques and processes and willing to receive constructive criticism. Experience in video game sound design a bonus.

Sony Computer Entertainment America

We offer competitive benefits and unparalleled opportunities. For more details, please apply through our website at <http://www.us.playstation.com/jobs>

PRINCIPALS ONLY PLEASE. EEO/AA

PSP, "PlayStation" and the "PS" Family logo are registered trademarks of Sony Computer Entertainment, Inc.

SONY



COMPUTER

Employment

"What an amazing place to work!" — *Kenny Bergle*
Sweetwater Sales Engineer

Visit Sweetwater's Online Career Center

sweetwater.com/careers

At Sweetwater you'll find a unique work environment with the rewards, opportunities, and excitement of a rapidly growing business, plus the stability and benefits of an established, profitable corporation.

Learn More About:

- The Company**
- The Culture**
- The Community**
- The Perks**
- Current Openings**



NEW! Exclusive Web Video **"Step into Sweetwater"**
sweetwater.com/careers

Sweetwater
music technology direct™

1-800-222-4700

Call Jeff McDonald In Human Resources today!

Equip. For Sale

OUR USED GEAR IS ALWAYS SPECIAL

Providing safe used equipment sales for 15 years.

- SSL 4040E.....\$38K
- Neve 8128.....\$44K
- Soundtracs MXR.....\$3K
- Trident 65.....\$6.5K
- Midas XL3.....from \$19K

We can help sell your used gear, too!

Those Cheerful Folks at H.T.I.C.S.

(610)865-9151 • Fax (610)758-9999

E-mail: HTICS@aol.com

www.hticsproaudio.com

SONIC CIRCUS
A SOUND ALTERNATIVE
617.696.9360
soniccircus.com

JOSEPHSON ENGINEERING
C700A
Two-capsule condenser microphone
Variable pattern
For vocals, spot and far-field pickup.
josephson.com

Equipment Financing

A/V EQUIPMENT FINANCING

* \$100,000 Tax Write-Off in 2006

* \$99 Payments For The First 6 Months

Specializing in Audio-Video Visit Our Web Site

No Financials Required For Application & Qualifications

New & Used Equipment

New Businesses

(With Clean Personal Credit)

LFCI www.lfci.net
Call: 800 626 LFCI

Equipment For Sale

Portable Iso-Booths

(CLEAR)SONIC
manufacturing inc

800.888.6360
clearsonic.com

VINTECH AUDIO
CLASS A MIC PREAMPS MADE WITH

NEVE™ 1272 COMPONENTS
www.vlntech-audio.com
call toll free: 1-877-4-mic-pre

VT-2 Vacuum Tube Mic Preamp
www.dwfearn.com

D.W. FEARN

buzzaudio
the future of great recordings
visit www.buzzaudio.com to begin...

Equipment For Sale

For All Your Pro Audio Needs

Nashville Audio Connection

Professional Audio Broker

SSL • Neve • Trident

www.nashvilleaudio.com 615.847.3798



DIGITALPROAUDIO.COM
DIGITALPROAUDIO
1-800-240-4079

Vintech



Introducing the Vintech X73i!

We put this piece head to head with vintage Neve 1073's at this year's AES show. It is 100% guaranteed to meet your expectations and is an incredible value. List price \$1595 **Special \$1375**



The Vintech X73

Custom hand wired concentric style switches with gold plated pins. Swiss made military grade attenuator switch. List price \$1995 **Special \$1795**



THE "X81 CLASS A"

1-877-4-MIC-PRE



The Model 473

www.vintech-audio.com

BAE REPRO 1272 PREAMPS with D.I.



\$1089 Single w/ps \$1759 Two channel w/ps

BAE REPRO 1073 \$2550 Single w/ps



\$4900 for 2 channel 1073 w/ps

Brent Averill
ENTERPRISES

14300 Hortense Street • Sherman Oaks, CA 91423
818 784-2046 FAX 818 784-0750
www.brentaverill.com

o d y s s e y
p r o s o u n d

The outlet for the finest new & pre-owned recording equipment anywhere.

www.odysseyprosound.com

1-800-249-1821

Phone: (978) 744-2001 Fax: (978) 744-7224

THE MIC SHOP

TUBE MICROPHONES
BOUGHT/SOLD/SERVICED
Mic Power Supplies & Cables

Bill Bradley: (615) 595-1717
Fax: (615) 595-1718

www.micshop.com

digimusician.com

...the ultimate Music & Audio technology store
...with maximum EURO service at minimum EURO's!

