

MIX[®]

PROFESSIONAL AUDIO

ON

Live Sound

- TOP-SHELF VOCAL MICS
- IN-EAR PIONEER MARTY GARCIA
- JUMPIN' AT THE COMMODORE BALLROOM



**RECORDING
THE BAND**
The Lowdown
On Bass Sounds

**COOL TONES,
HOT TRACKS**
The Latest in
Tube Gear

**TOURING
WITH**
The Boss
Garbage
Keane
Reba and Brad
Jonny Lang

#BXNM:DTC FIRM**CAR-R1 LOT**C-000
#91329GND850BL001# 170
MARK GANDER
JBL
8500 BALBOA BLVD
NORTHRIDGE CA 91329-0003

P32
26/5



op in the Cathedral,
wood

Channel 242: *Birds of the Rainforest*



As experienced through Dolby Digital for HDTV.

Viewers don't want to just watch TV anymore. They want to experience it. And Dolby® Digital 5.1 lets them do just that in rich, HDTV surround sound. In fact, Dolby Digital 5.1 is already setting the standard for HDTV audio on most major terrestrial, cable and satellite services. Today, viewers expect the very best viewing experience in sports, movies, live events and episodic programs. And with Dolby Digital 5.1 you can give it to them.

www.dolby.com



Dolby and the Double D Symbol are registered trademarks of Dolby Laboratories.
© 2005 Dolby Laboratories, Inc. All rights reserved. 504210001

AVIOM®

PRO16 Monitor Mixing Systems Solve Monitor Problems.

Clear Choices. Clear Voices.

"We've been using the Aviom system on a regular basis for the Brian Doerksen tour. It really cuts down on sound check times. Big time"

Terry Neudorf – FOH Engineer, Brian Doerksen



"Aviom's monitoring solution improves the worship experience for the performers and congregation by helping us lower our stage volume. It allows the mix engineer to focus all his efforts on providing the best sound environment for the sanctuary."

Holland Davis – Worship Leader

"The Aviom Monitoring System has revolutionized our band. The dynamics of the band have greatly increased. We can play soft passages and still hear one another. We play more musically and better in tune. Aviom has delivered a monitoring system that helps us play our very best!"

Jared Ribble – Drummer for Denver & The Mile High Orchestra



- 16 Audio Channels
- True Stereo Mixing
- 16 Snapshot Memories
- No Latency
- Unlimited Expansion
- High Gain Output

Easy to Use

Powered by



Aviom.com

610.738.9005

Info@aviom.com

ONYX 80 Series

PREMIUM 8-BUS LIVE SOUND CONSOLES

Designed from the ground up
for superior sound and reliability.

Right from the start, we designed our new Onyx 80 Series Premium Live Sound Consoles to provide superior value in every detail—ergonomics circuitry, performance, sound, and yes, even knobs.

Our industrial design team started with 10 different knob prototypes. Their criterion was both comfort and precision, with feel, shape, and ergonomics at the top of the list. After two months, they came up with a tapered design that felt just right, and allowed users to “feel” the setting without having to look at the knob itself.

This exacting development process was employed throughout the entire Onyx 80 Series Console. We started with the highest quality analog components available—from premium op-amps to custom chip sets costing exponentially more than previous designs. Most notably we developed all-new Onyx mic preamps and Perkins EQ circuitry from the ground up specifically for optimum performance within the total Onyx system.

As a result, Onyx mic preamps deliver outstanding, verifiable specs like 123dB total dynamic range, -129 dBm Equivalent Input Noise and 0.0007% Total Harmonic Distortion. And our all-new Perkins EQ circuitry—based on the Wien Bridge topology found in hallowed “British” desks of the ‘60s and ‘70s—offers all the warmth of British EQ with greater boost/cut capabilities.

Additionally, the Onyx 80 Series offers features never before found in its price range. Its eight Auxiliary sends are logically divided into pairs with each pair assignable as pre- or post-fader. Plus, every pair offers a Stereo button that reconfigures the Aux sends to perform level and pan functions for simple and intuitive control of up to four stereo In-Ear Monitor mixes.

Of course, all these features are for naught if a live console is not built to last. So we designed the Onyx 80 Series console upon a tough-as-nails modular monocoque design, reinforced with beefy aluminum extrusions and strategically placed steel bulkheads. The design was torture-tested continuously for impact, shock, heat vibration, humidity, and even dropped repeatedly from a height of three feet. In other words, it's ready for the real world.

Introducing the new Onyx 80 Series 2480, 3280, 4080 and 4880 Premium Live Sound Consoles—the best value in the history of live sound—from Mackie, of course.

Onyx mic preamps inspired up on Mackie's hallowed XDR design with increased headroom and better AFI rejection.

All-new Perkins EQ circuitry provides the sweet musicality of “British” EQ circuitry but with wider boost/cut capabilities.

The Onyx 80 Series offers extreme chassis rigidity thanks to a modular monocoque design reinforced with beefy aluminum extrusions. Even the rivets are aircraft-grade.



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

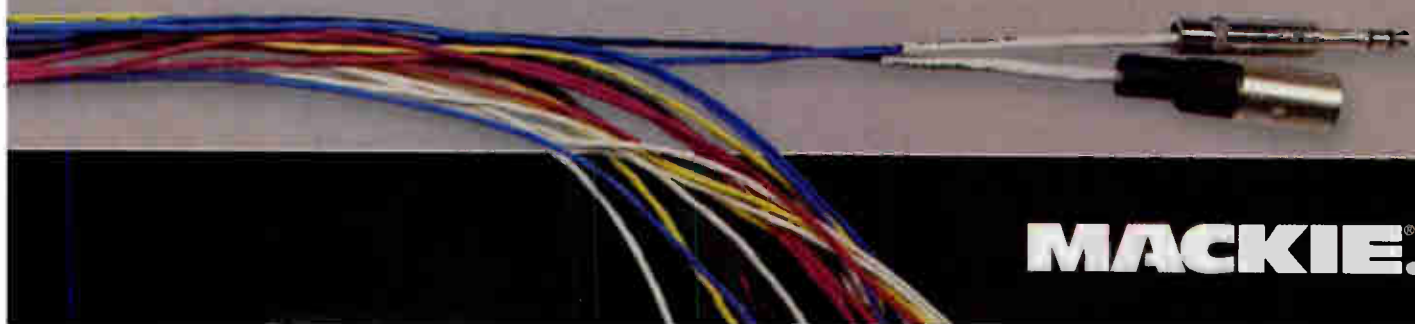


**WE SPENT TWO MONTHS DESIGNING KNOBS
WE HOPE YOU'LL NEVER LOOK AT.**

World Radio History



MACKIE ONYX 80 SERIES: SUPERIOR PREAMPS, NEW EQ, PREMIUM CIRCUITRY AND FEATURES. PLUG IN TO QUALITY.




MACKIE®

Beauty is more than skin deep.

The new RØDE NT2-A delivers where others fail.

While on the surface they may appear similar, no other microphone delivers the same combination of structural, electronic and acoustical engineering excellence at anywhere near its asking price.

The RØDE NT2-A...
the sound of true beauty.



The HF-1 Capsule
- from the award winning K2 Tube Mic.

Computer modeled
non-resonant substructure.

Surface mount technology:
ensuring unsurpassed
signal purity and industry
recognized lowest self noise.



Variable Polar, Pad
& High Pass Filter

NT2-A

Proudly designed and manufactured in Australia
www.rodemic.com

RØDE
MICROPHONES

LightViper Update

LightViper - Digital Fiber Optic Audio Snake System

Lifetchangers Church • Chicago, IL Installation by Audio Analysts

"The scope of the project was to design and build a state of the art Vertec line array system with the installation of 2 projectors and screens for their video staff. The audio system was to have a three way split. One for FOH, one for a future monitor desk and one for broadcast.

"We chose Fiber-Plex because of the flexibility. We didn't know what the format would be for future broadcast or monitoring but, because of the simultaneous analog AES/EBU signal we could do what ever we wanted at a later date and be compatible with any desk they would put in. We also realized that we could save the client a substantial amount of money over copper and get much better performance.

"Buddy and the guys were great and were at our beck and call throughout the installation. They stand behind their product and gave us a guaranty on performance. Manufacturers' support is very important to us. We won't work with anyone who won't stand behind their line. Besides I like those guys.

"Right now LightViper is the only system that does what I want it to do at the price I want."

—Robert M. Langlois, Audio Analysts,
Colorado Springs, CO



The LightViper System

LightViper is the ONLY digital fiber-optic snake system that's light enough to be a carry-on! It gives you limitless lossless splitting and routing options, built-in phantom power on every channel, 24bit/96kHz sampling, balanced, unbalanced analog and AES/EBU digital outputs on every channel and no need for DI's – ever!

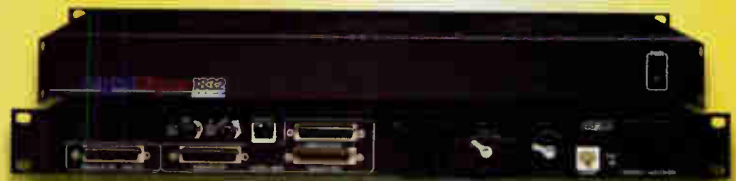
LightViper is as transparent and easy to use as any snake you've ever used – plug and play – that COSTS FAR LESS than other digital snake systems. One that lets you focus on your show – not the snake.

Its 1/4" fiber optic cable can be run more than 1.25 miles with no loss and no ground loops, while standing up to tough military standards. Now, the only way you'll encounter that scenario is on a USO tour, but the point is, LightViper can handle ANYTHING that's thrown its way and still come out shining.



The LightViper Advantage

- 32 x 8 fiber optic snake
- Cable runs over 1.25 miles with no loss
- Rugged fiber cable smaller in diameter than standard mic cable!!
- Native 24 bit / 96 kHz - 48 kHz capable
- Phantom power on every channel
- High quality Neutrik® connectors
- Optional lossless 3-way split of all 32 channels on stage end
- Simultaneous analog/AES3 digital outputs on all 32 channels
- Heavy-gauge steel construction
- Extended range and flexibility means limitless routing options
- Flat frequency response and better than 100 dB dynamic range—delivers true, crystal clear sound
- Every channel accepts balanced or unbalanced connections... No need for DI's!
- Rack mount and wall panel options available
- Perfect for installations of all kinds (Houses of Worship, Clubs, Corporate), broadcast and for touring sound



The LightViper VIS-4832 Digital Snake Head

NEW!

The VIS-4832 Digital Snake Head is the newest member of the LightViper family. It features 16 AES3 inputs (32 audio channels) via (2) 25 pin D connectors and 4 AES3 returns (8 audio channels) via (1) 25 Pin D connector with simultaneous line level analog outputs via a second 25 pin D connector. Natively, the VIS-4832 will pass 96KHz digital data. However, by syncing the VIM-1832 (at front of house) with a 48KHz word clock, the system will pass 48KHz digital data as well.

The VIS-4832 also offers the option of two additional fiber outputs, providing lossless digital splitting of all 32 inputs for use in monitor mixes and/or broadcast or recording mixes. These optical outputs must be used in conjunction with a VIM-1032 at the tail end for each split output.

VIS-4832 Applications:

Mic Pre-amp snake: Provides a perfect solution for transporting 32 channels of digital outputs of remote preamps to a digital console.

Digital Drive Snake: Gives you a complete 32 channel drive snake. The VIM-1832 at the tail end puts out both analog and AES3 digital signals, so you can address amps that have digital inputs and amps that have analog inputs simultaneously.

Digital Audio Transport System: Connecting the outputs of a digital console to the inputs of the VIS-4832 allows you to create a digital audio transport system. Example – If you need the identical outputs of your digital console to route to stage, amp room #1 and amp room #2, you simply use the VIS-4832 on the outputs of the console and route these signals via fiber to one VIM-1832 (stage) and two VIM-1032 (one located in amp room #1, one located in amp room #2).

MIX

PROFESSIONAL AUDIO AND MUSIC PRODUCTION
JULY 2005, VOLUME 29, NUMBER 8



PAGE 32



PAGE 38



PAGE 46



PAGE 51

On the Cover: The Cathedral, which houses Snoop Dogg's new lair (Doggy-style) in Hollywood, offers a serious dose of Mackie—Digital X-Bus console, and subs, near-fields and mid-fields—capable of handling his myriad projects at “rule-breaking” volumes. Photo: Peter Figen.



features

32 Smooth Tubes

Discerning audio engineers—and musicians—know how a piece of tube gear sounds. Although these professionals may surround themselves with cutting-edge technologies, they often reach for that favorite tube processor to give their mix that warmth, that overload, that certain something. *Mix* rounds up the latest offerings.

38 Bombastic Bass



In the fourth installment of our “Recording the Band” series, technical editor Kevin Becka addresses the bottom end: bass. Its sheer size—in the musical sense—can add depth to a track, while laying down the musical bed on which other instruments lie. From prepping the instrument to miking and setting up the signal chain to finding the perfect space in the mix, Becka reveals tips and techniques to get the most from this bottom-heavy monster.

46 Road-Ready Vocal Mics

With the summer touring season in full swing, in addition to the obligatory P.A. and mixing consoles, handheld mics are an “essential” ticket on any audio rider. *Mix* presents some of the market's top-of-the-line handheld mics.

56 TEC Awards Nominees

At this year's Technical Excellence & Creativity Awards, Arif Mardin will be inducted into the TEC Hall of Fame and David Byrne will accept the prestigious Les Paul Award. Find out the rest of this year's nominees in the Technical and Creative Achievement categories.

58 Studio Spotlight: Compass Records/Sound Studios

The former home of Nashville's Battery Studios and, originally, Hillbilly Central—where numerous Outlaw country records were created—Compass Records/Sound Studios continues the luminous history with an indie label that supports folk, jazz, country, Celtic and roots music.

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

[Volume 29, Number 8] is ©2005 by PRIMEDIA Business Magazines & 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 #R129597951; Canada Post Publications Mail Agreement #40597023. Canada return address: DP Global Mail, 4960-2 Walker Rd., Windsor, ON N9A 6J5.

MUSICAL ACCURACY



The DPA 3552 stereo kit. Used for recording or sound reinforcement, this system renders a stunningly high resolution, musically accurate result.

The 3552 kit is appropriate for any stereo recording scenario as well as for spot miking where the intent is to pick up the true intrinsic characteristics of the source. Designed for flexibility as well as low profile mounting, the 3552 can be mounted directly inside a piano or be used to record a full orchestra in A-B stereo applications.

The kit is comprised of a perfectly matched pair of 4052 Compact series omni directional microphones fitted with the same capsules used in our legendary model 4006. The kit includes magnetic base goose-neck shock mounts, diffuse field gnds, nose cones and a carrying case.

The DPA 3552 stereo kit

- the perfect choice every time musically accurate results are desired

contents

sections

SOUND FOR PICTURE

- 92 **Location Recording for Film**
by Blair Jackson



PAGE 92

- 93 **Scoring *Fantastic Four***
by Matt Hurwitz

LIVE MIX

- 72 **Live Mix News**



PAGE 76

- 76 **All Access:** Keane by Steve Jennings
78 **Tour Profile:** Reba McEntire and Brad Paisley by Strother Bullins
80 **Tour Profile:** Bruce Springsteen by Maureen Droney
82 **Tour Profile:** Garbage by Heather Johnson
84 **Tour Profile:** Jonny Lang by Jeff Forlenza
86 **Venue Spotlight:** Commodore Ballroom by Tim Moshansky
90 **New Sound Reinforcement Products**

RECORDING NOTES

- 130 **Pat Metheny Group** by Chris J. Walker
131 **Collective Soul** by Elianne Halbersberg
131 **Jason Miles** by Gary Eskow
132 **Classic Tracks:** David Crosby's "Laughing" by Blair Jackson
142 **Cool Spins**

COAST TO COAST

- 146 **L.A. Grapevine** by Maureen Droney
146 **Nashville Skyline** by Rick Clark
147 **N.Y. Metro Report** by David Weiss
148 **Sessions & Studio News**
by Heather Johnson

technology

- 102 **Tools of the Trade**

- 108 **Field Test:** Sony Acid Pro 5 Loop Editing Software



PAGE 108

- 112 **Field Test:** Primera Bravo Pro CD/DVD Duplicator

- 114 **Field Test:** TC Electronic EQ Station



PAGE 114

- 116 **Field Test:** Quested S7 Powered Reference Monitors

- 118 **Field Test:** Ultimate Sound Bank Ultra Focus Virtual Instrument

- 120 **Field Test:** Eventide Anthology Plug-In Bundle

- 124 **Field Test:** Pearl ELM-C Cardioid Condenser Microphone

- 176 **Power Tools:** Waves IR1 Version 2
by Michael Cooper

MIX
ONLINE
EXTRAS

Visit www.mixonline.com for bonus materials and audio clips for Recording Bass, Commodore Ballroom, Eventide Anthology and much more.

columns

- 24 **Fast Lane:** Open the Box
by Stephen St. Croix

- 28 **Insider Audio:** Spring Cleaning—Odds and Sods From the Desktop
by Paul D. Lehrman



PAGE 28

- 62 **Mix Interview:** Marty Garcia
by George Petersen

- 68 **Project Studio:** Scott Sanders
by Breean Lingle

- 126 **Tech's Files:** Birthdays, Ear Health and DC Power Distribution
by Eddie Ciletti

departments

- 10 **From the Editor**

- 14 **Feedback**

- 16 **Current**

- 158 **Ad Index**

- 159 **Mix Marketplace**

- 165 **Classifieds**

Transform a Master into a Masterpiece



MASTERING6000

Mastering 6000 is the latest addition to the prominent System 6000 family. Packed with a choice selection of precision tools for the mastering engineer, it is dedicated to the highest audio quality and the lowest production time. Mastering 6000 comes with the new MD4 5-band Compressor/Limiter, Toolbox 5.1 for mono, stereo, matrixed surround and 5.1 productions, and an enhanced Brickwall Limiter. All of the legendary algorithms from Reverb 6000 and other optional licenses can be added to Mastering 6000 if required. For more info about Mastering 6000, please visit www.tcelectronic.com/mastering6000.

SYSTEM 6000

Mastering 6000: Stereo Mastering, Multichannel Mastering, Monitor Matrix, VariPitch.
Reverb 6000: Stereo Reverbs, Multichannel Reverbs, Stereo Delay, Multichannel Delay, VariPitch.
Optional licenses: Massenburg Design Works HiRes EQ®, Unwrap, BackDrop.



MASTERING6000



**WINNER
SYSTEM 6000**

t.c. electronic
THE TCELECTRONIC SYSTEM 6000

TC ELECTRONIC A/S DENMARK • ☎ +45 8742 7000
TC ELECTRONIC INC USA • ☎ (818) 665 4900 • MAIL: INFO@TCELECTRONIC.COM
WWW.TCELECTRONIC.COM

World Radio History



The New Demo

There's an old saying in the recording biz that "everything's a demo until it's released." Demos range from a quick sketchpad of a tune made simply to get an idea down before it's forgotten to elaborate productions for use in pitching songs in the competitive songwriter/publishing market. Of course there's also the all-important band demo used for bookings or to get the labels' attention. As the ability to hear a great song from listening to a simple guitar/vocal or piano/vocal recording becomes a lost art, the need for a clean, well-produced demo is essential.

Back in the old days, demos were demos. Based on the quality of low-cost equipment 20 years ago, the typical 4-track demo really sounded "demo." These days, just about anyone with some cash to spare has access to gear that is capable of doing major label-quality work. To be sure, achieving this still takes talent, creativity and some actual knowledge of audio basics, such as signal flow and gain structure, but it is possible.

However, with the availability of huge numbers of tracks and virtual instruments comes the danger of overproduction, particularly with artist/engineer/producer projects. Certainly, there is the argument that "nobody knows my music better than me," but there is no substitute for an experienced producer who can take an unbiased listen to a tune and tell the artist that the 96-bar solo meanders or is perhaps a tad too long.

The "wall of sound" technique is occasionally the right approach, but more often than not, recordings have a cleaner, more polished sound if each instrument is given some "space" in the mix. Too often, musical arranging is thought of as referring mostly to orchestral, big band or string ensembles, but arranging is equally important in any performance/recording project. Think about each track and how it fits into the musical spectrum.

One common fault in demos and/or rough mixes is too many midrange tones; i.e., a preponderance of instruments playing chords/pads at the same time can smother the vocals. This can also apply to percussion, where a light touch can be amazing and too much can be busy. And avoid the studio novice pitfall: an unwillingness to delete tracks that conflict with other elements because they took hours to create.

Today, even with every conceivable signal processing effect available, channel muting (either automated or manual) is still one of the most powerful tools available to the engineer. Besides cleaning up tracks by silencing amp buzz when guitar parts aren't playing or turning off open mics when the toms aren't being struck, muting opens a world of possibilities. Recording a doubled vocal part will fatten up a voice track, but can sometimes sound too smooth, taking away from the power of a vocal. However, this might just work on the song's chorus, and a quick tap on a Mute button will tell all.

Whether on a demo or big-time recording, a little pre-production is a must, although some spontaneous experimentation with different parts/sounds/techniques during the process can really pay off. If something works, fine, but keep that Mute button handy. When mixing, sometimes less is more.

George Petersen
Editorial Director

MIX[®]

A PRIMEDIA Publication

EDITORIAL DIRECTOR George Petersen gpetersen@primediabusiness.com
EDITOR Tom Kenny tkenny@primediabusiness.com
SENIOR EDITOR Blair Jackson blair@blairjackson.com
SENIOR EDITOR/FEATURES Sarah Jones sjones@primediabusiness.com
TECHNICAL EDITOR Kevin Becka kbecka@earthlink.net
MANAGING EDITOR Sarah Benzuly sbenzuly@primediabusiness.com
ASSISTANT EDITORS Breean Lingle blingle@primediabusiness.com
 Heather Johnson hjohnson@primediabusiness.com
EDITORIAL INTERN Ryan Wilkins rwilkins@primediabusiness.com
LOS ANGELES EDITOR Maureen Draney MaureenDraney@aol.com
NEW YORK EDITOR David Weiss david@dwwords.com
NASHVILLE EDITOR Rick Clark rmburke@mac.com
SOUND REINFORCEMENT EDITOR Mark Frink mix@markfrink.com
FILM SOUND EDITOR Larry Blake swell@one@aol.com
TECHNICAL PROVOCATEUR Stephen St. Croix
CONSULTING EDITOR Paul D. Lehman lehman@span.com
DIRECTOR OF NEW MEDIA Tami Needham needham@primediabusiness.com
NEW-TECHNOLOGIES EDITOR Philip De Lancio
CONTRIBUTING EDITORS Barbara Schultz Robert Hanson Michael Cooper
 Bob McCarthy Eddie Citti Oliver Masciarotte Gary Eskow Barry Rudolph

SENIOR ART DIRECTOR Dmitry Panich dpanich@primediabusiness.com
ART DIRECTOR Kay Marshall kmarshall@primediabusiness.com
ASSOCIATE ART DIRECTOR Elizabeth Heavem heavem@primediabusiness.com
PHOTOGRAPHY Steve Jennings
INFORMATIONAL GRAPHICS Chuck Dahmer

SENIOR VICE PRESIDENT Pete May pemay@primediabusiness.com
PUBLISHER Dave Reik dreik@primediabusiness.com
ASSOCIATE PUBLISHER Erika Lopez elopez@primediabusiness.com

EASTERN ADVERTISING DIRECTOR Michele Kanatous mkanatous@primediabusiness.com
NORTHWEST/MIDWEST ADVERTISING MANAGER Greg Sutton gsutton@primediabusiness.com
SOUTHWEST ADVERTISING MANAGER Albert Margolis amargolis@primediabusiness.com

CLASSIFIEDS/MARKETPLACE ADVERTISING DIRECTOR
 Robin Boyce-Tribitt rboyce@primediabusiness.com
WEST COAST CLASSIFIEDS SALES ASSOCIATE Kevin Blackford
kblackford@primediabusiness.com
EAST COAST CLASSIFIEDS SALES ASSOCIATE Jason Smith jasmith@primediabusiness.com

MARKETING & EVENTS DIRECTOR Christen Pocock
cpocock@primediabusiness.com
MARKETING EVENTS PRODUCTION MANAGER Sarah Johnson
sjohnson@primediabusiness.com
MARKETING & EVENTS TRADESHOW COORDINATOR Megan Koehn
mkoehn@primediabusiness.com
MARKETING COORDINATOR Clarina Raymond
croydmana@primediabusiness.com
ONLINE SALES AND MARKETING DIRECTOR Samantha Kahn skahn@primediabusiness.com

DIRECTOR, SPECIAL PROJECTS Hallel Resner hresner@primediabusiness.com

VICE PRESIDENT, PRODUCTION Lisa Parks lparks@primediabusiness.com
GROUP PRODUCTION MANAGER Melissa Langstaff mllangstaff@primediabusiness.com
SENIOR ADVERTISING PRODUCTION COORDINATOR Liz Turner
lturner@primediabusiness.com
CLASSIFIED PRODUCTION COORDINATOR Jennifer Kneebone-Laurie
jknbone@primediabusiness.com

VICE PRESIDENT, AUDIENCE MARKETING Jerry Okabe jokabe@primediabusiness.com
DIRECTOR AUDIENCE OF MARKETING John Rockwell jrockwell@primediabusiness.com

HUMAN RESOURCES DIRECTOR Julie Nave-Taylor jnave-taylor@primediabusiness.com
RECEPTIONIST/OFFICE COORDINATOR Lara Duchnick lduchnick@primediabusiness.com

COPYRIGHT 2005
 PRIMEDIA Business Magazines & Media Inc.
 ALL RIGHTS RESERVED.

FOUNDED IN 1977 BY DAVID SCHWARTZ AND PENNY RIKER

MIX[®] MAGAZINE IS AFFILIATED WITH



Sleep is for the weak

Are You Good Enough For Neutrik?



The Mark of a
Lifetime Performance Guarantee.

"To start, I will purchase 8 channels of Wunder Audio's PEQ1R, compared to the classic Neve 1073...it offers more equalizing ability with fully developed lows, more presence in the mids and clearer highs. It's truly a great front end for any tracking session"

-A Fantasy Studio Shopping Spree, Mix October '04



wunder audio

wunderaudio.com (512)338-6777

WWW.MIXONLINE.COM

PRIMEDIA

Business Magazines & Media

President John French jfrench@primediabusiness.com

Chief Operating Officer Andrea Goldschlager agoldschlager@primediabusiness.com

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

Vice President, Content Licensing & Development Andrew Elston aelston@primediabusiness.com

Vice President, Corporate Communications/Marketing Karen Garrison kgarrison@primediabusiness.com

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

Sr. Vice President, Chief Information Officer Kris Paper kpaper@primediabusiness.com

Vice President, Technology Cindi Redding credding@primediabusiness.com

Primedia Inc.

Primedia Business-to-Business Group

745 Fifth Ave., New York, NY 10151

Chairman Dean Nelson dean.nelson@primedia.com

President/CEO Kelly Conlin kelly.conlin@primedia.com

Vice Chairman & General Counsel Beverly Chell beverly.chell@primedia.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 mixmag@table.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 FosterReprints 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 Web site; look for the RS(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 ProQuest at 800/521-0600 or 734/761-4700, or search the Serials in Microform listings at proquest.com.

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

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

MAILING LISTS: PRIMEDIA Business 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 PRIMEDIA Business subscriber services at 800/532-8190 or 740/382-3322.

CORPORATE OFFICE: PRIMEDIA Business Magazines & Media, 9800 Metcalf, Overland Park, KS 66212, 913/341-1300, primediabusiness.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 PRIMEDIA Business Magazines and Media Inc., provided that the base fee of U.S. \$2.25 per copy, plus U.S. \$00.00 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 + \$00.00. 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.

Introducing our new PS8R, a bi-amplified, 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.

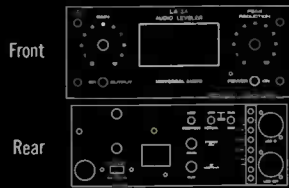
www.slspeakers.com



SUPERIOR
LISTENING SYSTEMS
AUDIO CLARITY REDEFINED



POWERED BY
EVENSTAR™
SIGMA DELTA AMPLIFIER
TECHNOLOGY



- ◆ Classic Solid-State Opto-Compressor
- ◆ Custom UA Transformers & T4 cell
- ◆ Discrete, Class A Amplifier – up to 50dB gain
- ◆ Rear Panel "Gain Mod" switch for gain control
- ◆ Designed by ex-UREI engineer- Dennis Fink

LA-3A

Classic Audio Leveler

Conceived 1969
Cloned 2005



The original LA-3A Leveling Amplifier made its debut at the 1969 NY AES show and marked the departure from the tube design of the LA-2A. The LA-3A incorporated components and design concepts from the Putnam-designed 1176LN Limiting Amplifier. Immediately embraced as a studio workhorse and still widely used today, the LA-3A remains a favorite of engineers and producers worldwide. Our reissue of the LA-3A retains all the internal and external qualities of the original. Original rear panel connections and controls are maintained, while the commonly performed "LA-3A gain mod" is added as an additional switch for maximum gain reduction range.

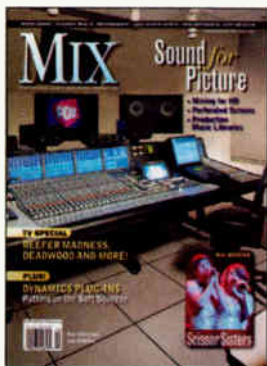
Technical Specifications (more at uaudio.com)

Maximum Gain: 50 dB
 Input level: 0dBm at 50dB gain; +20dBm at 30dB gain
 Output level: +20 dBm nominal, +27 dBm maximum
 Attack Time: 1.5 milliseconds or less
 Release Time: 0.06 seconds for 50% release; 0.5 to 5 seconds for complete release
 Noise: 80 dB below program at threshold of limiting



UNIVERSAL AUDIO
www.uaudio.com/LA-3A
 analog ears | digital minds

Letters to Mix



SIX DEGREES OF (TECHNO-POLITICAL) SEPARATION

You guys really ought to consider retiring [Paul Lehrman]. If his juvenile political rantings (the '60s are over) were not bad enough to make me hurl, now I read how he would rather be using OMS than Core Audio and MIDI! Is he joking? Seriously. He must be kidding. Was this one of those April Fool's things?

My system has not crashed a single time since I've been using OS X—about two-and-a-half years now. I know many, many people using OS X for audio work. Apparently, this guy who's been using Apple for 25 years hasn't learned much yet. OS X has been a dream OS for doing audio work. Maybe you should just switch to Digital Performer or something, Paul.

Tim Manaroth

THE DIGITAL DOCTORS DIAGNOSE DAW PROBLEMS

I am a New York City-area songwriter, producer and engineer. I currently run a business called Digital Doctors and have been helping studio owners and home-based recording facilities take the mystery out of everything—from new software and difficult tech support issues to complex synchronization problems—for 20 years.

I recently read the "Feedback" article from Toby Gad (March 2005) and the response from Digidesign (April 2005) and just had to write about the experiences I have run into with both my clients and myself since Apple has taken Emagic from the Logic users community.

There are far too many similarities between what Toby describes in his yearlong nightmare and the clients I service. In the first months of Logic Pro 7's release, I had a huge demand for help with Logic and the endless amount of crashes it produced. [The users were] seasoned vets to the platform, many of them onboard since the Atari days, myself included. A majority of them used Pro Tools|HD hardware.

It was brought to my attention that AudioUnits was the culprit. It seemed that Apple re-wrote the code on how Logic incorporates and handles AudioUnits under its hood and with no warning to the public. There are still a few mysteries and crashes that I can't explain, like if we take a break during a session and return an hour later, there's no audio out—we need to restart to re-acquire the hardware to continue.

My Autoload has been rebuilt so many times that I can easily say I have lost years of my life. I realize that even the slightest change in a system can be the cause of a thorn in your side, but the fact that Toby spoke to someone at Apple tech support and got a response like, "Who said Logic would work with Digidesign HD?" is a joke, but it's not very funny.

Apple does ship a bunch of new manuals with Logic, one of them explaining how to use TDM with Logic, but even for the common user, this is very confusing. It's very easy for someone in tech support over the phone who has never seen a particular studio setup to give advice. Most tech support help reads from fact sheets, [saying], "Trash these preferences, run the validation test, rebuild Autoload." And when it doesn't fix the problem, "Re-install the OS." They want you to remove all third-party everything until you have no studio left to operate.

Having a broad understanding of all components involved usually helps me reveal several problems in a user setup, but this is definitely a very different scenario: All the calls I get (MOTU hardware excluded) always involve Digi hardware with LP7 [Logic Pro 7]. I always seem to rectify the problem while I'm on-site. Once I'm gone, the client always calls back [to tell me] how, during a very simple operation, the program unexpectedly quits and continues to do so. This either results in me giving free phone support to my client that already paid me or some sort of refund. Either way, it costs me to the point where I'm ready to drop the claim that these products work seamlessly together. Ironically, using either of these applications separately works perfectly: Digi with its own hardware and Logic native under Core Audio. Coincidence?

I would hope that all my clients, myself and everyone else experiencing problems with LP7 and Digi hardware, are just experiencing some issues that have not been worked out yet by these two companies.

I still have clients running OS 9 versions of Logic with Digi hardware who refuse to upgrade because of the fear that things won't work properly. That's no way to live. Maybe we should just hope and pray. *[Editor's note:*

According to Apple, most of the Logic issues mentioned here are addressed in the recently released Logic 7.1 upgrade.]

Anthony D'Erasmus

TRACKING PROG ROCK'S PROGRESS

I've been a *Mix* magazine reader for the past year-and-a-half or so. Even though I am not a mixer or producer, I love the engineering part of music. The reason I am writing is because I am a progressive rock listener. And, as always, prog rock has been forgotten in *Mix* magazine.

Recently, Yes toured for their 35th anniversary with Dream Theater. Rush also toured for their anniversary. Marillion toured in the U.S. for the first time in several years. Progressive rock bands have been touring the U.S. extensively during the past two years or so, and I have not seen any articles on them—not even when they enter the studio. Progressive rock has always been underrated and excluded from the radio, even though most prog rockers are amazing musicians and a lot of them do their own engineering. (Henning Pauly from ProgRock Records has recorded four albums during the past year or so with Sebastian Bach [of Skid Row] and James LaBrie from Dream Theater.) They use a lot of equipment, and it would be really interesting to see how they record their music.

Doug Oberkircher is an excellent engineer and has been in the business a long time. Kevin Shirley is a great mixer (Journey, Aerosmith, Iron Maiden, Dream Theater, Led Zeppelin). Steven Wilson from Porcupine Tree, besides being a musician and lead man for his band, has a great talent for mixing and producing. I could go on and on. ProgRock Records president Shawn Gordon recently launched Mindawn (an online music store specializing in progressive rock at www.mindawn.com). There is a lot of stuff going on in this side of the business and it is still neglected. It would really be a shame if prog rock was also excluded from the music engineering side.

Oscar Quintero

Juarez, Mexico

(For the record, Oscar, we ran a profile of Kevin Shirley in March 2002, Rush in September 2002, Porcupine Tree in April 2003 and Alan Parsons—who's borderline prog—in December 2004. —Blair Jackson, senior editor)

Send Feedback to *Mix*
mixeditorial@primediabusiness.com

Accessible. Professional. Compatible.

project studios

Record with the professional software standard using a variety of affordable M-Audio interfaces.

professional studios

Take your Pro Tools M-Powered sessions to any professional Pro Tools studio around the world.

M-AUDIO®

PRO TOOLS

M-POWERED

mobile studio

Bring your work home with you or take it on the road—record anywhere, anytime.

stage

Add the power of Ableton Live, play your tracks on stage and capture performances for studio editing.

Pro Tools M-Powered and M-Audio FireWire and Delta PCI interfaces* work together in a new era of compatibility—and can seamlessly exchange sessions with other professional Pro Tools systems. This groundbreaking collaboration gives you more choices about your production tools—and that means more options about where, when and how you work. Get M-Powered... Pro Tools M-Powered.

M-Audio Compatible Products

Delta PCI interfaces

Audiophile 2496
Audiophile 192
Delta 1010-LT
Delta 1010
Delta 66
Delta 44

FireWire interfaces

FireWire Audiophile
M-Audio Ozonic
FireWire Solo
FireWire 1814
FireWire 410

* Compatible only with current Delta models listed above.

Avid, Digidesign, M-Audio, Audiophile, Delta, Omega, Pro Tools, Pro Tools M-Powered are either trademarks or registered trademarks of Avid Technology, Inc. in the United States and/or other countries. All other trademarks contained herein are the property of their respective owners.

M-AUDIO

recording interfaces | USB keyboards | studio monitors | microphones | preamps | sound libraries | music software

www.m-audio.com

World Radio History

AES BARCELONA REPORT



By Mel Lambert

Just a year old, the Centre Convencions Internacional Barcelona (CCIB) is considered one of Spain's finest examples of modern architecture. Centered in the "Southern California of the Mediterranean," Barcelona proved an enjoyable venue for the 250 exhibitors and some 6,200 attendees at AES Barcelona (May 28-31, 2005). Here are some of our favorite product hits.

Designed to relieve the stress of running CPU-intensive plug-ins, Waves' (www.waves.com) APA32 (1U, \$1,600) and APA44-M (half-rack, \$2,400) audio processing accelerators can be stacked up to eight deep for additional DSP power. These PC/Mac-compatible units support Pro Tools 6.9, Nuendo/Cubase SX 3.0.2, Logic Pro 7.1 and Digital Performer 4.52, and

connect via a simple 100M or 1G Ethernet cable. Both include Waves' IR-L Convolution Reverb and Q-Clone plugs.

Genelec (www.genelec.com) unveiled the "baby brother" addition to its 8000 Series, the 8020A two-way active monitor and companion 7050A sub. The 9-inch-tall 8020A has a 4-inch woofer and ¾-inch tweeter in an aluminum enclosure with a Directivity Control Waveguide for linear on/off-axis response.

First-time exhibitor Mercenary Editions (www.mercenaryeditions.com) showed a range of new Great River, Pendulum, Little Labs and related products, with Jonathan Little showing the new \$1,200 innopre mic preamp that includes a DI input, phantom power, phase adjustment and LF resonance controls in a robust aluminum package.

The SADIe (www.sadie.com) LRX Remote is a laptop-based location recorder with motorized fader-equipped controller, jog wheel, built-in editing and expandable I/O for up to 24 analog/digital sources. Built-in video playback enables on-set ADR—a neat touch. Nagra's new handheld recorder for radio journalists offers PCM linear and MPEG record modes. Priced around \$1,000, the ARES-M has a plug-in mic, USB connectivity, 1 GB of internal memory, a built-in audio editor and FM receiver, and is said to run 10 hours from two AA cells.

This ever-cynical reporter visited 2+2+2 Marketing's (www.222sound.info) demo to hear what was promised to be multichannel playback with a difference. Left, right, left/rear and right/rear speakers are supplemented by two more loudspeakers mounted directly above the L/R units at height equal to half the distance between that pair. A companion mic array of at least three stereo ORTF or spaced omni pairs (extras for rear ambience, if necessary) is routed to these six playback channels. During an auditioning session with chamber music, a cathedral organ and various "sonic fireworks," I was pleasantly surprised at the depth, width and, yes, height of the playback sound field.

Next year, AES returns to Paris from May 20 to 23, 2006.

BREAKING NEWS SSL PURCHASED

Musician/technologist Peter Gabriel (pictured) and broadcast industry entrepreneur David Engelke are in the final stages of purchasing Solid State Logic; a short statement was issued at the recent AES Barcelona convention. SSL has been offered for sale since February 2005.

The deal was due to close at press time, and the principals were reluctant to say much until the official announcement. However, what they would say is that they are "investing to grow the company." SSL managing director Colin Pringle said that he felt "very positive about the future" under the new ownership.

Gabriel has invested in a number of technology ventures in the past, most recently as co-founder of OD2 (On Demand Distribution). Engelke founded the DES broadcast video business, which was subsequently bought by Montage and then sold both companies to Pinnacle.

For more information, visit www.solid-state-logic.com.

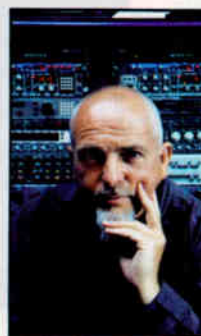


PHOTO: ARNOLD NEWMAN

CRAS INTERNS, REMEMBERED

Three Conservatory of Recording Arts & Sciences (Tempe, Ariz.) passed away on June 7 due to a fire in their Chicago apartment, which was located across the street from Rax Trax Studios where they were interning. Justin McDonald, Tanner Osborn and Christopher Ross had completed the school's Master Recording Program II, which requires an internship.