vintagekingaudio



new
used
vintage

www.vintageking.com
248.591.9276



CLASSIC MICS FROM RUSSIA

VINTAGE TUBE & FET
Telefunken, NEUMANN
AKG, LOMO, OKTAVA, etc.
TEL/FAX: 011-7-095-250-4200
E-mail: aeg210268@mtu-net.ru
www.valvemics.webzone.ru/



YOU'VE CHOSEN THE MICROPHONE
NOW CHOOSE THE MOUNT

Try your microphone with the
EAH ENHANCED AUDIO M600

• **SALE NOW ON** •
Purchase on-line

Visit
www.enhancedaudio.ie

Distributed in the USA by
www.lasvegasproaudio.com



www.mixonline.com

Furniture

studio furniture
800.315.0878



ARGOSY
argosyconsole.com

OMNIRAX
STUDIO FURNITURE



CODA D8
with Sidecars

OMNIRAX 800.832.3908 415.332.3902
FAX 415.332.2907
www.omnirax.com

Instruction

BE A RECORDING ENGINEER
★ **TRAIN AT HOME**
Easy Home-Study practical training in
Multi-track Recording. Join our successful
working graduates or build your own studio.
Career guidance / Diploma / Registered School.
FREE INFORMATION:
Audio Institute of America
214 40th Ave, Suite A1, San Francisco, CA 94121
Or visit us at www.audioinstitute.com

ART1 Audio Recording
Technology Institute
ORLANDO, FLORIDA

- Extensive Hands-On Training
- Music, SFX Design, Audio Post
- Low Student/Teacher Ratio
- Placement Assistance
- Financing to Qualified Applicants
- Accredited by ACCSCT

FEATURING **THX** MIX THEATER
pm3

888-543-ART1 • audiocareer.com

Subscribe to
millimeter
digitalcontentproducer.com

gear racks and more
Modular, stackable
oak furniture
Factory direct since 1984
Per Madsen Design
Free brochure (mention Mix)
800-821-4883 www.rackittm.com




Learn the Art of Recording



www.mediatechinstitute.com 1.866.498.1122

mediatech institute

KK AUDIO.com

Studio Furniture
30th Anniversary



WBW-1
888-765-4499

THE ORIGINAL

RACKMOUNT YOUR G5 - WWW.ISO-BOX.COM



ORDER TOLL-FREE: 888.580.9188

Sound Construction & Supply Inc.

Mastering

MASTERING
Guaranteed to give you
that "Big Label" sound.
Complete Album Deal!
\$475.
1-800-692-1210
www.musichousemastering.com

DRT Mastering
the Analog Specialist
You will have the fat, slammir
major-label sound that sells discs.
Or the work is free...
Custom gear. 1st-class results. Free broch
800-884-2576 www.drtmastering.com

**THRESHOLD
MASTERING**
Electronic Music Specialist
STEPHANIE VILLA
mastering engineer
310.571.0500
www.thresholdsound.com

**Analog/Digital
MASTERING**
by world class engineers
\$495 for complete album up to 12 songs
1-866-414-5200 www.2020music.com
Located in NY, mastering hundreds
of major releases since 1995

Internet

www.auctionsongs.com
The world's first music and film marketplace!
Featuring Flyin' to the Mid-day Sun by Supersuckers

MIXLINE
www.mixonline.com
Sign up to receive the FREE Mix
e-mail newsletter!

**audio
PRODUCTION**
SEMINARS ON DEMAND
**YOUR TIME.
ANYTIME.
ONLINE.**
AUDIO PRODUCTION SEMINARS ON DEMAND ARE AN EXCITING
NEW MEDIUM FOR EXPERIENCING NEW PRODUCTS,
APPLICATIONS AND TECHNIQUES. LOG ON TO LEARN MORE:
mixonline.com | emusician.com | remixmag.com
PRESENTED EXCLUSIVELY BY MIX, ELECTRONIC MUSICIAN, AND REMIX

Records Tapes CD Services

NEED CDs? THE CHOICE IS CRYSTALCLEAR 
 CHECK OUT OUR CURRENT SPECIALS!
 1000 CDs • \$999 (COMPLETE RETAIL READY) 1000 DVDs • \$1499 (COMPLETE RETAIL READY)
 1000 PROMO CD PACK • \$599 500 DVDs • \$999 (COMPLETE RETAIL READY)
WWW.CRYSTALCLEARCOS.COM • 1-800-880-0073

Lonely RECORDS
 Get a FREE Catalog
 1.800.409.8513
 www.lonelyrecords.com
 Retail Ready CD Packages **99¢**

CD & DVD Replication Duplication and much more!