"We are completely devastated by the tragic passing of our three talented and promising young interns," said Rick Barnes, studio manager at Rax Trax. "Chris showed a quick and early talent for mixing. He recently resurrected a project from limbo with flying colors. I was very impressed at his sophistication for a lad of 19 years. Justin McDonald, 21, was a passionate singer/songwriter, constantly recording and finding new ways to improve his craft. I could always count on his dedication and loyalty to the studio. Because of that, he became our weekend manager and assistant engineer. Tanner "TJ" Osborn, 21, was a very street-smart kid who was an able DJ, creating progressive hip hop and ambient tracks. He and two producer friends recently rented a spare room at the studio and turned it into a hip hop paradise with three turntables, a computer station, two MPCs, an ASR and a huge esoteric record collection. These three young students of music will be missed."

Kirt Hamm, administrator of CRAS, said, "Chris, Tanner and Justin were the best of the best that come through our program at the Conservatory. They were full of life and were excited about starting their careers in Chicago. The faculty and staff were devastated at the news and we all shared memories of their time in school."

MARDIN, BYRNE JOIN TEC'S ELITE WINNERS

Acclaimed producer Arif Mardin will be inducted into the TEC Hall of Fame and musician/writer/composer David Byrne will be awarded the prestigious Les Paul Award at the 21st annual Technical Excellence & Creativity Awards, to be held Saturday, October 8, 2005, at the New York Marriott Marquis. For a list of this year's TEC nominees, go to page 56.

Mardin ranks among the 20th-century's most important record producers. From the Young Rascals' 1964 Number One hit, "Good Lovin'" and Bette Midler's 1989 Number One and Record of the Year *Wind Beneath My Wings*, to his most recent work with Norah Jones (which resulted in Grammys for Record of the Year and Album of the Year in 2002), Mardin has transcended genres and contributed to many of contemporary music's most brilliant works.

Byrne is well-known as the musician who co-founded the extremely influential group Talking Heads in New York. Talking Heads took popular music in new directions, both in terms of sound and lyrics, as well as introduced an innovative visual approach to the genre.

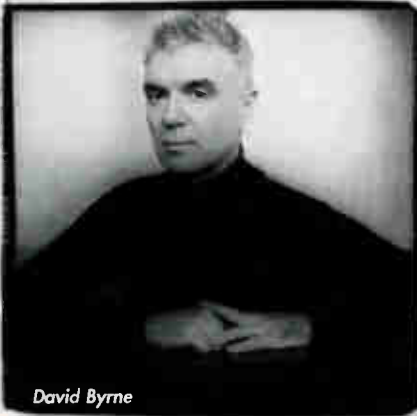
For tickets or information about the TEC Awards, contact Karen Dunn at 925/939-6149, e-mail Karen@tecawards.org or visit www.mixfoundation.org.

PHOTO: JULIE MARDIN



Arif Mardin

PHOTO: MICHAEL WILSON



David Byrne

ON THE MOVE

Who: Joel Silverman, Millennia Music and Media Systems managing director
Main responsibilities: accelerate new product development and increase the market share of core products.



Previous Lives

- 1997-2005, partner with JamSync (Nashville)
- 1984-1999, Lexicon VP sales
- 1981-1983, dbx director of sales
- 1979-1981, MXR Professional Products sales manager
- 1971-1979, Silverfish Audio founder/front-of-house engineer for Bonnie Raitt and Emmylou Harris

I knew I was in the right profession when... I convinced Leon Redbone to play through an MXR Phase 90 and "go electric."

If I could take one musical artist out to lunch, it would be... Mike Galane—he bought last time.

Currently in my CD changer: *Greetings From Ariel*, Elgar: *Enigma Variations*, Frank Bevens/Leslie Rae, *Beethoven: The Five Piano Concertos*, *The Moon Rising*.

When I'm not working, you'll find me... Exploring around my new home in the Gold Country of Northern California and learning advanced computer networking and various software applications.

SOUNDLAB NYC A MUSICIAN'S PLAYGROUND



PHOTO: DAVID WEISS

At New York City's Sound Lab (www.nycsoundlab.com), founder/CEO Sean Anderson (pictured) is betting that the growing community of DJs and electronic music aficionados is ready for a fresh paradigm that combines the experience of a fitness club membership with a modern recording studio's gear. For \$65 a month, members get unlimited access to a wide range of toys, including Motif and Triton synths, Roger Linn MPC3000 and workstations loaded with Reason, Pro Tools and more. Members can work together in common areas (monitoring on headphones) and then fly their mixes into the fully equipped studio control room on massive Mackie SR-15/30 monitors. A variety of DJ/production classes will also be offered on site.

—David Weiss

PAD BEACHES AT BIG3 STUDIOS



During the past four years, Big3 Studios (St. Petersburg, Fla., www.big3entertainment.com) has hosted some heavy-hitting hip hop, pop and rock superstars, including Mario Winans, Destiny's Child, Cheap Trick, Usher and Hilary Duff. With growing demand for more outside clients, the 7,000-square-foot facility has added three studios and two mini-suites.

"Bill Edwards, who started Big3 Records, was tired of traveling two hours away to a recording studio, so he decided to go against everyone's advice and built a studio here," says Jim "Pinky" Beeman, VP and chief engineer at Big3. "As the record label grew, we expanded on the studio, working with PAD [Professional Audio Design] every step of the way."

PAD furnished the facility with Pro Tools; Manley, Tube-Tech and Thermionic Culture outboard gear; and Neve and an SSL 4080 G+ and 9080J-72 consoles, just to name a few.

PAD is also currently assisting Big3 in the creation of a small studio to be used by the Boys and Girls Club. "I think this is a great thing, being able to bring this experience to kids who don't have access or are underprivileged," said Dave Malekpour, president of PAD. "We try to help out whichever way we can and are excited Big3 asked us to be involved. The reality is, there might be a hidden artist in there and something like this could change a lot of kids' lives."

INDUSTRY NEWS



Steve Morris

Previously running his own strategic marketing consulting firm, **Tim Self** joins **Propellerhead Software** (Stockholm, Sweden) as director of U.S. markets...**SLS Loudspeakers**(Springfield, MO) new executive appointments: **Tom Tyson**,

field engineering director; **Harry Klane**, U.S. Eastern regional sales manager; **Joel Moak**, U.S. Western regional sales manager; **Garth Showalter**, customer service manager; and **Rick Davidson**, head of logistics for trade shows and dealer demo product rotations... After spending eight years at Skywalker Sound, **Steve Morris** joins **Euphonix** (Palo Alto, CA) as director of product development... **Harris Corporation's** (Cincinnati) Broadcast Communications division hired **Dave LeBuhn**, product line manager...**Frank Oglethorpe**, who designed and built the Pro Tools-based multitrack recording capability for *The Lord of the Rings'* music scores, joined **Prism Media Products** (Rockaway, NJ) as U.S. recording sales and technical specialist...New Southeast Asia sales director for **LOUD Technologies** (Woodinville, WA) is **Colin Evan Quek**... **Sennheiser** (Old Lyme, CN) promoted **Jamie Scott** to Western regional sales manager of professional products and hired **Nathan Armstrong** (Arizona/Rockies sales rep) and **Thom Salisbury** (assistant Western regional sales manager)...**Martin Burns** returns to his 1989 managing sales director position at **GLW Inc.** (Nashville)...New distribution deals: **AXI** (Rockland, MA) is the exclusive U.S. distributor of **Thermionic Culture**; **MI7** (Malmo, Sweden) is distributing **Cycling '74** in Europe; **Sonic Studio** (Plymouth, MN) added **Insight Media Solutions** and **Digital Media Technology** to its dealer network; and **Digigram** (Arlington, VA) appointed **RF Productions** (Northeastern U.S.) and **Joe Desmond Associates** (Northern California, Northern Nevada).

INDUSTRY EVENT SPARS VISITS FULL SAIL



SPARS members at attention, from left: **Jeff Greenberg**, **Steve Davis**, **Leslie Ann Jones**, **Karen Brinton**, **Kevin Dillon**, **Mark McKenna**, **Emerald Entertainment's Andrew Kautz**, **Mix L.A. editor Maureen Drony** and **Larrabee Studios' Kevin Mills**

The SPARS Board of Directors visited Full Sail Real World Education (Winter Park, Fla.) on April 22, 2005, for a tour and panel discussion with the school's Recording Arts students. The event, moderated by

Full Sail's **Sherri Tantleff**, brought up numerous topics, including forces aiding in recording studio closures and why few women choose to be audio engineers.



WILL YOUR DISC BE INSERTED INTO SOMEONE'S
COMPUTER OR THE NEAREST WASTE BASKET?

MAKE YOUR BUSINESS LOOK BETTER. Introducing the Rimage 360i™, from the world leader in disc publishing. This affordable digital desktop disc recorder and printer lets you design, burn, and print directly to CDs and DVDs. It's easy to install, and it gives you the lowest cost of ownership over the lifetime of the product.* To give your discs a sharp, professional image call 1-888-482-3327 for a Rimage dealer near you, or visit www.rimage.com/360i.



R RIMAGE 360i™
CREATE. BURN. PRINT.™

*See www.rimage.com for testing details. © 2004 Rimage Corporation. All rights reserved.

NOTES FROM THE NET

REMEMBER HOW TO SHARE?

Scheduled to launch next month, www.digitalmusician.net is a host site for musicians to team up for music projects or transfer ideas to one another using the company's VST 2 plug-in (Mac/PC). Users can configure a partner list, whereby if a "partner" is online, that partner will appear in the DMI's GUI and be invited for an online session. The site uses patent-pending technology to allow sample-accurate recordings of audio or MIDI data in sync with playback via the Internet. DMI sends time-stamped audio and MIDI from one sequencer to another using TCP/IP. Bit rates of up to 256k/bit can be selected. For CD-quality recordings, a DSL upstream of 384k/bit or higher is necessary. Multiple audio streams are mixed down to a single stereo stream prior to transmission. Subscription fees start at \$15.90 for a one-month standard account to \$290 for a one-year studio account with seven sub-accounts.



TRUTONE GROWS LAMBERT COMES ON BOARD

Engineer Joe Lambert has joined Trutone's new New York City mastering complex after a five-year stay at Classic Sound Studios, where he worked on projects for k.d. lang, John Lee Hooker, Jefferson Airplane and many others.



PHOTO: ROBIN GENILE PHOTOGRAPHY

Lambert brought in a Pro Tools|HD system, which complements his primary Sonic Solutions mastering system. The studio was previously stocked with Ampex ATR-102 and Studer A-80 tape decks, augmented by a Prism Dream AD-2 and a pair of new Lavry M.DA 824 converters for monitoring. Trutone's in-house tech guru Carlos Cordero performed extensive mods on the vintage Neumann SP-78 mastering console to facilitate adding a Manley Stereo Variable MU compressor, Manley Massive Passive and a Weiss EQ1 MK 2. "This studio represents my fantasy mastering room," enthused Lambert.

EX'PRESSION GETS ACCREDITED

Ex'pression College for Digital Arts (www.expression.edu) has been awarded National Accreditation by the ACCSCT (Accrediting Commission of Career Schools and Colleges of Technology). The ACCSCT is a private, non-profit agency that ensures academic excellence and ethical practices, and that member institutions and their programs prepare students for their chosen careers. Ex'pression CEO Peter Laanen, commented, "This accreditation provides us with a stamp of approval by the ACCSCT, signifying that we comply with the institutional standards of performance that are considered essential to a high-quality student education."

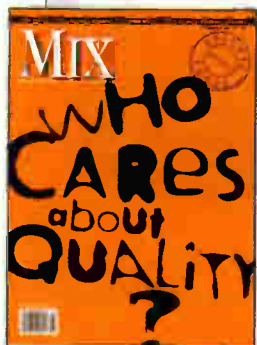
MIX TRIVIA WINNERS!

Juan Reyes and Larry Gualano Jr. will both receive 10 CDs as co-winners of the *Mix* "Final Words on Quality" trivia quiz, which was offered on the back page of the May 2005 issue. Reyes was first in with all 20 correct answers, and according to our initial intentions, he would have been the sole winner. But then more and more correct quizzes started coming in, and we quickly realized that because some subscribers receive their issues before others, it would only be fair to crown two winners. So we took the 31 entries that had all 20 correct matches of artist and quote, put them in a hat and picked Gualano's name. Congratulations to the winners and a thank you to all who entered.

For a quiz answer key, visit www.mixonline.com.



Larry Gualano Jr., with Dad



PM5D

THE ROAD WELL TRAVELED.
OVER 500 SOLD SINCE MAY OF 2004.

We blazed a new trail, and many followed.
A synthesis of the analog advances
realized with PM5000 and the digital
breakthroughs of PM1D.
A new price performance standard
for digital SR consoles.
Direct control of Yamaha's DME family
of DSP processors from the PM5D.
The express lane to the future of mixing.



 **YAMAHA**

commercial audio

Yamaha Corporation of America • P.O. Box 6600, Buena Park, CA 90622-6600
For additional information, please call (714)522-9000 • www.yamaha.com

©2005 Yamaha Corporation of America.

The Cathedral

By Heather Johnson

He's worked in some of L.A.'s finest studios during the course of his 12-plus-year recording career, but the ubiquitous Snoop Dogg—rapper, film star, cartoon voice, MTV variety show host and footwear designer—has always maintained a personal project studio. Ditto for producer L.T. Hutton, who, with partner Elton Brand of the L.A. Clippers, owns the Hollywood building that houses his studio/production company, The Program, and Snoop's new recording facility, Doggystyle, both of which operate under the name The Cathedral.

For years, Snoop has worked in residential spaces, converting suburban homes into recording destinations. His last studio, The Tabernacle, was located in a house in San Dimas, Calif. Before that, the "Gin and Juice" man worked out of a modified house in Diamond Bar, Calif., called The Church. (According to house engineer Nathan Oberman, Snoop considers the studio "sacred space"; hence, the spiritual theme.) When the lease expired on his last home/project studio, Snoop and engineers Oberman and Shon Don began looking for new digs. Coincidentally, Snoop's friend and producer, Hutton, had a vacant room at his new facility, located in the former Artisan Sound Recorders spot. Snoop saw the room, liked it and moved in soon after.

Though a few pieces traveled from The Tabernacle to The Cathedral, about 80 percent of the equipment is new. The control room has a Mackie Digital X Bus console used mainly for monitoring, along with a Pro Tools|HD workstation, two Avalon 737SP mic pre/compressor/EQs, a Mackie Onyx mic pre and one serious monitoring system. Four custom George Augspurger 1603Bs with TAD woofers and Bryston amps comprise the mains, complemented by two Mackie 1801 subwoofers, Mackie 1530 three-way midfields, and Mackie HR824 and Yamaha NS-10 near-fields, with playback controlled by a Mackie Big Knob. Aside from the "traditional" Augspurger/Bryston combo, their setup mirrors Hutton's neighboring room. "They both like the quality of the Mackies," Oberman



Snoop Dogg's studio sanctuary, Doggystyle

PHOTOS: PETER FIGEN



Snoop Dogg

L.T. Hutton

says. "They're bright and in-your-face." "We're probably the only people using Mackie speakers as mains and subs, and the sound is incredible," adds Hutton. "Snoop has the Augspurgers; that's the only difference, but honestly, I think my Mackies beat harder!"

When it comes to console choice, a Platinum-selling artist such as Snoop could certainly own a board 10 times the size of the Digital X Bus. But rather than go with a desk the size of a football field, both Snoop and Hutton stuck with a brand they've known through most of their careers. "Snoop had the D8B at his other studios," says Oberman. "The quality is up to par, and it just made sense to go with something compact. Also, he's pretty interactive [in the control room] and he's used to that kind of setup."

"We've been working together since 1994," says Hutton of his relationship with Snoop. "We used to live together, and that's when I first got a Mackie setup. I put some speakers, an old analog 32x8 and a sidecar in a room in the back of the house. It was small, but I thought, 'We don't need a big studio no more; we can do it like this'—especially when we started

getting those bills from the studios!

"I've been in the studios with the [big consoles], but one of my best boards is still the 32x8 and a sidecar,"

Hutton continues. "We put so much quality into our work, all we really need is the ins and outs, and Mackie has come up with products to assist us since the beginning of our career."

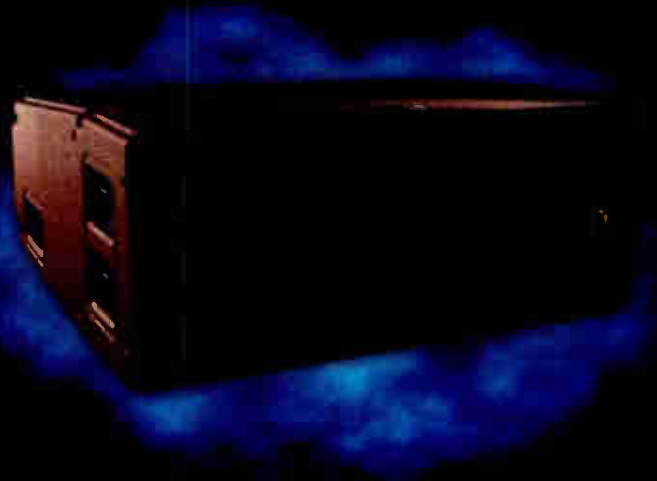
Currently, both Pro Tools/Digital X Bus configs are running full-throttle. The Cathedral stays solidly booked with Snoop's myriad projects, including the follow-up to *R&G (Rhythm & Gangsta): The Masterpiece* titled *The Blue Carpet Treatment*, due out in 2006. In addition, he records most of his commercial work, voice-overs and film overdubs at his own place, including his voice for the animated film, *Racing Stripes*. To lessen commute time, Snoop is also building a second, two-room facility. Meanwhile, Hutton keeps busy producing new acts for The Program, as well as tracks for Da Brat, The Heights, Bone Thugs-N-Harmony, Tha Dogg Pound and Blackstreet vocalist Chauncey Hannibal.

While the workstations hum along at all hours, those Mackie speakers simply scorch; that's right, Snoop Dogg likes to listen l-o-u-d. "I have to take frequent bathroom breaks," Oberman says with a laugh. "I would be deaf by now if I didn't!"



A D A P T I V E D I R E C T I V I T Y

K U D O



ADAPTIVE DIRECTIVITY HAS NORMALLY BEEN FOUND ONLY IN NATURE — UNTIL NOW.

CRAFTED BY THE INNOVATORS OF MODERN LINE SOURCE ARRAY TECHNOLOGY, KUDDO, FEATURING THE REVOLUTIONARY KUDUVR MEDDULAR DIRECTIVITY TECHNOLOGY, EMBODIES THE PARADIGM SHIFT SOUND DESIGNERS HAVE BEEN YEARNING FOR. ADDING UNPRECEDENTED FLEXIBILITY, KUDDO PROVIDES SOUND DESIGNERS WITH PERFORMANCE & CREATIVE OPTIONS IN HORIZONTAL OR VERTICAL LINE SOURCE FORMAT. CHECK OUT YOUR NEW MEDDULAR FORMAT LINE ARRAY ON WWW.MEDDULAR.COM

World Radio History



Open the Box

You're in the Game

There is a blues song in my iPod by Buddy Guy called "Where Is the Next One Coming From." Great song for top-down cruising, testing your new subwoofer or just listening to while you think back on the bike crashes, knife encounters and tree crushings of the past few years. (You all have those, right?)

But as I was listening to it last night, it took on a new meaning, as songs have a way of doing. I like its simple, bottom-heavy engineering and newer adaptation of older attitudes. It's no secret that I prefer tight, clean, slightly under-produced organic music over the thick, crowded, overproduced 300-track "look how many presets I found" mudslides that proliferate today.

So I got to thinking about *why* this global change in engineering attitude is happening. Is it even really a change in attitude at all? Or could it be a change in *ability*? And why has it changed *so* much? Is it science following art? Have new toys and technology appeared to meet the demands of a new generation of artists? Or is it the other way: Have engineers adapted to the speed and ease of use that modern digital recording technology offers?

What do *you* think?

And with that rhetorical question out of the way, the real question at hand surfaces: Where Is the Next One Coming From?

The Great DAW Promise is implicit. Though DAWs are sold as recording studios on a DVD, every single person that buys or steals one plans to...here it comes...*be his own engineer*.

Now, of course when a recording studio or an independent engineer makes the move to a comprehensive DAW, very little damage is done conceptually, though practically, the transition can have any impact from mildly improving the mix to the statistically dominant utter annihilation of any artistic or musical components whatsoever.