 Progressive Media & Music
 www.progressivecds.com
 Toll Free: (800) 421-8273
THERE'S A REASON WE'VE BEEN HERE 28 YEARS!

www.yourmusiconcd.com
100 BULK CDRS \$59 **300 FULL COLOR PACKAGE \$549**
100 BASIC CDRS \$99
100 FULL COLOR CDR PACKAGE \$199
1000 FULL COLOR PACKAGE \$999
 100 BULK DVDRS - \$110
 100 BASIC DVDRS - \$149
 1000 FULL PACKAGE DVDRS - \$1199
 DIGITAL ATLANTA 678-442-0933
 INC. TOLL FREE 1-877-442-0933

DIGITAL DOMAIN™ **Mastering**
CD Manufacturing
Booklet Printing
Graphic Design
 Unsurpassed mastering quality by **Bob Katz**
CD Mastering is an art
 The Definitive, Award-Winning CD Mastering Website
http://www.digido.com
 (800) 344-4361 in Orlando

Lowest Price Period!
 CD Audio / CD Rom / DVD Replication
 Video Duplication / Graphic Design
 Printing / Packaging / Pre-Press

888.256.3472
www.ballmedia.com

You should care who makes your CD.
Your career is worth it.


MUSIC MANUFACTURING SERVICES

Fast, quality, affordable CD, DVD and vinyl manufacturing for independent labels and musicians since 1988.

NEW YORK
1-800-293-2075
NASHVILLE
1-800-909-7568
TORONTO
1-800-667-4237

musicmanufacturing.com

For the best price in CD Replication . . . there is only one number you'll need!
1.888.891.9091
 **WWW.MEDIAOMAHA.COM**

Subscribe to
REMIX
www.remixmag.com

1,000 CDs Full Color Retail-Ready
only \$995
 FOR OVER 20 YEARS
TOTAL TAPE SERVICES (866) 567-6835
www.totaltapeservice.com

Studios

Recording Studio for sale KANSAS CITY

House (4/3.5/3) w/sep 33x56 bldg/2acres.
 Equip negot. Suitable for touring eng/prod/musician w/family.
 1/2 hr from Intl Air
 Great new schools. Dbl 2x6 construction.
 23x27x14 main room. 19' deep control Up to 12' console. 2 booths.
 \$499K
Chris, 918-510-9615 / cgcbauer@sbcglobal.net

DON'T WAIT TO PLACE YOUR AD IN THE CLASSIFIED SECTION!
 For details, contact the MIX Classified Department at (800) 544-5530.

The Powerful and Portable MOTU Studio

Run Digital Performer 5, the new UltraLite FireWire I/O, MOTU instruments and a wide range of third-party products on Apple's fastest laptop lineup ever



What is an Intel chip doing inside a Mac? A whole lot more than it ever did in PC. Apple's new Intel MacBooks deliver unprecedented laptop performance. Take the power of the Intel Core Duo processor to go. Choose **MacBook** in black or white,

or **MacBook Pro** with a brilliant, 13.3-inch glossy widescreen display. Nearly one inch thin, 5.2 pounds, 100% perfect for anyone who wants power in an affordable package. Push the envelope of pro performance with the 15- & 17-inch **MacBook Pro**.

Featuring an Intel Core Duo processor, ultimate expansion via FireWire, and the

power to scream through **MOTU DP5** and your entire suite of **Native Instruments** on the go, **MacBook Pro** is one inch thin and miter deep. Connect the ultra compact **MOTU UltraLite**

bus-powered 10x14 FireWire audio interface for a high quality analog inputs — including two mic inputs with preamps, 10 analog outputs and a host of advanced features like SMPTE sync and front-panel programming



Universal plug-in control



As a Universal Sound Platform, **MOTU** operates not only as a plug-in within Digital Performer but also as an instrument host application. It allows you to integrate all your VST- and Audio Units-based software instruments and effects into a single, unified interface. **KORE** provides greatly increased control, overview and ease of use in all creative situations. Both Native Instrument's own range of instruments and effects as well as third-party products are supported. The seamless integration with **KORE**'s advanced hardware controller gives hands-on control with unprecedented analog feel, finally turning today's software synthesizers and samplers from applications into true instruments.

The MOTU experts at Sweetwater can put together the perfect DP5 rig for you. We'll help you select the right components to build a system that seamlessly integrates into your workflow, and we can even install, configure and test the entire system for you. Why shop anywhere else?

Synthesis ignited

Combining power, elegance, control, and unbeatable sounds, **Cakewalk Rapture** is one of the most exciting synthesizers to hit the market in years. Capable of producing rich, hypnotic, and rhythmic basses, leads, and pads, Rapture is perfect for performing and designing the modern synthesized sounds igniting today's pop, dance, and electronic music. What better way to expand the sound possibilities of your Digital Performer studio?

Rapture compliments Digital Performer with pristine wavetable synthesis and a sophisticated palette of hundreds of patches. Its staggering array of modulation features includes brilliant multi-point envelopes, a powerful MIDI control matrix, and 40 step generators to add rhythmic complexity to patches. Discover timbres you've never imagined with this truly unique instrument. Ask Sweetwater today about using Rapture with DP5.



Amazing sounds

Cakewalk Dimension Pro is the critically-acclaimed synthesizer that combines real instruments with advanced synthesis, giving you endless sound possibilities. The immense two DVD sound library that ships with Dimension Pro makes it the ideal go-to instrument for musicians, while its deep editing and sound generation capabilities have a natural appeal to sound designers.

Digital Performer users looking to create rich, ambient film-score beds will love the "Dimensions" bank, which features complex, evolving atmospheres. Dimension Pro also offers an abundance of vital, playable sounds that range from pristine realistic acoustic instruments to thumping basses and cutting leads. This wide tonal range can be attributed to both advanced sample mapping and a powerful sound-sculpting engine with analog sound generation that lets you mutate and recombine any sound you might imagine.



Waves native processing

Waves delivers the classic sound of the SSL 4000 Series to your Digital Performer mixes. Developed under license from **Solid State Logic**, the **Waves SSL 4000 Collection** includes three meticulously modeled plug-ins based on the legendary SSL 4000 Series: the SSL E-Channel, the SSL G-Master Buss Compressor, and the SSL G-Equalizer. Now featuring **personal presets** — personal presets from the legendary Grammy® Award-winning, multi-platinum mixer. Now add the **Waves Gold Native** bundle, packed with all the first rate plug-ins that put Waves at the top of computer-based professional audio processing. If you want a complete, world-class processing and mastering package for DP5, the Gold Native Bundle is it. You get total control of the highest-resolution tools for a broad range of applications.



The ultimate groove

PreSonus Digital DMX v1.3, the award-winning "groove standard", gets better and better with new features like "Chaos Designer™ Buzz" for stuttering edits, 500 incredible new categorized Multi grooves and 250 slamming new Kits. It's even easier to learn RMX now with the new Reference Guide/Help System and hours of brand new tutorial videos — including one specifically for Digital Performer users! Ask Sweetwater about "Xpanding" RMX with all nine SAGE Xpanders, now shipping!



www.sweetwater.com (800) 222-4700



Authorized Reseller

World Radio History

The Powerful and Portable MOTU Studio



Advanced waveform editing

Your DP mastering and processing lab awaits you: **Peak Pro 5** delivers award-winning editing and sound design tools, plus the world's very best native mastering solution for Mac OS X. With advanced playlisting, Super final-stage processing, Disc burning. Plus PQ codes, ODP export (optional add on), and other 100% Redbook-compliant features. Need even more power? Check out our Peak Pro XT 5 bundle with over \$1,000 worth of additional tools, including our acclaimed SoundSoap Pro, SoundSoap 2 (noise reduction and restoration), Squeeze-3 & 5 (linear phase multiband compression/limiter/expander), Reveal (precision analysis suite), PitchGraft (super natural pitch correction/transformation), RegH-Q (linear phase EQ matching), SuperFreq (4, 6, 8, & 10 band parametric EQ) and GateEx (advanced noise gate with downward expander) — all at an amazing price. So, when you're ready to master, Peak Pro 5 has everything you need. It's the perfect complement — and finishing touch — to Digital Performer 5.