Engineering and mixing on a DAW is certainly quieter, cleaner and more accurate than The Old Way. But it is also intrinsically colder, more harsh and profoundly more sterile than any analog approach.

So be it. I used to make cars faster in the machine shop, now I do it with a laptop and a serial cable. Times change, and they never, ever go back.

Today's cars are actually faster than yesterday's. And cleaner. And, oh yeah, totally devoid of even the smallest remnant of soul—the commodity that we *really* used to pay for with technological advancement.

Cars, DAWs...same stuff, exactly.

BACK TO THE FUTURE

It's not really the technical sound of the DAW itself that is the problem. (Well, sometimes it *is*.) No, the problem

is that people buy DAWs and decide that the purchase automatically changes them into real, live engineers. This fundamental self-delusion is caused by the misplaced feeling of empowerment that follows the giddy elation brought on by the realization of how disgustingly easy it is to record and edit, add more tracks when the 200 that it came with are used up, and last, and probably most important, the discovery of all the tools they have ever

To do something requires
absolutely nothing, to do it well
requires education, and to excel
requires the taste and skill that
comes only from experience—
yours and that of the masters
who have gone before you.

heard of right there waiting to be used and abused.

And what happens when you give a 16-year-old a 500 HP Viper? Does he park his 95 HP Toyota in the garage and begin a comprehensive program of learning the skills necessary to control the machine, followed by a few years of rationally escalated real-world driving to develop the finesse needed to use it *properly*? Yes, of course he does. Because he knows that if he doesn't, he may perhaps miss a shift or maybe overshoot a high-speed corner someday in sight of his peers, thereby diminishing in some small way the validity of his ownership. Yup. That pretty much covers it.

NOW, BACK TO REALITY

Every single person under the age of 30 that I know who has gotten a Viper, fake AC Cobra or even an Evo 8 and has not attended a racing school has totaled it. Duh! Maybe in this world, the one smothered in reality, they think the Viper makes them fast. Of course, the sad joke is that it only makes them die. Fast comes later, once the required skills have been mastered.

To do something requires absolutely nothing, to do it well requires education, and to excel requires the taste and skill that comes only from experience—yours and that of the masters who have gone before you.

So there are driving schools, and they are booked.

ENERGIZE YOUR PERFORMANCE

Opus[™]

Representing the latest thinking in live performance technology, the Opus line of microphones is designed to energize the sound of your vocals, drums or instruments.



Opus 69 Vocal Performance Microphone

A member of the Opus family of vocal performance mics, the Opus 69 provides a wide, natural frequency response and manageable proximity effect, helping you create a signature vocal sound. Solid and reliable, it rejects feedback and provides superior isolation in any setting.

Opus 88 Drum Microphone

The Opus 88 condenser accurately captures the complex nature of snare drums and toms while handling high SPLs. Its patented clamping design, integrated preamp and XLR, and outstanding performance make the Opus 88 yet another legendary drum mic in the tradition of our famous M 88.



For more about beyerdynamic vocal, instrument and drum microphones, please visit www.beyerdynamic-usa.com or call us at 800.293.4463

World Radio History

beyerdynamic 

FEEL THE ENERGY OF SOUND

Makes sense. Pain hurts, cars are expensive and speed is most excellent.

And there are engineering schools. But are they hooked solid? Uhh...Turning on the radio says no, fershure.

PYRAMIDS AIN'T THE ONLY LOST ART

We are losing a real skill, and all because of the existence of consumer Pyramid kits—DAWs. Build your own hit song, just like the pros. Real audio engineering, the newest Lost Art?

Sadly, it seems that the only apprentices that exist today are busy cowering under the most outrageous comb-over in the history of carbon-based life and not being groomed as audio engineers.

What aggressive new rock star or rapper would want to spend the time it takes to actually learn engineering when they are ready to record their first song the day they slice the tape on the DAW box?

What would-be engineer can afford to invest the time apprenticing when he knows that almost all of his theoretical future clients are getting DAWs and don't even know why engineers exist, much less why they would need one?

Where is the exposure to engineering

skill that sparks enough interest in a studio gofer or tech for him to want to try it himself? Nonexistent, with everyone using DAWs alone in their bedrooms.

With most musicians being their own engineer, or thinking they are, absolutely none of the components necessary to pass down real engineering skills are present. No formal education, no secretly watching the masters as you coil mic cables, no trying to solve problems and then watching them get solved by someone who actually knows how...no nothing.

No discussions of technique, no asking why the cymbals sound like they have been flanged through the overheads, no understanding at all of why there even are 15 different mics in a real studio.

No foundation.

The best surviving engineers all have excellent ears and amazing skills. And they all have hundreds of stories about the sessions where they actually learned those skills. Everything from days of fighting mysterious problems and the eventual "Eureka" moments that resolved them to spontaneously creating new approaches and sounds that moved them to the head of the pack. You know their names. You read the magazines.

There is an almost incomprehensible amount of information, gathered from decades of learning, behind every single top-notch engineer. And there is a deep understanding of the technologies involved—how they act and how they interact.

Top engineers can do a hit album in their sleep and often do. It takes an incredibly deep and complete understanding of all the aspects involved to do that. I have watched the best, and they seem to be working the least. That's when you know you are in the presence of greatness, when they are so good that it looks like nobody is even working. Problems just don't appear, they are pre-empted. Every piece of gear sounds better than it actually is because they know exactly how to get it to shine.

Do you really think anybody is going to invest the years that it takes to get there today, in a world where people shoot people for going too slow on the freeway?

I gotta say, Buddy Guy (along with his actual engineer) hit the nail on the head. Where *Is the Next One Coming From?* ■

SSC uses a DAW alone all the time. But he did it the old way for a few decades first and seems to feel justified in beating up those who skip that step.

THE FIRST PRE-AMP WITH PLUG-INS!!!

Hand-Assembled In USA Modular Pre
Introducing the

AP-1

AP-1
EXCLUSIVE FEATURE-SETS

- Hand Crafted in USA. by Top U.S. Engineers
- Toroidal Power Supply – No Wall Wart Here!
- Open-Ended Architecture to Vary Tone and Texture
- Dual-Topology with ADK "Pop and Swap"™ Technology
- Interchangeability – Both at the Op-Amp and the Transformer
- Robust Design and Tonality are the Paramount Design Criteria
- Upgradeable both in the future, and – remarkably – from the past!

**IT'S MORE THAN A PRE-AMP
= ITS A TIME-MACHINE!!!**



ADK MICROPHONES, U.S.A
800 NE TENNEY ROAD SUITE 110 215
VANCOUVER WA 98685 2832 U.S.A.
TELEPHONE: 1 360 566 9400
FACSIMILE: 1 360 566 1282
WWW.ADKMIG.COM





WE BUILT THE ULTIMATE CONTROLLER. THEY WROTE THE ULTIMATE CONTROL.

Logic Pro, Sonar and Traktion users are blessed with an abundance of fantastic virtual instruments, plug-ins, and tweakable parameters. However utilizing them to their fullest potential with a single mouse and keyboard can be a royal pain in the rear. To truly get the most out of this powerful software we developed Mackie Control C4 — a professional 32-knob control surface with control protocol written by the software engineers at Cakewalk and Apple. With its 32 V-Pots and four virtual “scribble strip” displays the Mackie Control C4 can simultaneously access and display up to 32 plug-in parameters without switching banks. And because the code was written by the software developers — not us — you’re ensured the tightest compatibility and control on the market. Get the details at www.mackie.com



MACKIE CONTROL C4: 32 V-POTS, 4 SCRIBBLE STRIPS, NO MOUSING AROUND. PLUG IN TO CONTROL.



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

MACKIE®

World Radio History

Spring Cleaning

Odds and Sods From the Desktop



ILLUSTRATION: JACK DESROCHER

It may be July where you are, but magazine lead times being what they are, the tulips are just coming out as I write this. Thus, I am compelled to do some spring cleaning, which in magazine-speak means filling up this space with odds and ends and follow-ups that I've been trying to work into a column but haven't yet figured out how. Until now. So, a few scraps from my desk.

APPLE PEELS

My April column about problems with Apple's OS X drew a lot of response from readers, which was about evenly divided between "Tell it, brother!" and "Paul, you ignorant slut!" It also garnered a couple of solutions to the problems I presented. Steve Olenick told me about Cherry Picker, a clever piece of "donation-ware" that lets you edit and convert synthesizer patch name files and have them show up in Digital Performer, without all the mess and nail-biting involved in tweaking XML files. It will work with old OMS and FreeMIDI files, and let you audition patches in connected synths using MIDI sequences or loops. It's a little fussy and doesn't solve the problem of getting patch names into, say, Pro Tools, but it's a step in the right direction.

Jeffrey Henning wrote, "To my knowledge, the Ox-

ford 911 FireWire 400 bug was taken care of over a year ago with a firmware patch for the enclosures." That's true for some of the larger drive manufacturers such as LaCie, but my drive comes from a smaller company, AcomData, and there are no firmware updates for OS X—there are some for Windows, of course—on its Website (www.acomdata.com). I've written the company about this and have yet to receive an answer. Another reader said that there is a "912" firmware upgrade available for these drives, but the 912 firmware is only for FireWire 800 drives.

But there's a whole other side to this Apple thing that I left out of the April column for risk of sounding like a bit of a crybaby. Now, however, the problem has been widely reported on in other publications. (For example, there was a great piece about this in the May issue of *Wired* called "Think Belligerent.") What I'm talking about is how much Apple has shut itself off from the press just in the past couple of years.

Compared to most high-tech companies, Apple's relationship with the people who write about it has always been open and supportive. Writers have been able to talk to and quote company engineers and programmers

Satisfaction in Every Box

"**FAST delivery!!** I have never had a backorder... You guys always have what I need in stock. Great sales support. Keep doing what you're doing. I won't buy from anyone else."

— Everett Davis

"...you guys have the **best service in the business.**"

— Stan Sykes

"It's always great to talk to **people who really know the gear!**"

— Larry Blackaby

"Website is awesome, **prices are great**, and service is excellent!"

— Jason Calderwood

Sweetwater
technology direct™



HUGE SELECTION



EXPERT SALES STAFF



Sweetwater
music technology direct™



FACTORY-AUTHORIZED
REPAIR CENTER



AWARD-WINNING
TECH SUPPORT

Only Sweetwater offers the best of everything: professional, knowledgeable advice, great selection, great prices, and outstanding tech support and service.

(800) 222-4700 | sweetwater.com

NO MINIMUM PURCHASE
FREE SHIPPING
SPEEDY 1DEX DELIVERY
MOST ORDERS SHIP SAME DAY

PRO AUDIO • MICROPHONES • PROCESSORS • MONITORS • GUITARS • KEYBOARDS • MIXERS

World Radio History

when you need bass
that plays equally
well on subwoofers
and earbuds...

MaxxBCL delivers.

MaxxBass lets you retain deep bass even on small speakers by using Waves patented psychoacoustic algorithm to add low end without low frequencies. Just one of the three brilliant processors in the MaxxBCL.



The New
Waves MaxxBCL

MaxxBass Enhancer
Renaissance Compressor
L2 Ultramaximizer Peak Limiter

Visit your dealer or
www.waves.com



The Professional Standard

INSIDER AUDIO

about problems and plans, and it has given readers the idea that this is a company that cares about, and respects the intelligence of, its customers. Just a little more than two years ago [February 2003], when I wrote my first *Mix* column about OS X, I had a long conversation with an engineering manager in Apple's audio group, who offered many cogent thoughts on why things were the way they were (i.e., not very good) and optimistic expectations for the future, most of which came true.

Web audio has reached the level of the analog cassette: good enough for your car and maybe to have on in the background, but I wouldn't listen to it on the big speakers at home for more than 15 seconds at a time.

But that engineer is now gone, and even though I still know people in that group (some of my former students, for example), I found that when I started researching April's column, none of them would talk to me. Nowadays, all press inquiries, no matter whom they come from or what they're about, have to go through the company's PR office—and most of them apparently die there.

So I was never able to get any answers to my questions or even any information on how some of the problems I outlined in my column might be addressed in Tiger. Of course, this may be because none of the problems are addressed in Tiger: Of the "over 200 new features" the company is touting, the only one of any interest to audio pros is device aggregation, which means that you can have multiple audio interfaces active at the same time. A nice idea, but not if the machine can't find any of them when it wakes up. Maybe they'll fix that with the next OS release. But you didn't hear it from me—or anyone else.

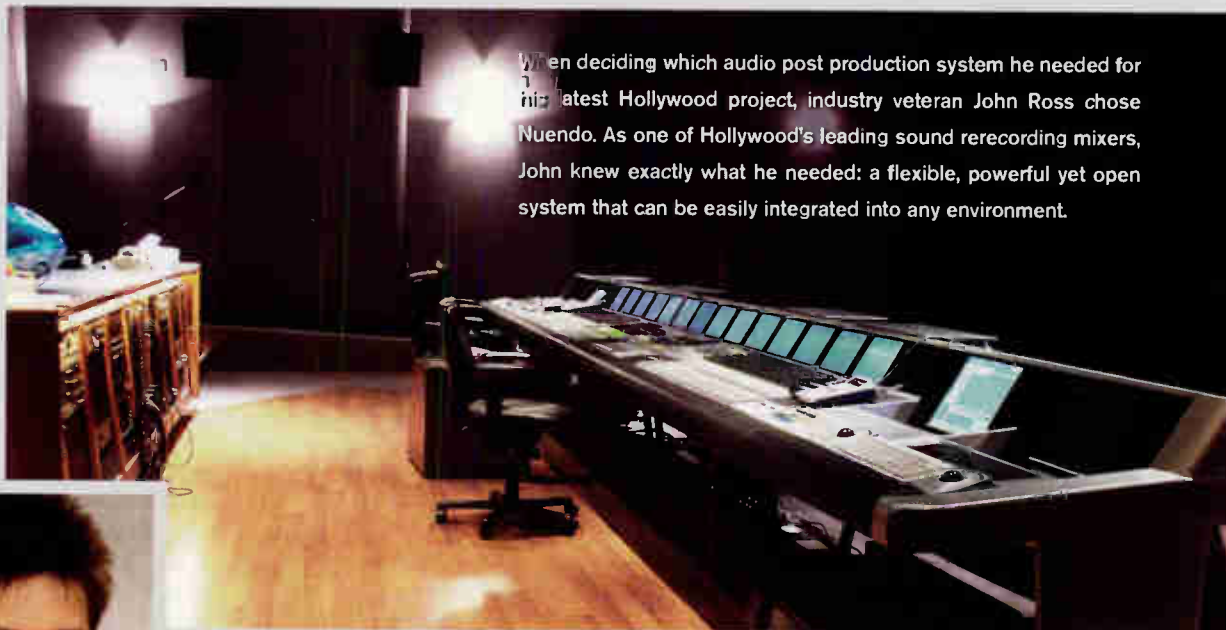
ON THE SURFACE

As I was working on my May column on how we listen, I wanted to include something about the deteriorating level of cabling in the consumer audio world, focusing on

—CONTINUED ON PAGE 156

Post pro's, no cons.

Part One – John Ross



When deciding which audio post production system he needed for his latest Hollywood project, industry veteran John Ross chose Nuendo. As one of Hollywood's leading sound rerecording mixers, John knew exactly what he needed: a flexible, powerful yet open system that can be easily integrated into any environment.



“What excites me about this product is you've now come out of that little world of DSP cards that were setting the pace of development. This system is both powerful and flexible enough to accommodate anything that would come our way.”

Not only did editing with Nuendo turn out to be a joy, John was also impressed by the next-generation Nuendo networking features.

“The editing in general is far superior in Nuendo. And the networking for editing is another layer that hasn't been achieved by any other system I've seen.” John also treasured his Nuendo system's ability to blend in to almost any existing post facility with its huge range of supported interchange formats.

With major Hollywood movie credits under his belt such as *Austin Powers: The Spy Who Shagged Me*, *Blade II*, *American History X* and *Lost Highway*, John was wrapped with his system's performance throughout his work on *De-Lovely: The Life Of Cole Porter*. So much so that he used Nuendo as the sole DAW on this major motion picture, which he mixed at leading post facility Todd AO West, California. In fact, John has adopted Nuendo as his number one preferred system for all his future post projects.

Post pro solutions for post pro people.

And that's no con...



NUENDO 3
THE FUTURE OF AUDIO POST.

www.steinberg.net

 **steinberg**
Creativity First

Smooth Tubes

New Processors Keep Classic Designs Vital

Tubes, valves, bottles, thermionic emitters or elektronenröhren—no matter what you call them, these 19th-century inventions are venerated in the professional audio and audiophile worlds. Musicians, especially electric guitarists, love playing through a good tube amp for its sweet sound. And recording engineers like to use tube gear alongside modern equipment for added warmth and to get that pleasant overloading sound.

Building tube-based equipment implies extra expense and special design considerations: Tube gear requires multiple power supply voltages, including high voltages not necessary in equivalent solid-state gear. Proper air ventilation is required as tubes get hot, and good shock-mounting is crucial because glass tubes are fragile and can develop microphonics, affecting audio quality. Tube gear also requires bulky transformers—tubes must be matched to the low-impedance requirements of pro audio. In addition, tubes' performance characteristics change and degrade during their lifetimes, and circuit design must allow for this eventuality.

So why bother with this fussy antique technology? Because a well-designed tube audio processor using the best components and new tubes sounds like nothing else. Luckily, newer modern gear designs, along with higher-quality tube manufacturing, continue to keep these descendants of 100-year-old relics as useful, viable and current as the latest DAW/software music production systems. With that in mind, we bring you the latest in tube-based outboard gear, including a dozen units released since January 2004, plus a few sneak previews. We are focusing on straight-ahead signal processors; stand-alone microphone preamplifiers and DI boxes are excluded.

Aphex's (www.aphex.com) Model 230 Master Voice Channel (\$799) is a single-channel analog preamplifier and voice processor, which features Aphex's RPA™ (Reflected Plate Amplifier) circuit in which a vacuum tube amplifier is operated at a constant and very low plate voltage to maintain electron migration and transconductance. The circuit permits adding a tube amplifier's desired euphonic color within a solid-state circuit. The 230 combines many of Aphex's stalwart processors in one unit, such as Easyrider™ compressor, Logic Assisted™ gating, and Aural Exciter® and Big Bottom® psychoacoustic effects. Voice recording problem-solvers include onboard split-band de-essing, a fully parametric EQ and a phase rotator feature that makes the asymmetrical waveform of certain voices more symmetrical, resulting in a much richer and more detailed sound. I/Os include AES, S/PDIF and optical digital outputs capable of up to 96 kHz, word clock I/O and a jack for a "cough" switch.

The Twin Compressor System™ (TCS) from Applied Research and Technology (www.artproaudio.com, \$295) has opto-isolator and VCA compressors for a wider selection of compression styles. A 16-position knob selects preset compression configurations; there are also full manual controls of all settings. The TCS has an expander gate with a continuously variable high/lowpass shelving filter. TCS' Stacked feature allows the opto-compressor to be configured in series with the solid-state compressor. Front panel controls for each channel include ¼-inch 1-megohm impedance instrument input jack and rotary gain control; attack, release, threshold and ratio compressor controls; noise-reduction threshold and variable noise-reduction shelf EQ for the expander gate; preset selector; Tube Harmonics switching; and output level.

The Drawmer (dist. by TransAudio Group, www.transaudiogroup.com) S3 3-band stereo optical compressor offers precision gain control of each band for exacting spectral balance of any audio program. In addition to input and output transformers, there are 10 tubes (eight X ECC83s and two X 12BH7s) running Class-A in this three-rackspace unit. The gain-reduction elements are light-dependent resistors housed in temperature-controlled "ovens" to maintain their calibration standards for improved compressor operation and repeatable performance. Two knobs control how the three bands are split up: The Low range divides the audio into two compressors at any crossover point between 50 Hz to 1 kHz. There is also a Big mode for the bass compressor section. The High range uses a third compressor for an adjustable frequency range above 1 kHz, including a switchable Air Band mode. VU meters feature a switchable peak mode to monitor transient level information and rescale (+10 dB or +20 dB), in which levels up to +30 dBm can be measured accurately. MSRP: \$8,500 to \$9,000.

Coupling J-FETs and tubes in a single compressor is a marriage made in sonic heaven. This concept is well-plied in the 1U Drawmer 1968 Mercenary Edition J-FET/Valve Compressor (\$2,150), where transistors are used for super-quick, clean and responsive peak limiting, while the valve gain output stages offer choices from pristine to thick and syrupy stereo bus compression. Features include easy-to-read VU meters that glow red when approaching clip; a +10dB Rescale VU Meter mode for monitoring super-hot levels; switchable highpass filter in the detector path to prevent excessive pumping from low-frequency energy; and six preset and resettable attack and release time settings.