Headphone amplifier

The **Brace Design m902** Reference Headphone Amplifier is the finest word in high fidelity headphone amplification and is the must-have tool for audio playback in your MOTU power-on-demand studio. Combining a full complement of analog and 24-bit/192kHz digital inputs with dual headphone and unbalanced line outputs, the m902 is an ideal solution for critical editing, mastering and monitor control for a MOTU Studio of any scope.



Control room monitoring

The **Brace Design Central Station™** is the missing link between your MOTU recording interface, studio monitors, input sources, and the artist. Featuring 5 sets of stereo inputs (3 analog and 2 digital with 192kHz D/A conversion), the Central Station allows you to switch between 3 different sets of studio monitor outputs while maintaining a purely passive signal path. The main audio path uses no amplifier stages including op amps, active IC's or chips. This eliminates color, pop, noise and distortion, enabling you to hear your mixes more clearly and minimize ear fatigue.

In addition, the Central Station features a complete studio communication solution with built-in condenser talkback microphone, MUTE, DIM, two separate headphone outputs plus a cue output to enhance the creative process. A fast-acting 3U segment LED is also supplied for flawless visual monitoring of levels both in dBu and dBfs mode. Communicate with the artist via talkback, send a headphone mix to the artist while listening to the main mix in the control room and more. The Central Station brings all of your inputs and outputs together.



16-pad drum controller

Novus Trigger Finger™ puts the power to record your own expressive percussion and drum parts into Digital Performer. Its 16 velocity-sensitive pads are perfect for playing DP's included Model 12 drum module, launching loops and samples via DPS's Newsampler, or even clocking video projections — and applying pressure to the pads can generate any MIDI controller you wish. Trigger Finger also gives you 8 knobs and 4 faders that are freely assignable to MIDI parameters such as volume, pan, pitch, and effects. Full programmability lets you customize the unit to fit your needs. Settings are easy to store via 16 presets and 30-Audio's free Enigma librarian software. A simple USB cable is all it takes to connect and power Trigger Finger with your computer.

The MOTU experts at Sweetwater can put together the perfect DP rig for you. We'll help you select the right components to build a system that seamlessly integrates into your workflow, and we can even install, configure and test the entire system for you. Why shop anywhere else?



Automated mixing & control

Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pot™ between your fingers. You adjust plug-in settings, automate filter sweeps in real-time, and trim individual track levels. Your hands fly over responsive controls, perfecting your mix — free from the solitary confinement of your mouse. **Automation Control** delivers all this in an expandable, compact, desktop-style design forged by the combined talents of Mackie manufacturing and the MOTU Digital Performer engineering team. Mackie Control Universal brings large-console, Studio A prowess to your Digital Performer desktop studio, with a wide range of customized control features that go well beyond mixing. It's like putting your hands on DP itself.

Purified power

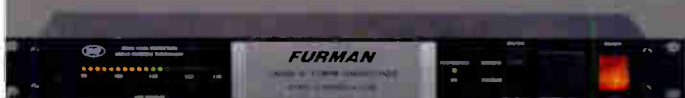
To get the most out of your MOTU studio gear, you need the cleanest power possible. The negative effects of poorly supplied wall outlet AC power on your gear can be dramatic, without your ever knowing how good your gear can really sound with properly supplied power. **Furman Audio** introduces the all-new **Power Factor Pro** with its ground-breaking Clear Tone Technology™, which actually lowers the AC line impedance supplied by your wall outlet while storing energy for peak current demands — over 45 amps of instantaneous current reserve. Additionally, Linear Filtering Technology™ (LiFT) dramatically lowers AC line noise to unprecedented levels in the critical audio frequency band. Also included are Furman's unique Series Multi-Stage Protection Plus (SMP+) surge protection and automatic Extreme Voltage

Accurate monitoring

The **Mackie HR-Series Active Studio Monitors** are considered some of the most loved and trusted nearfield studio monitors of all time, and with good reason. These award-winning bi-amplified monitors offer a performance that rivals monitors costing two or three times their price. Namely, a stereo field that's wide, deep and incredibly detailed. Low frequencies that are no more or less than what you've recorded. High and mid-range frequencies that are clean and articulated. Plus the sweetest of sweet spots. Whether it's the 6-inch HR-624, 8-inch HR-824 or dual 6-inch 626, there's an HR Series monitor that will tell you the truth, the whole truth, and nothing but the truth.