D.W. Fearn (www.dwfearn.com) relies on triode

BY BARRY RUDOLPH



ART Twin Compressor System (TCS)

Class-A amplifier circuits from the VT-2 mic preamp and VT-4 EQ for the amplifiers in the new VT-7 (\$4,400) dual-channel compressor. An arcane yet precise method of gain reduction is used: pulse width modulation with solid-state control circuitry. Two independent channels are linkable for stereo; inputs are bridged and balanced line-level, while the outputs are transformer-balanced line-level. Maximum gain reduction is rated at 25 dB. In addition to controls for threshold, attack, release and gain, there is a single multiparameter control (labeled Harder on one side and Softer on the other) that crossfades between two extremely different sets of attack and release times, compression ratios and other normally non-user-adjustable internal circuit parameters.

The Groove Tubes (www.groovetubes.com) Glory Comp (\$3,495) is a single-channel all-tube variable transconductance dynamics processor. (Known for smooth and linear operation, variable transconductance is the same gain-changing scheme used in the vintage Fairchild 670 unit.) Compression ratios start at 1:1, with three more incremental steps before reaching 2:1, 3:1, 4:1 and 6:1; the unit offers standard attack, release and threshold controls. Release time is adjustable from 10 ms to 2 seconds, with a choice between logarithmic and linear release curve characteristics. Glory Comp uses several high-quality, ceramic multi-decked rotary switches for its controls, permitting easily repeated setups. Other features include a built-in adjustable low- and high-frequency sidechain filter; a fully differential and floating design; dual isolated output taps on a proprietary output transformer for interfacing both -10dBV and +4dBu equipment without sacrificing the unit's sonic quality and low-noise performance; and the Glory knob, which, as it is rotated away from the earth position and toward the heaven side, adds low-order even harmonics to the compressed signal for a fatter and apparently louder sound without electrical level increase. Multiple Glory Comp units can be linked together in a master/slave arrangement for multichannel recording or 5.1 mixing.

The EQ-H1 (\$2,100) and EQ-P1 (\$2,400) tube program equalizers from Mercury Recording Equipment (www.mercury-rec.com) are re-creations of the rare Pultec equalizers. Preserving the original ideals and specifications of the 50-plus-year-old Pultec EQs are the main design and manufacture concerns. The units offer transformers and balanced I/Os, a passive EQ section and a single-ended gain tube makeup amplifier. Just like the originals, the interaction of the passive boosting and attenuating shelving EQs (which don't rely on negative feedback), the transformers, tubes and other amplification circuitry



Drawmer 1968 Mercenary Edition



D.W. Fearn VT-7



Groove Tubes Glory Comp



Mercury Recording Equipment EQ-P1



MindPrint EN-VOICE MK II



Tube-Tech SMC 2BM

Smooth Tubes

make up the sound. These units have XLR I/Os (rather than Pultec's terminal strip), 600-ohm operating I/O impedance, power-on/off toggle switch and jewel incandescent light indicators—all like the original Pultecs. The H1 uses 12AX7 and 12BH7 tubes. The Mercury EQ-P1 is the brother to the H1 and has one modernization: a user-switchable interstage transformer that was in the signal path in the original Pultec EQP. At the flip of a switch, users will get the vintage Pultec sound or, without the transformer, a more open, airy quality. The EQ-P1 has a different amplifier than the EQ-H1, and the two units sound different in the same application. The P1 uses 12AX7 and 12AU7 tubes.

The MindPrint (www.mindprint.com) EN-VOICE MK II (\$799) is an updated version of the 1U EN-VOICE channel strip. The unit offers a mic preamp with +48-volt phantom powering, -20dB pad, an XLR mic input, 1/4-inch line input and 1/4-inch Hughes & Kettner instrument input, plus an 80Hz

lowcut filter and a 3-band fully parametric equalizer. The soft-knee tube compressor has a separate Tube Saturation control with indicator, plus eight preset attack and release combinations. Other features include balanced XLR line I/Os, a switching mode power supply that works anywhere in the world, a 12-LED meter indicating input level, balanced insert jack and a compressor sidechain input with a 300Hz, 6dB/octave filter before the detector. Optional digital I/O is available via the DI-MOD USB expansion module.

Pendulum's (www.pendulumaudio.com) Quartet II Mercenary Edition (\$5,250) is not an update or replacement of the company's popular Quartet, but a complement to it. The unit has a strikingly different combination of design elements than the original Quartet, allowing many new options for carving unique sonic characteristics. To change the input amplifier's gain structure on the Quartet II, users can switch between two input transformers for a turns ratio of either 1:5 or 1:10. Mic input impedance



Universal Audio LA-610

is also switchable between 1.5k ohms or 10k ohms, letting users dial in proper microphone loading to optimally match any mic to the unit. Independent gain and output controls permit overdrive of the tube stage to vary the preamp's harmonic content. Other features include a 3-band, passive/aggressive inductor-based equalizer, in which the Aggressive mode alters the harmonic content of the EQ circuit; a Delta-mu compressor (derived from the ES-8), where changing the actual gain of a tube amplifier affects compression; and a dual-mode J-FET/MOSFET brickwall peak limiter. The EQ can be routed in front or after the Delta-mu compressor, and all four elements can be patched and used independently.

The 3U PAL Plus MkIII preamp/limiter from Requisite Audio Engineering (www.requisiteaudio.com) is available in single- or dual-channel models. Front panel mic

Hammerstein Ballroom, New York City • October 29th, 2004

"I feel the best aspect of a Switchfoot performance is the vocals. Jon's lyrics have a true positive message. So making the vocals clear, warm and present in the mix is really important. The fans want to hear and feel every word. The MPA Gold and Pro VLA give me everything I need to make that happen."

Ryan Nichols
Front of House

switchfoot
ART
Miles of Credibility, Years of Success.

Pro VLA™ This powerful two-channel tube compressor limiter is the ideal tool for live sound engineering and studio recording. Using a transformerless design throughout, it maintains exceptional signal integrity and extremely low noise. Our Pro VLA excels in areas where transparent, expressively musical dynamic control is demanded.

MPA Gold™ This versatile two-channel tube mic preamp features variable input impedance, selectable plate voltage and exceptional frequency response. Its unique tube circuitry utilizes two 12AX7A vacuum tubes and renders unsurpassed sonic detail and clarity with the broadest range of microphones. Our MPA Gold delivers warm, natural tones for vocals, as well as electric and acoustic instruments.

Applied Research & Technology • 215 Tremont Street • Rochester, New York 14608
585.436.2720 • info@artproaudio.com • www.artproaudio.com

A Yorkville Group Company

Hearing is believing, so listen to this:

GC PRO ACCOUNT MANAGERS

New England:
PK Pandey
508.341.3499
pk@gcpro.com

New York:
Blue Wilding
917.297.7675
blue@gcpro.com

New Jersey (North):
Steve Jacobson
201.294.5366
steve@gcpro.com

New Jersey (South):
Rick Rivera
732.829.6389
rick@gcpro.com

Maryland & D.C.:
Mitch Shaivitz
410.935.3428
mitch@gcpro.com

Georgia:
Jason Block
678.641.0244
jason@gcpro.com

Florida:
John Sawyer
954.629.6346
john@gcpro.com

Texas:
Ron Shelton
713.992.4332
ron@gcpro.com

Minnesota:
Paul Henry
952.297.5984
paul@gcpro.com

Illinois:
Dan Scalpone
773.600.1216
dan@gcpro.com

Pacific Northwest:
Steve Palermo
206.953.8885
stevep@gcpro.com

Northern California:
Shaun Robinson
415.999.0045
shaun@gcpro.com

SoCal (Valley):
Gadget Hopkins
818.284.5320
gadget@gcpro.com

SoCal (Los Angeles):
Donovan Stark
951.318.0285
donovan@gcpro.com



"It's nice to finally have a console that seamlessly blends the analog and digital studio worlds. The AWS 900 sounds wide, open, and punchy like an SSL should. We are loving it!"

- Jimmy Jam & Terry Lewis

Legendary production team — Janet Jackson, Gwen Stefani, Mary J. Blige, Usher, many more. Owners of five AWS 900's.



"With the AWS 900, we get the features and sonic quality found on large format SSL consoles, as well as complete integration with Pro Tools®. This is the perfect console for today's recording studio."

- Ann Mincieli

Grammy nominated engineer for "The Diary of Alicia Keys". Other credits include Mariah Carey, Dru Hill, and Yoko Ono.



"I think this board is going to revolutionize the entire recording process. The AWS 900 will enable facilities like ours to produce materials on par with the million dollar studios at a fraction of the cost — and that's good for everyone."

- Alonzo "Zo" Lee Jr. & Shamar "Sham" Daugherty

The "Trak Starz" — credits include Chingy's multiplatinum debut, Ludacris, Britney Spears/Madonna. AWS 900 owners.

Ready to make a serious upgrade to your studio? GC Pro has the winning combination of expertise, excellent pricing and extraordinary service you need. From SSL's revolutionary AWS 900 Analogue Workstation System to the world's finest outboard gear, high-end mics, and sophisticated DAWs, GC Pro is your one-stop solution.



Music • Post • Live Sound • Lighting



GC PRO

www.gcpro.com

© 2015 Gadget Control, Inc. All rights reserved.
All images and trademarks are property of their respective holders.

Smooth Tubes

preamp controls include a mic feedback control to reduce the amount of internal negative feedback within the mic preamp stage. In addition to output level and peak-reduction limiter response controls, the limiter also has a feedback control to drastically change its sound. Of special interest is the choice between two power

supplies: the standard OPS-2 or the optional TPS-2 all-tube supply housed in a 3U chassis—enough room for transformers, tube rectifiers, oil and polypropylene filter capacitors. The tube supply causes the unit to sound smooth, while the solid-state supply considerably hardens up the overall sound. Other features include hi-Z instrument input, output polarity reverse, 10dB output boost for ribbon mics and separate VU and gain-reduction meters. Price: \$3,600 to \$7,250, depending on mono/stereo and supply.

The Summit Audio (www.summitaudio.com) FeQ-50 passive tube/solid-state

parametric EQ is so new, there are no pictures or prices yet. Packed into a half-rackspace is a fully passive LC (coils and capacitors) design using solid-state and tube signal paths. The FeQ-50 is a single-channel, 4-band semi-parametric EQ with highpass filter. Each band has sweepable gain of ± 14 dB with a center detent at 0 dB. Bands have six selectable frequencies with the two middle bands offering switchable Q (wide and narrow) by toggling between two different inductor coils in the equalizer circuitry. Low and high bands are selectable between peaking and shelving. The highpass filter has a knee at 80 Hz with a 12dB per octave roll-off. Both XLR balanced and 1/4-inch unbalanced inputs are handled by a Neutrik Combo jack. The FeQ-50 has solid-state and tube outputs individually buffered and available at separate XLRs and 1/4-inch jacks.

Tube-Tech's (www.tube-tech.com) SMC 2BM (\$6,595) is a stereo multiband tube compressor based on the SMC 2B and designed specifically for mastering. The SMC 2BM adds matched 12-step, gold-plated resistor gain controls to guarantee channel-to-channel accuracy and repeatability within 0.1 dB—an important requirement for the exactitudes of the mastering engineer. The crossover divides the stereo program into low, mid- and high bands with 6dB/octave networks and 12 selectable frequencies. Sidechain controls employ 31-position detent potentiometers, and the unit includes variable crossover points for precision control of all three bands of opto-compression. There are independent threshold, ratio, attack, release and gain controls for each band.

The LA-610 Classic Tube Recording Channel (\$1,795) is Universal Audio's (www.uaudio.com) 610 mic pre and EQ section backed with a Universal Audio/Teletronix LA-2A-style T4 opto-compressor. The T4 cell, the gain-reduction engine used in this unit and the famed LA-2, is a combination of an electroluminescent panel and custom-manufactured photo-resistors encased together. The T4 cell gives both of these compressors their program-dependent behavior and signature sound. Three 12AX7A, 6072A and 6AQ5 tubes complete this original MT Putnam design. Other noteworthy features include mic pre with variable impedance switching; 1/4-inch instrument DI; front panel switching for bypass, limit or compress modes; classic passive high/low equalizer; and hand-assembly in the U.S. ■

Barry Rudolph is an L.A.-based recording engineer. Visit his Website at www.barryrudolph.com.

THE BARBER SHOP
Cutting Edge in Sound Design
World Class Recording Studios

What are they waiting for?

CARL NAPPA:
Credits Include:
Nelly
N'Sync
Population I

TONY BLACK:
Credits Include:
Alicia Keys
Jay-Z
Maia Davies

A MOST ELEGANT RECORDING EXPERIENCE.
THE BARBERSHOP STUDIOS
• OPEN 2005 •

www.thebarbershopstudios.com
Tel. (973) 398-8540 Fax. (973) 398-8526
453 RiverStyx Rd. Hopatcong, NJ 07843

THIS IS THE SAN YOU'VE BEEN WAITING FOR.



**6⁺ USERS ON 4⁺ TERABYTES OF
RAID STORAGE** AT A PRICE THAT WILL CHANGE
THE WAY YOU LOOK AT SAN FOR AUDIO AND VIDEO.

globalSAN™ The only multi-platform, **Gigabit Ethernet-Based iSCSI SAN** for Pro Tools, Logic, Nuendo, Avid and Final Cut Pro. Raid 0, 1, 5 and 10. LAN and/or secure, Internet-based global access to your audio and video files. Easily and inexpensively add more workstations and storage. **4⁺ user 2⁺ terabyte configuration** also available.



studio network solutions
HIGH PERFORMANCE STORAGE NETWORKING

All software names are trademarks or registered trademarks of their respective owners, and those owners do not necessarily endorse globalSAN. globalSAN is a trademark of Studio Network Solutions.

Toll-free 1.877.537.2094

www.studionetworksolutions.com

Bombastic

BY KEVIN BECKA

“BIG BOTTOM, BIG BOTTOM/TALK ABOUT MUD FLAPS, MY GIRL’S GOT ’EM.”

Spinal Tap’s double entendre to the basement of the audio mix is one of the few pieces of music written and performed by three basses and drum kits. The odd instrumentation is great fodder for comedy, but also points to the fact that one of the most important members of the band, the bass, is most often *not* afforded “rock star” status. This is unfortunate, because the deep range of the instrument, approximately 41 Hz to 300 Hz, gives it the power to shape our emotions in ways that other instruments simply can’t. Would the menacingly simple two-note *Jaws* theme—which still elicits fear in the hearts of swimmers—have the same power if played on the piccolo or trumpet? I don’t think so. The sheer size of the bass sound commands the listener’s visceral respect, and the engineer must capture that power. In light of that “big” job, this installment of *Mix*’s “Recording the Band” series concentrates on recording the electric, acoustic and upright bass.

GETTING IT RIGHT FROM THE START

In all of our “Recording the Band” features, the underlying theme is, “get it right *before* the red light comes on.” Setting up the bass should be the starting point in that process; for simplicity’s sake, here, we’ll focus on electric bass. The good news is that electric bass and guitar share much of the same procedures for setup and tuning: adjusting the truss rod, adjusting the bridge for optimal “action” and tweaking each string so it is perfectly in tune along the entire length of the neck. (A useful guide to electric bass setup can be found at www.weedhopper.org/Bass_Guitar_Setup.asp.) As for upright, although tuning the instrument is straightforward, deeper maintenance is best left to an artisan who specializes in stringed instruments. Like tuning pianos, the process is nothing to be trifled with by mere mortals.

After setting up the bass for optimal player experience, make sure that the strings are new. Newer strings will better exhibit the upper harmonics and sound brighter. Bass strings come in a number of varieties, including round wound, half-wound, round core, hex core, tapered core, stainless steel, nickel and nylon wrapped. A quick trip to www.DRstrings.com will get you up to speed on the latest product trends. Each variety will alter the timbre, giving the player the tonal edge or ability to sit in the mix that they strive for. Knowing the personality of the instrument’s many colors only increases the chances that you, the engineer, will achieve stellar results. Strings for the upright bass range from stock steel or tungsten strings to the more esoteric custom gut strings, some costing more than \$100 each. These are chosen according to the player’s preference for a sharper attack with longer sustain or for a more blunt attack with a shorter envelope.



PHOTO: CHRIS BAILEY



Bass

*Crafting
Low-End Perfection
In Your Mix*

KNOW YOUR INSTRUMENT

Knowing the player's instrument, style and tone will help you choose the proper mics, DIs and signal chain to accentuate that sound. Mics and contact transducers can add a certain edge and tone that you can't get through a bass amp or DI alone. For instance, for his CD *Soliloquy*, bassist Michael Manning's instrument was recorded using a variety of transducers, including ceramic pickups, to flesh out the tone. (See "Case Study" sidebar, page 42.) Combining a variety of tones from various sources—recorded to their own tracks—gives you a wider sonic palette from which to choose when mixing. For example, a mic placed near the player's fingers, even on an electric bass, can provide the string noise that is lost through a pickup.

There are a lot of things you can tell from an engineering standpoint just by understanding the instrument. For instance, it goes without saying that the tone of the electric bass relies heavily on the pickups, but do you know how different pickups sound? For example, a stock Fender Jazz bass will have a lot of bottom and top end, but the same bass fitted with EMG pickups will have more midrange presence. Being able to relate to a player on his or her own level gives an engineer a lot of credibility.

Active basses have special electronics issues to consider: An active EQ or preamp makes the instrument's output hotter than that of a stock bass, greatly affecting tone.

Also, a good way to keep your signal clean is to be sure that the battery has been changed prior to the session.

WHY DI?

Recording bass direct gives you the advantage of isolation, letting you place the player anywhere in the studio or control room. However, no two DI boxes are alike, and choosing the right unit for the job is important. The DI's basic job is to boost the level from a high-impedance instrument level signal down to a low-impedance mic level signal that can then be plugged into a mic preamp. Active DIs are powered through AC, phantom power or a battery; active units are further broken down into tube or transistor types, all of which have their own sets of features and sonic personalities.

On the other hand, passive DIs employ a simpler approach, using a transformer to get the job done. If you're recording an active bass, some DIs just won't handle the hot output; knowing the right product to use in this situation can save you a lot of time and headache in a session. (If you have limited resources, then choose a unit with a pad to give you the necessary headroom.) Like microphones, every DI has its own sound, so experimenting with a number of them will fill out your engineering bag of tricks.

At the most basic feature level, you can usually count on a DI having a pad, polarity flip button and a throughput, which allows you to send bass output into an amp. Some active DIs, such as A Designs' REDDI and

Groove Tubes' Ditto, offer some degree of gain, sometimes allowing you to plug directly into a line-level input. Millennia's TD-1 is a DI/preamp/EQ/re-amp/splitter in one box. You can also rely on a high-quality mic preamp combo unit that has a DI input—such as the Millennia STT-1, GML 2032 or the Avalon 737—to get the job done. These all-in-one solutions not only give you a great-sounding way to make the jump to low impedance, but also supply the mic preamp, compressor and an EQ. If you have multiple instrument outputs, multichannel DIs such as Radial Engineering's JDI Duplex give you two DIs in one box. Radial's JDI single-channel unit acts as a passive mixer, allowing you to take a stereo input and sum it to a single, low-impedance mono output.

Some preamps and DIs provide variable impedance. Matching the DI's output impedance can boost level and tone while significantly reducing the noise floor. For example, the Little Labs Multi Z PIP Instrument preamp/DI/re-amp and the new Universal Audio 4110 mic preamps offer some degree of impedance switching with impressive results. Universal Audio preamps have an additional tone-shaping switch, adding even more variations. There are also some good DI/tone shapers for the home recordist, such as the Line 6 Bass POD and Tech 21 Bass Driver DI, both of which are inexpensive and have created a buzz on the home recording sites.

MIKING AN AMP

If you're recording an amp, you can mike the cabinet in the same way you would a guitar amp. For a comprehensive set of techniques for amp miking, check out "Recording the Band: Guitar Greatness," in the March 2005 issue of *Mix* or *Mix*'s Seminars on Demand guitar recording tutorial at www.mixonline.com/sod.

When recording an amp, use a good power conditioner such as the Furman AR-1215 power conditioner/regulator to take out any distortion introduced through the power grid, which can have a profound effect on tone. This step is especially important in live situations where the power may be an unknown factor.