Shutdown (EVS), which protect you from damaging voltage spikes or sustained voltage overload. Equipped with the same LiFT and SMP+ features, plus EVS Extreme, the **Furman Series IT-20 II** ultra-low noise balanced isolation power conditioner is designed for the most critical, ultra-low noise installations. Delivering an astonishing 80dB of common noise reduction from 20Hz-20kHz, you're assured the lowest possible noise floor for all the gear in your MOTU studio. The IT-20 II's toroid transformer design assures a contained magnetic field for complete isolation from sensitive studio components nearby. The ultimate in purified power.

© 2005 Sweetwater, Inc.



www.sweetwater.com (800) 222-4700



Authorized Reseller

World Radio History

Native Instruments Guitar Rig 2

New Sounds, New Textures From a Virtual Stack

Native Instruments introduced Guitar Rig in 2004 into the field of guitar-processing software products that feature vintage amp sounds and effects. Guitar Rig 2 provides so many new programming concepts that you need to start tweaking your upgrade in a new way because there's gold in there.

SPLIT PERSONALITIES

If you haven't yet made friends with the Split module, now's the time. Split has always been great for generating variations of the basic sounds by parallel-processing two different effect chains and recombining them, allowing you to set the mix for a custom tone or control that mix with the pedal. A variation on this is the new Crossover Mix module, which acts like Split but also divides the signal into frequency bands that you can then mix back together.

Try creating a stomp box hybrid patch. Drag the crossover mix into the rack and set the crossover frequency to about 450 Hz. Bring in the Cat and Screamer distortions, placing the Cat after the low crossover mix unit with a medium filter setting, and put the Screamer after the high unit, with both tone and drive up. We're going for really chuggy low strings and bright, articulate higher ones, or the smooth lead sound of a neck pickup's tone, which Screamer is quite good at. At this point, panning out the crossover mix even a little produces a kind of double-track effect, which is cool, but let's keep this as organic as possible, so pan them back to center. Now drag any of the delays into position after the Screamer (but before the crossover mix) so that muted picking and low chords get less of the delay effect, while high strings and leads receive a good amount.

Next, assign the new Rig Kontrol pedal to the crossfade slider so you can change the tone during sustaining sounds. But now that you're sweeping between them, it again sounds like two distortions combined instead of one. So drag the Plexi amp into position before going parallel (before the low module) with fairly low gain so that there will be a constant baseline drive tone that will mix with both of the stomp boxes. Much better, but not entirely cohesive, as the tonal difference between low and high sounds is still too

great from pedal-up to pedal-down. So click on Rig Kontrol's Edit button and limit the range so that both are always mixed somewhat (never 100-percent low or high). The result is a big, fat, unified sound, even when you're controlling the crossfade slider with the pedal while you play.

CONTROL ISSUES

The new MDF (modifiers) menu lists serious controller modules, including LFO, envelope, step and analog sequencers, and input level. Let's pounce on that input level and see if we can modulate the stomp box hybrid patch's crossover mix crossfade with playing dynamics. Drag it into the rack (modifiers don't care where) and assign it to the crossfade by dragging the assign field over to the slider. Now it's already happening; Light picking produces more of the Cat sound and heavier strokes bring in the Screamer. But again, if the movement from low to high seems too great or too obvious, then click the target popup and lower the amount to 40 percent and then play with the offset parameter to fine-tune the range. Now the pedal still controls the basic crossfade amount and your picking style produces tones below and above it.

Input level is useful in general. You can use it to modulate simple parameters such as amp drive gain to make the amp models more dynamic. Modulate a parameter like reverb mix with a negative amount of input level, and soft playing adds more 'verb while louder picking produces drier notes that "speak" more clearly.

WAFTS AND SURGES

Guitar Rig 2's other modifiers are also potent. Try using the LFO with a slow sine wave to modulate parameters and keep the harmonics moving. One of my favorite targets is the wah wah pedal, something I call the "wafting wah." Assign the LFO to the wah slider (pedal) and set the fader in a tonal region that you like. The trick here is to limit the depth of the modulation so that



Crossover mix adjustment in the stomp box hybrid patch

the effect is subtle. (Use the target popup.) I use 5 to 10 percent set at a medium rate, but wafting is quite personal, so experiment. The envelope module can be used in many ways, but I like setting up a really long attack time and assigning the envelope to an amp drive gain.

It's like building your own compressor effect; let's call it "the surge." Drag in the envelope along with distortion, set the distortion knob to 0 and turn up the volume and tones. Then assign the envelope to the distortion knob. Tweak the trigger threshold to correspond to the part you are playing and then try out some chords—now you're surging. The sequencers are great for music that really syncs to drum patterns. You can program accents that kick up the amp volume or drive gain on important beats so your playing really locks in or so that your power chords contain the same rhythmic information. Again, use the target amount and offset control to fine-tune the effect.

DIG IT!

The system's GUI is so compelling that many users happily create sounds without digging too deeply into its programming. Guitar Rig's modules can be installed in any order you like, so you can get "out of the box" and inventive really quickly. ■

Gerry Basserman is a composer/producer based in the San Francisco Bay Area.

the truth is in the details

Which are exactly what our family of monitoring products delivers in spades- *the details*. All are equipped with our reference 24/192 DACs and our impeccable analog circuitry, making them the ideal transparent link between your mix and monitors. They have the power to reveal even the finest sonic details, which will empower your ability to hear and manipulate subtle, yet critical elements in your work.

m906 Our flagship - a full featured 5.1 surround monitor controller designed for integration into the world's most esteemed surround production facilities. From HD broadcast and film production to the finest recording and mastering studios, the m906 is now the standard for critical surround monitoring.

m904 The stereo version of the m906 - this is the ultimate high fidelity monitor controller for any audio production environment. With multiple speaker set outputs, complete I/O level calibration and reference headphone outputs, the m904 is at home anywhere transparent stereo monitoring is required.

m902 The crossover smash hit headphone amplifier! Celebrated by audio engineers and audiophiles alike, the m902 is the perfect hybrid of a high performance headphone amplifier, reference DAC and stereo monitor controller. With a sound field so balanced and articulated, the music comes alive with clarity, nuance and detail.

Grace Design strives to further the art by helping you become more engaged with the creation and presentation of great music. Our new monitor controllers provide all the necessary details to make that happen.

m902



m904



m906



GRACE

d e s i g n

for all the facts, visit www.gracedesign.com or call 303.443.7454

Solid feel.



Remarkable performance.

Solid feel. It's the first thing you notice when you hold the UltraLite 10 x 14 FireWire audio interface in your hands. Plug in the FireWire cable to your PC or Mac, and the next thing you notice is the depth of the features in the programmable LCD display. Connect your mic, guitar and instruments via the UltraLite's plentiful analog inputs, and watch the 7-segment input meters dance. Crank the phones and hear the ultra-clean sound. The UltraLite is the only compact audio interface that offers these advanced features, and much more, at a price that will surprise you.

- Compact size — powered by FireWire and housed in sturdy 8.5 x 7-inch aluminum alloy, the UltraLite provides rugged portability.
- Digital Precision Trim™ — use digital encoders to boost mic/instrument input gain in precise 1 dB steps with numeric feedback in the LCD.
- Three-way pad switch — apply zero, -18 or -36 dB pad to any XLR input signal, from a dynamic mic to a +4 dB line level input.
- Stand-alone mixing — connect the included DC power supply and mix your band live, without a computer. Save up to 16 mix setups and then recall them on the spot with the front-panel LCD.
- "Mix1" return bus — record the UltraLite's live mixdown back into your audio software for archiving or further workstation editing.
- Mac OS Universal Binary and Windows XP x64 drivers — use the UltraLite with today's latest Intel-based Macs or with a super-fast high-performance 64-bit Windows XP Pro audio workstation.
- Cross-the-board compatibility — works with all major audio software for Mac OS X and Windows XP. Includes AudioDesk for Mac OS X.



The CueMix Console software gives you direct access to the UltraLite's 10-input, 8-bus digital mixer. Route any combination of inputs to four separate output pairs. Create and save up to 16 mix setups. You can even set up talk-back and listen-back for studio recording sessions.

UltraLite

Compact bus-powered 10 x 14 FireWire audio I/O



MOTU
motu.com