ACOUSTIC BASS

Although rarely used outside of "unplugged" live settings or on sessions where its specific tone is sought, the acoustic bass—that is, an acoustic electric bass that resembles a large guitar—is miked quite similar to an acoustic guitar. An X/Y array, single mic or ORTF pair work especially well. Some instrument models have internal

The Story Behind the Sound

"YOU'RE SO VAIN" BASS REBORN FOR JANET JACKSON HIT

Engineer David Rideau's job on Janet Jackson's *Son of a Gun* involved some audio super-sleuthing. The song contains parts of Carly Simon's "You're So Vain," including the rumbling signature opening bass line originally played by the late Klaus Voorman. Producers Jimmy Jam and Terry Lewis gave Rideau the task of nailing the familiar tone for Jackson's retake. Ace L.A. session bassist Alex Al got the call and showed up at the studio, Record One in Los Angeles, with a bevy of basses and the original CD. "The tone was a muffled style, very similar to the sound that Motown bassist James Jamerson made famous," says Rideau. "Not only was it

difficult to cop the tone, but also the style, but if there was anyone that could do it, it was Alex."

Al and Rideau auditioned a number of basses, including a 1977 Fender P Bass, a 1968 Fender Jazz bass and the hands-down winner: a

1964 Fender Jazz bass. Rideau ran the bass through a custom passive DI with a Jensen transformer, and then into a Neve 1073 preamp, which ran directly to Pro Tools. Once signal was routed, Al proceeded to try various styles and techniques to capture the elusive tone until he came up with the

idea of putting packing foam under the strings. After experimenting with various amounts of foam, they finally nailed it and the rest, as they say, is history. Mystery solved!

—Kevin Becka

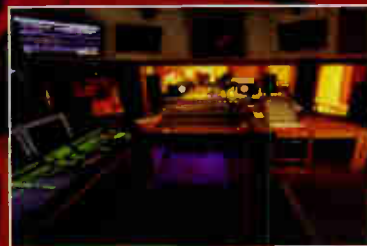


The Recording Industry Has Gone South!

Southern California's Premiere Recording Studio

Rolling Thunder

Studios &
Productions Ltd.



Nestled discreetly within the San Diego community, Rolling Thunder Studios is emerging as THE premier recording facility in Southern California. Rolling Thunder is able to fit any recording style, boasting state of the art and vintage equipment. Studio A is the largest recording room in San Diego. Referred to as The Bohemian Room, it is a perfect blend of style and function. With its ornate rugs, plush oversized chairs and laid back feel, it truly lends its self to the pursuit of writing and quality recording.

Rolling Thunder is also designed with the human aspect in mind. Understanding the pressure and stress that can come with recording, we have taken great care in providing for opportunities to unwind. We offer over 400 TV channels, a lounge that comfortably seats up to 12 people and in house massage. Also, Rolling Thunder has made arrangements to provide hotel packages to fit the starving artist or raging rock star. With such close proximity to all of Southern California's hottest attractions, we have many possibilities to relax during the recording process.

Rolling Thunder Offers Discount Recording Packages For Producers, Labels, Artists and Bands

STUDIO A: The Bohemian • Console: Neve 8058 MKII with Flying Faders • Pro Control with Edit Pack & 24 Faders • Recordings: Studers A827 24 Track 2 inch Analog • Ampex ATR 102 2 Track inch Analog • Pro Tools Mix 3 TDM with Apogee AD8000 Converters • Alaxis ADAT (2) • Alaxis Masterlink • Tascam CD-RW 5000 (2) • Panasonic SV-3700 DAT • Nakamichi MR-1 Cassette Deck • Pre-Amps: API 5126 (2) • Trident (2) • Focusrite (2) • Avalon 737 SP • Joe Meek VC6 • DBX 586 • OutBoard Gear: Universal Audio 1176 Black Face (2) • 1176 Silver Face (1), 1178 (1) • LA-4 Black Face (2), LA-4 Silver Face (2) • DBX 160 Black Face (4) • Manley Stereo "Variable-Mu" (2) • Monitors: • Mains: Dynaudio A • Near Fields: Genelec 1030 A • 1092A Sub • Yamaha NS-10's • Tannoy Gold • EQ's: Trident CB 9066 (2) • NightProEQ3 • Klark-Teknik DN-410 • API (3) • EFX: Lexicon480L, PCM 80 • TC Electronic M3000, TC EI (2) • Fireworx Eventide Orville, H3000, 910 • Sony D7, V77 • Roland RSP550 (1) • Drawmer DS201 (4) • Microphones: Neumann U87's "Klaus Heyne Modified" • U87's • KM 84's "Klaus Heyne Modified" • KM 84's KMI "Klaus Heyne Modified" • KMI's, AKG 414's, C1000's, D190 E • D12's, Sennheiser 441's • Coles-Ribbon 4038 • Beyer M88's M69's • EV RE20, RE15 • Sony ECM 909's Stereo • PZM's • Audio Technica AT 822 Stereo • Rode Classical Tube • Shure Sm57's, SM 58's • *Available at additional cost: • Neumann U-47, U-48 • Keyboards: • Yamaha Grand Piano • C.Bechstein Grand Piano • Fender Rhodes • Hammond B3 • Wuritzer • Mini Moog • Korg Triton Pro • Kurweil K2500 • Korg Karma • Roland J800, JP8080, JV20 • E-Mu 4x Emulator



9590 ★ Chesapeake Drive ★ San Diego ★ California ★ 92123

858 565-7625 ★ Website: Rollingthunderstudios.com



electronics and pickups for live “unplugged” use but can sound thin. If you’re recording live or for broadcast use, you can use a mini mic such as the DPA 4061, which comes with a mounting kit that includes sticky pads that can be attached anywhere on the guitar. In addition, the mic is so small, it can be actually mounted inside the instrument. Mixing this signal with the internal pickup can be the ticket to a fuller sound.

UPRIGHT CITIZEN

The upright bass is a beautiful instrument; using some very basic techniques, you can record it just right. Low-frequency energy emanates largely from the bottom of the instrument, so placing a single microphone near the floor not only gets you more low end, but takes advantage of the way the floor boundary naturally accentuates these frequencies. You can also pick up some very nice tones right where the player’s hands pluck the strings. A second mic can be added here, at roughly the same distance from the instrument as the lower mic for phase continuity. The two signals

can then be mixed together for the perfect blend of string sound and low end. Ribbon mics are especially good choices for this application, as they have a tendency to round out transients and render a “compressed” sound to the tone. A large-diaphragm condenser mic, such as a Neumann U67 or AKG C12, is a popular choice.

IN THE MIX

During mixing, it’s key to decide the bass’ role in relation to other low-frequency material. In a traditional jazz setting, the bass takes precedence over the kick drum, while kick may be accentuated more in other genres such as rock and pop. Because the bass and kick are usually panned center, placing the track away from other instruments sharing the same bandwidth is not an option, so the volume balance between the competing ingredients must be achieved with the fader or by EQ’ing the specific instruments for the perfect fit.

Allocating the right amount of room for



PHOTO: CHRIS BAILEY

Acoustic bass can be miked like an acoustic guitar; here, a Telefunken RFT M16 was used.

bass in your mix can be tricky. If the bass is by itself or in a more sparse setting, the tone can be larger. If other sustained low-frequency material surrounds it, such as keyboard pads or electric guitars, spectral adjustments will have to be made to keep the mix from becoming a muddy mess. These adjustments are best made through a high-quality EQ or filter.

When mixing in a DAW, high-quality

Case Study

SHOWCASING SOLO BASS ON MICHAEL MANRING’S *SOLILOQUY* BY JEFF FORLENZA

Bassist Michael Manring recently recorded his CD *Soliloquy* (www.manthing.com) himself in his home studio in Oakland, Calif. Manring, who studied at Berklee College of Music and the Peabody Conservatory, and has toured as a bass soloist for 20 years, recently had the opportunity to realize his longtime artistic vision: recording a solo bass album.

Manring had very specific ideas about how the solo effort should sound. “Normally with the bass, the sound is a very compact, direct sound,” he says. “That’s fine in a band mix when you only have a little piece of the sonic pie. But with a solo bass recording, you have this huge canvas to fill up and not paint in one corner.”

His studio is equipped with an Alesis ADAT, a Soundcraft mixer and a couple of RØDE microphones. While his recording equipment is basic, the instrument signal path is not. Manring’s bass guitars are custom-designed by Joe Zon in Redwood City, Calif. The Hyperbass (Manring’s signature instrument) has an extended three-octave fingerboard and is proportionally similar to a bass violin. Manring: “The Hyperbass has an output for each string, which allows me to control and balance the sound of each string. There are also transducers built into the body, and these come out as a fifth output.”

Manring plays through a SWR Baby Blue amp, sending the signal directly to the ADAT via different DI boxes for each of the string outputs. He also used two microphones to capture the acoustic aspect of his performance: a RØDE NT1 and NT1000. “Generally, I place them as close as I can without hitting them when I play,” he says. Manring also places ceramic transducers on the bodies of some of his basses, to

provide stereo output of the high transients that magnetic transducers don’t pick up.

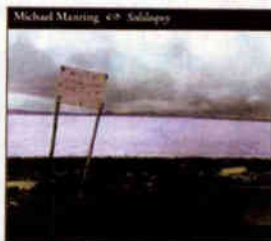
Being his own recording engineer meant separating the creative performer from the technician. “First, I’d have to set everything up, which is a long process,” Manring explains. “Make sure all the levels are okay, that the mics are placed well and that the strings are new and are going to stay in tune—it takes hours. That process is so counter to the performance process. So I usually set up in the morning and take a break for lunch, and then come back and play.”

For the mix, Manring went to Tony Mills at Spark in Emeryville, Calif., where they mixed the album in Pro Tools. “I was thinking of mixing this album myself in keeping with the soliloquy theme,” Manring says, “but I had mixed my last album [*Book of Flames*, Alchemy Records] with Tony, and I was really happy with the sound we got.”

Manring and Mills experimented with mix ratios between tracks from open microphones, transducers and direct string inputs for each piece as they mixed. “We started with the direct signal or signals from the strings,” Manring says, “We added everything else around that. Usually, the open mics are the next-to-most important thing. Those add a spatial element.

There are slightly different equalization and compression ratios for different strings. Then the effects are added at the last step.”

Manring’s sound fills the mix canvas with broad swaths and sharp staccato notes. “That’s how I hear bass: so full, filling the sonic spectrum,” Manring says. “There are certain sonorities that work on a solo bass that wouldn’t work if you tried to play it on any other instrumentation.”



 **SENNHEISER**



www.sennheiser-usa.com

Who knew fish whisper?

MKH Series High Definition Microphones

Bernie Krause knows. In fact, he's a pioneer in environmental sound recording and manages one of the largest archives of nature recordings on the planet. His microphones of choice? MKH, of course. Not only for their flat frequency response, low noise, and true-to-life sound, but Bernie also knows that the MKH series uses unique technology to ensure that environmental extremes are taken in stride. He's taken them to the Sahara desert and the deepest jungles, and even retrieved them from bears and panthers – still working! When you stake your career on getting the right sound, every time, choose Sennheiser MKH.



For more information on Wild Soundscapes by Bernie Krause, this exclusive book, CD guide to listening and recording in the wild, visit Sennheiser's PRO line, for best pricing and for more visit www.wildsoundscapes.com

Sennheiser Electronic Corporation • 1 Enterprise Drive, Old Lyme, Connecticut 06371 USA
Toll Free: 877-SENNHEISER • Tel: 860-434-9190 • Fax: 860-434-1759

Latin America: Tel: 52 55 5639-0956 • Fax: 52 55 5639-9482 • Canada: Tel: 514-426-3013 • Fax: 514-426-3953

World Radio History



plug-in EQs—such as the MDW 5-band EQ or the URS A Series EQ—are excellent tools for adding bottom to the bass. In addition, Waves' MaxxBass or RBass subharmonic generating plug-in is a simple and very effective way to help out the low tone of any instrument in need, as are its Q Series EQs.

While plug-ins are easy to use, the hardware side imparts the greatest tonal variations to the low end. Whether it's the "iron" sound of a transformer or the harmonic distortion added by a real tube, to my ear, hardware is king. The beauty of

a Pultec EQP-1A, API 550 or Manley Massive Passive can't be overstated. This sentiment also goes for compressors. Each LA-2A, Fairchild, Inovonics or 1176 has its own sonic signature, and they are all hard to beat. While the most frustrating thing about the vintage models is that they're all different, when you find "the one," it will be a treasure envied by any self-respecting tone-freak. A plug-in version of the same hardware, while consistent and often good enough, will always sound the same, and often "good enough" is just not the same thing.

The question of whether to use compression is one of personal taste.

A compressor will provide an evenness of attack and dynamics, along with a change in the color of the instrument. The effect of the compressor is also greatly dependent on the instrument and the player's technique. So while you may develop a favorite technique, don't expect it to sound the same in every situation.

There are times when re-amping the bass signal is the best way to help boost the mix's bottom end. For example,

getting bass amp isolation in a room can often be difficult because low frequencies are largely nondirectional. (The last thing you want is a bass amp leaking onto other tracks during a session.) This is where re-amping, using a special box specifically designed to take a low impedance signal back up to instrument level, is a smart decision. Adding the re-amped track later in the mix gives you the best of both worlds, letting you have the isolation of a DI when tracking, along with the added tone of a bass amp. Re-amping boxes from Little Labs, Millennia, Line 6 and Radial Engineering, among others, give you the tools you need to boost your signal impedance back up so you can plug it directly into an amp, which can then be miked and re-recorded or just run live for the mix.

Never dismiss the idea of recording bass as being as simple as plugging it in and hitting the red button. Experimenting with these tools and techniques will show you that bass is as capable, and deserving, of audio finesse as the other bandmembers. I'll close with the engineer's prayer: May your bottom always be big and round.

Kevin Becka is Mix's technical editor.



PHOTO: CHRIS BAILEY

A preamp combo unit with built-in DI input (such as the GML 2032 above) can be easily used to record bass direct.



need professional audio equipment and design?

Forget the old way of buying pro-audio systems

MW Audio is the one-stop for state-of-the-art hardware, technical assistance and friendly sales staff with over a decade of designing systems for the Hollywood industry, focusing on high-integrity sales, customer support and facility design.

MW Audio offers:

- State-of-the-Art Demonstration Facility
- Highly Trained Sales/Product Specialists
- Studio Design, System Integration and Installation Services
- Personalized Consulting and Product Training
- Authorized Dealer For Over 150 Major Manufacturers
- Professional Competitive Pricing on All Gear



5519 Grosvenor Blvd. Los Angeles, CA 90066

Email info@mwaudio.com | Call 888.98.AUDIO | Web www.mwaudio.com





think **big.**

Big things often come in small packages. Like D-Command, the newest member of the Digidesign[®] ICON tactile worksurface family. Packing amazing control and ICON-exclusive Pro Tools[®] functionality into a compact console, D-Command puts you in command of your creativity.



Visit www.digidesign.com/icon to learn more about the all-new D-Command tactile worksurface console for ICON. For ICON inquiries, email ICON@digidesign.com

- Intuitive, touch-sensitive console control
- Pro Tools | HD Accel DSP and I/O resources
- 192 kHz sample rate support
- Precision 48-bit mix bus
- Industry's finest plug-in options
- Automatic Delay Compensation
- Integrated video and delivery
- Total session recall
- Unparalleled automation features
- 200x more bandwidth than MIDI-based controllers

Road-Ready Vocal Mics



Neumann KMS 105

BY STEVE LA CERRA

If there's one thing you'll find on just about every stage this summer, it's a handheld vocal microphone. Wired handhelds are the "grunts" of the live sound industry: Forever subject to physical stress and often screamed at, these mics put up with more artist abuse than a tired tour manager.

The minimalist appearance of many handhelds is hardly indicative of what lies "under the hood": Manufacturers are incorporating exotic materials such as boron, beryllium and neodymium to achieve studio-quality audio while increasing a performance's reliability and consistency. To increase the capsule's lifespan and minimize handling noise, internal shock-mounting is the norm. The use of "humbucking" technology has increased, helping mics battle the increased RF common on many stages today. More models now offer silent on/off switches (either standard or as an option) and user-adjustable highpass filters. Many handheld condenser mics will run from phantom power as low as 11 volts, providing reliable operation from just about any mixer with phantom power.

Below, we present the top handheld mics on the market. Due to the sheer number of handheld models available, this survey was limited strictly to top-of-the-line wired dynamic and condenser models.

DYNAMIC CONDENSER CONTENDERS

A supercardioid dynamic vocal mic, AKG's (www.akgusa.com) D 3800M (\$263) features the company's VariMotion diaphragm technology. The VariMotion diaphragm's thickness varies across the diameter, allowing it to be tuned to a desired resonant frequency. A double suspension for the diaphragm yields significant suppression of mechani-

cal noise, and a humbucking coil suppresses electronic interference. Three output modules are available for the D 3800M, including the standard XLR connector, XLR/S with on/off switch (D 3800MS) and the TM40 transmitter module for wireless operation. Frequency response is stated as 50 to 20k Hz with a max. SPL of 147 dB (1% THD); impedance is 600 ohms.

The C 5900M (\$418) from AKG is a supercardioid condenser with a capsule suspended by a spider-type shock-mount for handling noise suppression. A spring steel wire-mesh grille increases durability and reliable control of pops and wind noise. The C 5900M includes switches for bass cut (12 dB/octave at 100 Hz, 6 dB/octave at 150 Hz) and output level (0/+6 dB), enabling the mic to drive less-sensitive mic inputs. Output module options include a standard XLR connector with gold-plated contacts and the TM40 transmitter module. The C 5900M may be powered via phantom supply from 9 to 52 volts. Frequency range is 20 to 20k Hz with a max. SPL of 139 dB (1% THD); impedance is 200 ohms.

The APEX381 (\$109) dynamic mic from Apex Electronics (www.apexelectronics.com) uses a neodymium magnet and aluminum alloy voicecoil to yield high output. A tight cardioid pattern maximizes gain before feedback, and an internal double shock-mount system significantly reduces handling noise. The APEX381 has a leather-feel finish for positive grip. Frequency response is 50 to 18k Hz with a max SPL of 140 dB; impedance is 300 ohms.

Compact size and light weight make the APEX115 (\$159) hypercardioid condenser a smart choice for situations where high performance is required from an unobtrusive mic. The mic requires phantom power to operate (48V DC). Frequency response is 70 to 19k Hz with an S/N ratio of 65 dB.

Audio-Technica's (www.audio-technica.com) Artist Elite AE6100



Audio-Technica AE5400



Shure Beta 58A

TOP-OF-THE-LINE

HANDHELD MODELS FOR STAGE APPLICATIONS



(\$289) hypercardioid mic was designed for smooth on-axis response, maximum feedback rejection and low handling noise. Protecting the AE6100 against vocal popping is a hardened-steel grille lined with a fine steel mesh and a layer of open-cell foam. A foam disc positioned on top of the element provides an additional layer of pop protection. Frequency response is shaped to cut through stage monitor mixes and provides clean articulation. Frequency response is 60 to 15k Hz; impedance is 250 ohms. The mic exhibits an open circuit sensitivity of -55 dB (1.7 mV) ref. 1V at 1 Pa.

AKG C 5900M

The company's Artist Elite AE5400 (\$579) is a large-diaphragm cardioid condenser mic for use in critical stage applications. Featuring the same large-diaphragm element as the AT4050 studio microphone, the AE5400 handles high SPLs while maintaining high-frequency performance and clarity. A multilayer grille protects against plosives and sibilance without compromising high-frequency response. Internal electronics are mounted on a high-quality, dual-sided PCB with an extensive ground plane to minimize electrical noise. The AE5400 incorporates a 10dB pad and LF roll-off (12 dB/octave @ 80 Hz) switches, and may be phantom powered with 11 to 52 volts DC. Frequency response is 20 to 20k Hz with a max. SPL of 147 dB @ 1% THD (157 dB w/pad); impedance is 150 ohms and noise is 14 dB, A-weighted.

Now in its 10th year of production, the Audix (www.audixusa.com) OM-5 (\$265) dynamic employs the company's VLM (Very Low-Mass) tech-

Audix OM5



nology for quick transient response and reduced distortion, even at high SPLs. Frequency response is naturally attenuated at 120 Hz to reduce boom and handling noise, while midrange is tailored for clarity and presence. An extremely tight hypercardioid pattern helps isolate vocals from noise onstage. The OM-5's dent-resistant, spring steel grille protects the capsule from damage due to rough handling. Frequency response is 40 to 19k Hz with a max. SPL of 144 dB; output impedance is 200 ohms.

Audix's VX-10 (\$599) is a premium condenser microphone designed for high gain and sensitivity while maintaining rejection of feedback, as compared to most dynamic cardioid microphones. The VX-10 can handle close-miking with minimal proximity effect and features low-noise electronic circuitry. The VX-10-Lo is a specially designed model with a lower output level to compensate for high-SPL sources. Frequency response is 40 to 20k Hz with a max. SPL of 138 dB; impedance is 250 ohms.

The DV75 (\$90) from Avlex (www.avlex.com) employs a neodymium element to produce high output and a frequency response tailored to vocal reproduction. A cardioid polar pattern rejects off-axis sound, and an integrated filter reduces vocal popping. Frequency response is 50 to 18k Hz; impedance is 250 ohms.

Behringer's (www.behringer.com) ULTRAVOICE XM8500 (\$24.99) is a dynamic mic with a cardioid pickup pattern. The XM8500 features internal shock-mounting to minimize handling noise, a spherical wind/pop noise filter and a tough, steel-mesh windscreen. A smooth mid-frequency presence rise aids projection of vocals, while polar response is intended to reduce background noise and feedback. Frequency response is



Sennheiser e935



Groove Tubes GT Convertible

Road-Ready Vocal Mics

50 to 15k Hz and impedance is 150 ohms; sensitivity is -70 dB.

The TG-X 80 dynamic vocal mic (\$469) from beyerdynamic (www.beyerdynamic.com) is designed for studio performance in live applications where high-SPL vocals are generated and maximum volume before feedback is required. A hypercardioid pattern enables the TG-X 80 to reject sound from the rear by greater than 25 dB (110 degrees, 1 kHz). The mic features a shock-absorbing rubber ring to reduce handling and mechanical noise. The TG-X 80 is available with an on/off switch as the TG-X 81. Frequency response is 30 to 18k Hz and impedance is 280 ohms; magnetic field suppression is >20 dB @ 50 Hz.

beyerdynamic's MCE 91 (\$649) electret cardioid condenser mic has a gentle rise in response at 2 kHz that facilitates clear, detailed voice reproduction. Its high-SPL capability allows it to be used in a wide range of vocal applications. The mic can be phantom



Beyer MCE 91

powered using 12 to 48V DC. Frequency response is 30 to 20k Hz with a max. SPL of 139 dB (1 kHz); impedance is 190 ohms.

The CAD (www.cadmics.com) D189 (\$169) is a dynamic supercardioid microphone engineered for transparent sound and minimal off-axis pickup. CAD's proprietary I.N.R.-2™ Impact Noise Rejection system dramatically reduces cable, stand and handling noise. A Flex-Form™ hardened-steel grille screen resists deforming and reduces risk of adverse performance caused by a bent or dented ball screen. An internal multistage pop filter minimizes wind and breath noise. Frequency response is 50 to 16k Hz; impedance is 300 ohms.

CAD's C195 (\$199) is a low-noise, electret condenser cardioid microphone with a transformerless circuit. The C195 features the I.N.R.-3 system for diminished cable, stand and handling noise. A Flex-Form grille guards the capsule from damage, and an internal multistage pop filter minimizes wind and breath noise. Frequency response



Crown CM-200A

is 50 to 18k Hz with a max. SPL of 132 dB (1% THD); impedance is 500 ohms.

A unidirectional dynamic microphone, the CM68 (\$199) from Carvin (www.carvin.com) features a slight presence rise in the mid-frequency range for increased intelligibility. A built-in foam windscreen increases rejection of breath and wind noise, and the cardioid polar pattern yields excellent off-axis performance and feedback control. Frequency response is 45 to 15k Hz.

The CM-200A (\$389) from Crown (www.crownaudio.com) is a handheld electret condenser for onstage vocal and instrument use. A multistage internal pop filter reduces wind noise, and the cardioid pattern produces high gain before feedback. An upper-midrange presence peak helps increase articulation. Handling noise is extremely low, and the mic is designed to withstand repeated

drops. The CM-200A may be phantom-powered from 12 to 48V, and includes a foam windscreen for outdoor use. The CM-200ASW adds a built-in, silent on/off switch. Frequency response is 80 to 15k Hz with a max. SPL of 15 dB (3% THD) with 48V supply (143 dB SPL w/12V supply); impedance is 200 ohms.

The TEC Award-nominated Electro-Voice (www.electrovoice.com) RE410 (\$322.50) is a cardioid condenser design that's designed with a slight "air" band boost in the 5kHz to 10kHz range to add sheen without stridency. Also listing at \$322.50 is the RE510, a supercardioid condenser model that includes an LF boost switch that tailors



Electro-Voice RE410

the mic for live use or a "flat" setting for studio applications. The switch is placed under the ball screen to avoid accidental switching. The company's top handheld dynamic is the N/D967, which has a neodymium alloy element for high output, a 50 to 13k Hz response and a supercardioid pattern for high gain before feedback. Like the RE510, the N/D967 features Electro-Voice's LF contour switch and carries a list of \$322.50. All models have the company's Warm-Grip handles for reduced handling noise and a comfortable feel.

The GT Convertible (\$149) from Groove Tubes (www.groovetubes.com) is a unique condenser design featuring a removable round windscreen that converts the mic from vocal to instrument use for stage or studio. Built on a Groove Tubes GT44 body, the GT Convertible features a 6-micron diaphragm, low-noise FET circuitry and internal rubber shock-mount. A gentle presence peak starting at 2 kHz increases clarity and detail. The mic's steel ball windscreen protects the mic from abuse and the elements, quickly unscrewing for instrument use. A hypercardioid pattern minimizes leakage and increase feedback before gain. Frequency response is 20 to 18k Hz with a max. SPL of 146 dB (1% THD); impedance is 200 ohms.

MIPRO's (www.avlex.com) MM-707P (\$100) is a hypercardioid condenser designed to minimize background noise. The MM-707P features high sensitivity and wide dynamic range with extremely low handling noise, and may be powered using 12 to 48V DC phantom. Frequency response is 50 to 18k Hz with a max. SPL of >148 dB.

Part of the Starpower™ Series, the SP-9 (\$39.95) from Nady (www.nady.com) is a dynamic mic with a one-piece molded cartridge built to endure shock and abuse while reducing handling noise. The SP-9's cardioid pattern rejects off-axis sound for immunity to feedback, and a linear response provides detailed reproduction across the spectrum. The SP-9S provides an on/off switch on the mic body. Frequency response is 80 to 12k Hz with a max. SPL of >130 dB (1% THD); impedance is 600 ohms.

Nady's SPC-10 (\$89.95) incorporates a studio-quality condenser element with a tight cardioid pattern for feedback rejection. The 1-inch capsule is coupled

THE MOST SUPERB
SONIC DESIGN...



ARTIST ELITE

FOR THE MOST ELITE VENUES
EXPERIENCE THE NEW STANDARD IN LIVE AUDIO

Recent advances in the quality and sophistication of professional live-sound systems have been nothing short of revolutionary. Tours, clubs, broadcast events, corporate facilities and worship venues sound better than ever, utilizing better system design and better components in the audio chain.

That's why Audio-Technica has been partnering with industry professionals on the front line of this revolution — the top touring companies, award show designers, FOH and monitor engineers, audio consultants and artists — to learn what it takes to make the best-sounding, most reliable and consistent microphones for the live-sound industry.

We listened carefully. Then we applied this knowledge to the creation of a new line of high-performance microphones. Each model is designed to extend the performance of a sound system, not limit it.

Experience the new standard in live audio: Artist Elite™

CONDENSERS



AE5400
THE ULTIMATE
VOCAL PERFORMANCE INSTRUMENT

AE3300
EXCEPTIONAL PERFORMANCE
FOR EXCEPTIONAL PERFORMERS

DYNAMICS



AE6100
ASSERTIVE SOUND
FOR THE UNCOMPROMISING VOCALIST

AE4100
DESTINED TO BE THE NEXT CLASSIC

 **audio-technica.**
always listening.

Road-Ready Vocal Mics

to transformerless FET circuitry for low distortion across the spectrum. A multi-axis internal shock-mount isolates the capsule from handling noise, and a low-cut switch (12 dB/octave @ 80 Hz) controls proximity effect. The SPC-10 operates on 48V phantom power. Frequency response is 30 to 20k Hz with a max. SPL of 140 dB; impedance is 200 ohms.

Intended to produce studio quality in sound reinforcement applications, Neumann's (www.neumannusa.com) KMS 105

(\$849.99) features a supercardioid, DC-polarized capsule developed from the K 50 found in the KMS 150, KM 150 and KM 185 microphones. Four different layers of open wire mesh are used on the KMS 105's steel basket for pop and wind attenuation without the detrimental effects of foam, which can attenuate high frequencies and deform the polar pattern. The KMS 105's combination of low self-noise and uncolored off-axis pickup complements in-ear monitor systems. A transformerless output

circuit allows the KMS 105 to drive long cable runs with no high-frequency loss. The KMS 105 requires 48V phantom power (± 4 volts). Frequency range is 20 to 20k Hz with a max. SPL of 150 dB (0.5% THD); impedance is 50 ohms.

The PVM 480 (\$329.99) from Peavey (www.peavey.com) is a pre-polarized electret condenser mic using a supercardioid polar pattern. The PVM 480, featuring a high ratio of front-to-back rejection and an extended frequency response, is finished in black powder-coat and may be phantom-powered from any source providing 9 to 52V DC. Frequency response is 40 to 20k Hz with a max. SPL of 128 dB.

Peavey's PVM 22 Diamond Series™ (\$199) is a dynamic microphone incorporating a neodymium iron-boron magnet for increased sensitivity. A cardioid pickup pattern provides 20 dB of front-to-back rejection, and a diamond-coated diaphragm delivers extended frequency response and quick transient response. Frequency response is 50 to 16k Hz with a max. SPL of 140 dB; impedance is 400 ohms.

A cardioid condenser microphone, the TLC 90 (\$675) from Pearl (www.independentaudio.com) features a uniquely shaped capsule housing that prevents performers from holding their hand over the back openings of the capsule and compromising the TLC 90's directionality, thus maintaining the mic's ability to reject feedback. A removable grille facilitates easy cleaning, and an internal shock-mount reduces handling noise. A red LED on the mic body indicates when phantom power is present (30 to 48V DC required). Frequency response is 30 to 20k Hz with a max. SPL of 144 dB (0.5% THD); impedance is 500 ohms.



APEX

The Most Important Link In The Chain...

Unequaled component selection, innovative design and strict attention to detail make Apex microphones the pinnacle of performance and value.

Apex210 Ribbon Mic

Apex-SP2 Studio Package

apexelectronics.com

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



RØDE S1

The S1 (\$599) from RØDE (www.rodemic.com) employs a true condenser transducer tailored to ensure clear vocals and reduce handling noise. The S1's supercardioid pickup pattern increases rejection of background noise and reduces sus-

STUDER

Vista 8 Digital Audio Console



You're live, totally in control...

The Studer Vista 8 with its unique, world-leading Vistonics® user interface ensures fast, intuitive console operation – the key to trouble free broadcasts.

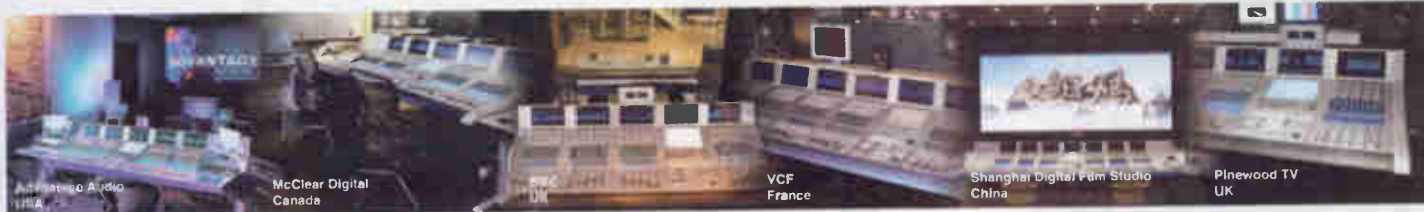
The Vistonics concept of “where you look is where you control” marries the familiar feel of analog consoles with the powerful control features found on today’s digital consoles.



... and with the extra security of a fully redundant control system

With any live broadcast situation, redundancy is essential to ensure constant 24/7 operation. In addition to RAID drives, redundant power supplies throughout, and reserve DSP that engages automatically as needed, the Vista 8 also offers the security of a second complete control system. In the unlikely event of a control system problem, the operator can switch to this back-up system. Most importantly, operation resumes exactly as before, because all settings are constantly mirrored.

With all this, plus legendary Studer sound quality, Virtual Surround Panning, superb EQ and Dynamics, per channel Delay, internal Reverbs, flexible configuration and routing, and more, it's no wonder that broadcasters around the world are specifying Vista Digital Mixing Systems for their mission-critical applications.



VISTA
DIGITAL MIXING SYSTEM

www.studer.ch

STUDER
professional audio equipment

Harman Pro North America, 8500 Balboa Blvd., Northridge CA 91329
Tel: 1-866-406-2349 • Fax: 818-920-3208 • E-mail: studer-usa@harman.com

World Radio History

Harman International Company

Road-Ready Vocal Mics

ceptibility to feedback. A five-piece mesh grille filters breath, wind and plosive noise without interfering with the S1's sensitivity or frequency response; it also protects the transducer from airborne contaminants and impacts. The S1 requires 48V phantom power, and its electronically balanced, high output reduces loss over long cable runs and maintains rejection of electromagnetic interference. Frequency response is 20 to 20k Hz with a max. SPL of 151 dB (0.7% THD); impedance is 50 ohms.

Roland's (www.rolandus.com) dynamic hypercardioid DR-50 (\$199) mic offers a double-screen filter to reduce breath noise under close-proximity applications. Internal shock absorption reduces handling noise. The DR-50 is furnished with a cable and protective pouch. Frequency response is 90 to 16k Hz and impedance is 300 ohms; sensitivity is rated to 54, ± 3 dB (0 dB = 1V/1 Pa, 1 kHz).

The C05 (\$175) from Samson (www.samsontech.com) is a cardioid condenser designed for high sensitivity and extended frequency response. Built into a lightweight, compact body, the C05 can easily

be a handheld for long periods without fatigue. Internal shock-mounting reduces handling noise, while the tight pattern minimizes feedback and rejects off-axis sound. The C05 requires 48V phantom power. Frequency response is 50 to 18k Hz with a max. SPL of 130 dB (0.5% THD); impedance is 200 ohms.

Samson's Q7 (\$199) dynamic mic has a low-mass neodymium element with a supercardioid pattern, internal shock isolation and built-in windscreen. Its die-cast zinc-alloy housing ensures reliable performance under demanding conditions. Frequency response is 80 to 12k Hz; impedance is 200 ohms.

The e935 (\$279) from Sennheiser (www.sennheiserusa.com) is a cardioid dynamic microphone with a hum-compensating coil for reduced electrical interference and a magnet structure that maintains stable performance under varying environmental



Samson C05

conditions. The e935's polar pattern ensures high rejection of off-axis sound. Frequency response is 40 to 16k Hz and impedance is 350 ohms; sensitivity is rated at 2.8 mV/Pa (free field, no load at 1 kHz).

The e865 (\$399) is the first condenser mic in Sennheiser's Evolution Series. The e865 features a supercardioid pickup pattern with low off-axis coloration. The electret condenser capsule handles SPLs up to 150 dB and can be powered via 12 to 48V phantom power. The e865-S adds a silent on/off switch. Frequency response is 40 to 20k Hz and impedance is 200 ohms; sensitivity is rated at 3 mV/Pa at 1 kHz (free field,

no load).

The Beta 58A (\$300) from Shure (www.shure.com) is a high-output dynamic vocal mic engineered to maintain a true supercardioid pattern throughout its frequency range, ensuring high gain before feed-

Vintage Console - 2 Rack Spaces

The Toft Audio Designs[®] ATC-2
Dual Studio Channel.

Direct descendent of the vintage
consoles designed by Malcolm Toft.

Put one in your rack today!



Visit www.toftaudio.com
to learn more about the ATC-2
and other Toft Audio Designs[®] products.

Toft Audio Designs is a Registered Trademark of PVI Audio Group ©2004 10-15 W 169th St Gardena, CA 90247
V. 866-563-6335 F. 310-381-9151 E. info@toftaudio.com Sample photograph courtesy of Clear Lane Audio, North Hollywood, CA

World Radio History

Toft Audio Designs[®]

AKG ACOUSTICS

Sleeps in cars.

Works in bars.

Gets spat on a lot.

We wouldn't have it
any other way.



The AKG® D880®. Use it with a cable, or pop in the module and go wireless. Tough as nails when it has to be, a window to the soul when you want it to be.

615.620.3800 or akg.com

The tools of the trade.

H A Harman International Company
AKG is a registered trademark of AKG Acoustics GmbH, a Harman International Industries, Incorporated company.

World Radio History

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

Road-Ready Vocal Mics

back, maximum isolation from other sound sources and minimum off-axis coloration. The mic's frequency response is shaped for close-up vocal work. Rugged construction and a hardened steel-mesh grille maintain performance under adverse conditions, and a pneumatic shock-mount reduces handling noise. Frequency response is 50 to 16k Hz and impedance is 150 ohms rated.

The Shure Beta 87C (\$462.88) is built on the Beta 87A, incorporating a uniform cardioid polar pattern tailored to reject ambient noise arriving at the rear. Response of the Beta 87C's electret condenser element exhibits a slight presence rise and a controlled low-frequency roll-off to prevent exaggerated low end due to proximity effect. A three-stage pop filter minimizes breath and noise. The Beta 87C requires phantom power of 11 to 52V DC. Frequency response is 50 to 20k Hz with a max. SPL of 139 dB (0.25% THD); impedance is 150 ohms rated.

The F780/9X (\$400) from Sony Pro Audio (www.sony.com/proaudio) is an enhanced version of its top-of-the-line F780 dynamic vocal microphone. Intended for critical vocal reproduction, the F780/9X features a hypercardioid capsule with a rigid structure, high sensitivity and low mechanical noise. A urethane coating on the F780/9X's body yields extremely low handling noise. Frequency response is 50 to 18k Hz and impedance is 400 ohms.

The FH-12 (\$78) from Superlux (www.avlex.com) employs a supercardioid dynamic capsule specially designed for off-axis cancellation. A powerful neodymium magnet structure provides improved sensitivity and quick response. The FH-12's diaphragm is field-replaceable, and a high-impact carrying case is included. Frequency response is 50 to 16k Hz with a max. SPL of 134 dB (1% THD); impedance is 250 ohms (rated).

The Superlux PRA-238B (\$78) is a supercardioid condenser mic intended for handheld operation. Frequency response is tailored for vocal use, with a mild presence rise at 3 kHz. A two-layer anti-pop filter reduces plosive noise. The electret condenser capsule features transformerless circuitry and requires 48V phantom power. Frequency response is 50 to 16k Hz with a max. SPL of 140 dB (1% THD); impedance is 200 ohms. ■

NEED A COMPLETE RECORDING SOLUTION?

PRISM SOUND
AND APPLE

The Dream ADA-8XR:

- The XR provides you with the ultimate in Prism Sound performance.
- The XR works at sample rates from 32k - 192k.
- The XR supports Firewire, Pro-tools HD, AES, SPDIF and DSD

Call us NOW!



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

Prism Sound

NOTE: DigitalLogic, Steinberg Media Technologies GmbH, Apple Computer Inc and Intel of the Unstates (1987) do not endorse or support the Prism Sound ADA-8XR unit. Not all Pro-Tools, Nuendo, Cubase, Logic or Digital Performer controls or configurations are supported by the Prism Sound ADA-8XR. Prism Sound reserves the right to amend their own product specifications without notice. DigitalLogic, Pro-Tools HD are trademarks of DigitalLogic division of Avid Technology Inc. Digital Performer is a trademark of Avid of the Unstates (1987). Nuendo and Cubase are trademarks of Steinberg Media Technologies GmbH a division of Yamaha Corporation. Logic is a trademark of Apple Computer Inc.

In addition to contributing to Mix, Steve La Cerra is the tour manager and front-of-house engineer for Blue Öyster Cult.



**THE ONLY BETTER
EQUIPMENT**
is attached to the sides of your head.

Your ears are what got you here. The trick is making sure the sound that gets to them is as pure, rich and detailed as possible. That's what Shure KSM studio microphones are for. The KSM44 provides a bright full presence for critical studio tracking. The KSM32 gives you the most articulate reproduction of the original sound source.

Shure KSM studio microphones are the result of 40 years of pioneering studio technology. So while we can't replace your ears, we can help you hear better.

www.shure.com

© 2004 Shure Inc.

World Radio History

SHURE
It's Your Sound™



THE 21ST ANNUAL

Technical Excellence & Creativity Awards

Listed below are the nominees chosen by the Nominating Panel of the 21st Annual TEC Awards. A special TEC Awards nominees supplement and voting ballot will appear in the August *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.

The 21st Annual
TEC Awards will be held
Saturday, October 8, 2005,
at the New York
Marriott Marquis.

For more information contact
Karen Dunn at 925-939-6149
or KarenTEC@aol.com.

OUTSTANDING TECHNICAL ACHIEVEMENT

ANCILLARY EQUIPMENT

Aviom A16 II Monitor Mixing System
FiberPlex LightViper 1832 Fiber-Optic Snake
Mackie Big Knob
PreSonus Central Station
Sencore/TerraSonde SoundPro Audio Toolbox 3
Stanton Final Scratch-2

DIGITAL CONVERTERS

Apogee Electronics Rosetta 200
Lynx Studio Aurora 16
MOTU Traveler
PreSonus Firepod
Prism ADA-8 XR
RME Fireface 800

AMPLIFIER TECHNOLOGY

Crown Commercial Audio Series
Grace Design m902 Reference Headphone Amplifier
Hot House Four Hundred (new IOD version)
Klein + Hummel PRO A2000
MC² Audio E45
Peavey CS 4000

MIC PREAMPLIFIER TECHNOLOGY

BLUE Robbie
Focusrite The Liquid Channel
GML Model 2032
Millennia Media HV-3C
Tube-Tech MMC-1A
Universal Audio LA-610

MIC TECHNOLOGY/ SOUND REINFORCEMENT

Audio-Technica AT892 Microset
Audix I-5
CAD e60
Electro-Voice RE 410
Sennheiser e900 Series Backline Mics

MIC TECHNOLOGY/STUDIO

AKG C414B-XLS/C414B-XLII
Audio-Technica AT2020
Earthworks DK25/R DrumKit System
RØDE NT2-A
Royer SF-24
Telefunken R-F-T M16 MkII

WIRELESS TECHNOLOGY

AKG WMS 400
Audio-Technica 2000 Series
Lectrosonics Venue Receiver
Mipro MA909
Shure SLX Series Wireless
Zaxcom StereoLine Digital Wireless

SOUND REINFORCEMENT LOUDSPEAKER TECHNOLOGY

EAW KF850Zr
JBL VerTec VT4888DP
L-Acoustics KUDO
Meyer Milo 120
QSC ISIS WideLine
Renkus-Heinz LA9

STUDIO MONITOR TECHNOLOGY

ADAM Audio P33A
Blue Sky Media Desk
Dynaudio Acoustics BM5A
Genelec 8050A
JBL LSR6325P
Tannoy Ellipse IDP

MUSICAL INSTRUMENT TECHNOLOGY

E-mu Emulator X Studio V. 1.5
Garritan Personal Orchestra Second Edition
Line 6 VariAx Acoustic 700
MOTU MX4
Roland V-Pro TD-20S V-Drums
Tascam Gigastudio 3

SIGNAL PROCESSING TECHNOLOGY/ HARDWARE

BSS Soundweb London BLU-80
Empirical Labs Lil FrEQ
Eventide H8000A
Lake Mesa Quad EQ
Oram Hi-Def 4T Memory EQ
TC Electronic Mastering 6000

SIGNAL PROCESSING TECHNOLOGY/ SOFTWARE

Antares Auto-Tune 4
McDSP Channel G
Sony Oxford Restoration Tools
TC Electronic MD3 Stereo Mastering Package
Trillium Lane Labs TL Space
Waves L3 Maximizer

WORKSTATION/ RECORDING TECHNOLOGY

Apple Logic Pro 6.5
BIAS Peak 4.1
Cakewalk SONAR 4 Producer Edition
Digidesign Pro Tools 6.7
MOTU Digital Performer 4.5
Steinberg Nuendo 3

SR CONSOLE TECHNOLOGY

Digidesign VENUE
InnovaSON Sy48
Mackie TT24
Midas Siena
Soundcraft GB8
Yamaha PM5D

SMALL FORMAT CONSOLE

Allen & Heath WZ3 16:2
Digidesign Command 8
Mackie Digital X Bus X.200
Mackie Onyx 1640
Soundcraft/JREI 1620LE DJ Mixer
SPL MixDream

LARGE FORMAT CONSOLE

Digidesign ICON
Fairlight Constellation-XT
Lawo mc² 66
Oram Series 4T
Solid State Logic AWS 900
Studer Vista 8

OUTSTANDING CREATIVE ACHIEVEMENT

RECORD PRODUCTION/SINGLE OR TRACK

(Awards go to Recording Engineer, Mixing Engineer, Mixing Facility Producer, Recording Studio, Mastering Engineer and Mastering Facility.)

"American Idiot," *American Idiot*, Green Day

"Drop It Like It's Hot," *R&G: The Masterpiece*, Snoop Dogg, featuring Pharrell

"Live Like You Were Dying," *Live Like You Were Dying*, Tim McGraw

"Mr. Brightside," *Hot Fuss*, The Killers
"Why Don't You & I," *Artist Collection*, Santana, Santana featuring Chad Kroeger

RECORD PRODUCTION/ALBUM

(Awards go to Recording Engineer, Mixing Engineer, Mixing Facility, Producer, Recording Studio, Mastering Engineer and Mastering Facility.)

American Idiot, Green Day
Feels Like Home, Norah Jones
Genius Loves Company, Ray Charles
Musicology, Prince
There Will Be a Light, Ben Harper and The Blind Boys of Alabama

SURROUND SOUND PRODUCTION

(Awards go to 5.1 Mixing Engineer, Mastering Engineer, Producer, Mixing Facility and Mastering Facility.)

Eric Clapton *Crossroads Guitar Festival*
Crystal Method *Legion of Boom*
Crosby & Nash *Crosby Nash*
Ray Charles *Genius Loves Company*
Bonnie Raitt *Nick of Time*

TOUR SOUND PRODUCTION

(Awards go to Tour Company, Front-of-House Engineer and Monitor Engineer.)

Josh Groban, Maryland Sound
Green Day, American Idiot tour, Clair Bros.
Prince, Musicology tour, Eighth Day Sound
Toby Keith, Sound Image
U2, Vertigo tour, Clair Bros.

REMOTE PRODUCTION/ RECORDING OR BROADCAST

(Awards go to Remote Engineer, Production Mixer, Music Mixer and Remote Facility.)

The 47th Annual Grammy Awards, CBS
77th Annual Academy Awards, ABC
Eric Clapton Crossroads Guitar Festival, PBS
Smile, PBS
Super Bowl XXXIX, Fox

FILM SOUND PRODUCTION

(Awards go to Supervising Sound Editor, Sound Designer, Re-Recording Mixer, Production Sound Mixer, Score Mixer and Audio Post Facility.)

Ray, Universal Pictures
The Incredibles, Pixar/Disney
The Aviator, Miramax
Spider-Man 2, Columbia/Sony
Lemony Snicket's A Series of Unfortunate Events, Paramount Pictures

TELEVISION SOUND PRODUCTION

(Awards go to Supervising Sound Editor, Re-Recording Mixer, Production Mixer and Audio Post Facility.)

Alias, ABC
Cold Case, CBS
CSI, CBS
Lost, ABC
24, Fox

STUDIO DESIGN PROJECT

(Awards go to Architect or Studio Designer, Acoustician and Studio Owner.)

Jazz at Lincoln Center, New York City
St. Claire Rec. Co., Lexington, KY
The Barber Shop Studios, Hopatcong, NJ
SoundLounge: Studio Holcomb, New York City
Unit Eye, Ojai, CA



Thomas Williams



Mandy Adams



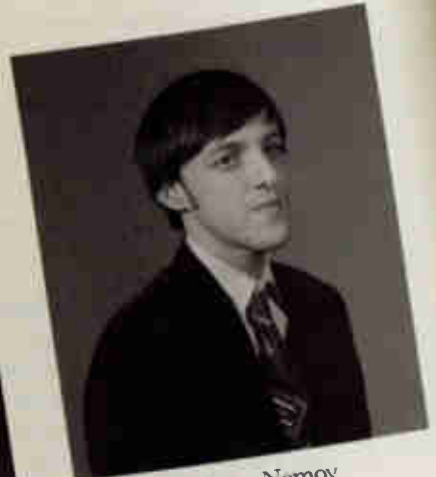
Jake Carter



Jenny Smith



Eddy Lin



Walter Nemoy

J.F.K. High School 2004

SOME PEOPLE WERE BORN FOR THIS.

Ex'pression College For Digital Arts

Emeryville, CA
(San Francisco Bay)

877.833.8800

Accredited College, ACCSCT

THE SOUND ARTS DEGREE FROM EX'PRESSION

You've got the desire, the drive, and maybe even the ears for a career in audio. Maybe you should check out the Sound Arts degree program from Ex'pression College for Digital Arts. You'll learn music recording, engineering and sound for film and even video games. You'll have 24/7 access to professional grade studios and equipment. And you can earn a Bachelor's degree in about 2 1/2 years. Curious? Visit expression.edu for more details.

Compass Records/Sound Studio

Thriving Nashville-Based Indie Label Shacks Up With Outlaws

A focal point for the Outlaw country movement during the late 1960s through the 1970s, Hillbilly Central was “the home of all those records Nashville really didn’t want to make,” writes Michael Bane in *The Outlaws: Revolution in Country Music* (Doubleday, 1978). More than three decades and a couple of ownership changes later, the studio once considered the Grand Central Station of Outlaw country still puts out records that mainstream Nashville wouldn’t touch. Only now, it’s under the guise of Compass Records, a globally focused independent label with a roster of critically adored folk, jazz, country, Celtic and roots music.

COUNTRY’S ORIGINAL OUTSIDERS

Waylon Jennings, Willie Nelson, Jessi Colter, the Glaser Brothers and a handful of other artists defined the Outlaw country movement with their raw brand of honky-tonk. The Outlaws rebelled against the era’s pop-oriented “Nashville Sound,” opting for edgier fare that was as much rooted in folk storytelling as it was hard-core country. When it came time to record, “Everybody...who was somebody or just wanted to see somebody who was somebody,” as Bane describes, passed through Hillbilly Central.

Brothers Tompall, Chuck and Jim Glaser opened the one-room studio in 1969. On any given day, one might find old-time radio DJ Captain Midnight asleep in one of the offices, or spot Billy Joe Shaver, Bobby Bare, poet/songwriter Shel Silverstein, Kris Kristofferson, Mickey Newbury or Kinky Friedman storming through the place to either record, party, hang out or engage in some combination of the three.

COUNTRY’S NEW OUTSIDERS

Today, mainstream country still leans toward slick, homogenized pop, and there’s still a group of artists, labels and other industry folk in Nashville that refuse to conform to Music Row standards. Compass Records—which assumed the historic studio/office space in April 2004—is, admittedly, much tamer than the building’s original occupants. To give you an idea, Jennings’ former “office” is now a playroom for Hannah, the three-year-old daughter of Compass co-owners Alison Brown, a Grammy-winning banjo virtuoso, and her husband, bass player/producer Garry West. “We’re not quite the outlaws that the original outlaws were, but we still operate pretty far outside the boundaries of what goes on around most of Music Row,” West says. Nevertheless, the label celebrates its 10th anniversary this year, has overseen the release of nearly 200 albums and was cited by Harvard Business School (Brown’s alma mater) as a



Now: Compass Records founders Alison Brown (l) and Garry West at their new studio headquarters

model of entrepreneurship.

The revolutionary spirit remains, although the space itself—fittingly located just off the perimeter of Music Row—has undergone several transformations through the years. Battery Studios, a part of Zomba Music’s family that includes equipment rental company Dreamhire and other Battery recording facilities in New York, Chicago and London, set up shop in 1992. When Battery moved out in 2000, they took two modified and morphed-together vintage Neve 8068 consoles with them. Their downstairs neighbors, Dreamhire and Zomba Music Publishing, then expanded into the space: Dreamhire adding a small edit/transfer suite and Zomba acquiring more office space.

The Dreamhire/Zomba contingent moved out in October 2003, leaving the building vacant. Meanwhile, Compass Records was “busting out of the seams” of its pink bungalow near Vanderbilt University, and Brown and West began searching for a building with more warehouse space for their growing catalog and room for an in-house studio.

Compass Records moved into the space in May 2004, using the downstairs level as label headquarters and—with the help of Brown’s front-of-house engineer, Erick Jaskowiak—turned the former Battery Studios facility into Compass Sound Studios. The second-floor space didn’t require much renovation in terms of acoustics; only a few cosmetic improvements were required. Jaskowiak, now Compass’ chief studio engineer and Brown’s touring engineer, put together the equipment package.

“The panels for the mic lines were in the wall; the cables under the control room were just snipped off,” says Jaskowiak of his blank canvas. “We were able to use them, but we brought everything else in. It was one of those dream situations: I could put in what I wanted and lay it out in a way that made sense to me.”

cakewalk

SONAR4

“ You can't over estimate the kind of control you get and time saving aspects that these new improvements provide. SONAR is the only program of its kind that does everything that I need to do...and it does it well. ”



Timothy Michael Wynn Composer for Film, TV, Commercials:
Alien Ant Farm, Marvel's Punisher videogame, Nike, Gatorade, Nissan, Dell

workflow
innovations



As DAW technologies have evolved to the point where virtually everything is possible, it's no longer a matter of whether your DAW has a particular feature or not—it's how well that feature is implemented. That's why with SONAR 4 we took a fresh look at all areas of the program to carefully add new features like comping and editing tools, and refine existing features like loop construction. The result: SONAR 4 feels great to use, working with your creativity, rather than against it. SONAR 4 keeps you inspired, and your projects speed to completion faster than ever before.

Learn more about SONAR 4's workflow innovations at www.sonar4.com/workflow

APOGEE USERS

Chuck Ainlay



“When I replaced my old converters with the Apogee AD-16X & DA-16X I noticed an improvement in the overall tightness of the sound. While blind testing at British Grove Studios, in London, both Mark Knopfler and I and everyone else present chose the 16Xs over 1” analog at 15ips, 1/2” analog at 30ips and a hot-rodded DSD rig. The sonic quality and flexibility of the AD-16X & DA-16X are amazing”

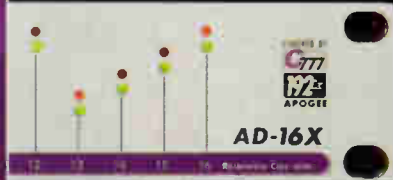
Producer/Mixer/Engineer

Recent Projects: “Shangri-La” - Mark Knopfler,
“My Honky Tonk History” - Travis Tritt,
“Between Here and Gone” - Mary Chapin Carpenter

Hear the quality of the 16Xs...

on the new Mark Knopfler, Emmylou Harris duets album available later this fall.

AD-16X



DA-16X



read more at:
www.apogeedigital.com



STUDIO SPOTLIGHT

His choices include a Pro Tools|HD2 workstation with a Control|24 console housed in an Argosy desk. Outboard gear comprises a Tube-Tech CL1B compressor, Millennia EQs, and API, Millennia and Valve Audio pre's, among others, which work with a closet of Neumann, Sennheiser, AKG, Earthworks, Shure and Audio-Technica mics.

The studio area, with its Formula Sound Cue-8 headphone system, houses a spacious

space that you make music in is a real gift. Almost every record I've made has been in a rental studio, and you can really feel more comfortable when it's your own.”

Having their own studio has also allowed Compass to take on projects they may not have had the means to do before. For example, the label donated its studio and services to *Hands Across the Water*; a compilation that joins Celtic artists (Altan, Solas, Lúnasa and Maura O'Connell)



PHOTO: MICHAEL MINARDI

Then: Hillbilly Central PR gal Hazel Smith (l), who reportedly coined the term “outlaws,” with Tompall Glaser

drum/tracking room, a piano booth with a Yamaha C7 grand piano and four smaller iso booths. “The tracking room, control room, piano booth and two small isos all have windows to the outside, which adds to the feel of the place but doesn't create any sonic problems,” says West. “We have two live echo chambers and lots of additional warehouse space in the basement.”

Three months after moving in, Jaskowiak recorded his first Compass album in the new studio: Brown's newly released *Stolen Moments*. The Indigo Girls drove in from Atlanta to sing on a rendition of “Homeward Bound,” while fiddle player Stuart Duncan, pianist John R. Burr, guitarist John Doyle and drummer Kenny Malone—a regular at the studio since the Glaser Brothers days—filled the remaining live room space.

“Having the freedom to work in your own studio is much more liberating than I ever thought it would be,” says Brown. “Not to feel like you have to get another track done because that's what you budgeted for—all that pressure, it's wonderful not to have that. To be able to personalize the

with Americana, country and bluegrass performers, such as Jim Lauderdale, Rodney Crowell, Vince Gill, Tim O'Brien and Brian Sutton, among others. Compass will sell and distribute the CD, and proceeds will be donated to Save the Children, an organization formed to help rebuild lives of children affected by the tsunami disaster.

While Compass Sound Studio mainly serves as a recording home for their growing artist roster—they recently wrapped up new albums with Irish legend Paul Brady and former Solas guitarist John Doyle—West and Brown say they're open to outside clients. “We didn't build it as a rental studio, but that said, if the dates are available and especially if it's people we know or Erick knows, we would like to make the room available,” says Brown. “We like to think that we could be a go-to point for people making good-sounding acoustic music. The room is great for that, and I hope that some of the people that I love and admire will find their way to the studio.”

Heather Johnson is a Mix assistant editor.

"It's the first thing I plug in now.
I love it. It just sounds great."

Garrett Lee a.k.a Jackknife Lee - Artist/Producer - U2,
Snow Patrol, Eminem and others too many to mention.

"Focusrite have made it possible for me
to enjoy sounds I thought you could
only buy at auction in Southbeys."

Guy Sigsworth - Britney Spears, Bjork, Madonna, Julio Iglesias
and many more

"A creative palette; bold strokes,
vivid colours, pure... filth!"

Cenzo Townsend - Graham Coxon, New Order,
Ordinary Boys, Kaiser Chiefs, Beastie Boys

"Great idea, sounds fantastic
and you can link several
together for 7.1 - Perfect"
Simon Osborne - Sting

"What a great product!
Not just a great sound,
but great value too."

Dave Hamill - Middle Earth, among others

believe

"For someone who uses all
the vintage units ... it's quite
simply fantastic."

Spice Stent - world-famous Mix engineer

"you don't have to re-patch
a single cable to try
unlimited combinations."

Robb Dixon - Radio 1's Mike Flores

"I'm stunned how authentic the box
sounds compared to the original devices"

Nigel Price - Producer/Engineer for Pink Floyd,
Steve Winwood, Frank Sinatra and many others

"the results are sonically brilliant &
it's a handy time saver"

Clive Liversidge - Producer, the House of Commons, BBC
and many others, Vincent Clarke, Colin Thelwell, Steve Hone

David Munn - 2004 Grammy



Any mic pre and
compressor in history

THE LIQUID CHANNEL

The ultimate
analogue-digital hybrid



Focusrite



FOR A DEMONSTRATION, CALL TOLL-FREE 1-866-FOCUSRITE OR FOR FURTHER INFORMATION, SIMPLY VISIT www.ffliquid.com

***DISCLAIMER:** FOCUSRITE, the FF Logo, LIQUID CHANNEL, LIQUID TECHNOLOGY, LIQUIDCONTROL, EVERYONE NEEDS LIQUID, and the LIQUID CHANNEL Logo are trademarks of Focusrite Audio Engineering Ltd. DYNAMIC CONVOLUTION is a trademark of Sintefex. All other product names, trademarks, and trade names are the properties of their respective owners, which are in no way associated or affiliated with Focusrite or its LIQUID CHANNEL product and which have not endorsed Focusrite's LIQUID CHANNEL product. These other product names, trademarks, and trade names owned by other companies are used solely to identify the third party products whose sonic behavior was studied for the LIQUID CHANNEL product. The Liquid Channel product was developed using the patented process of Dynamic Convolution, which uses actual measured examples of the sonic impact of original units upon an audio stream to approximate the performance of the original product studied. The result of this process is subjective and may not be perceived by a user as producing the same effect as the original products studied.

World Radio History

All You Need Is In-Ears

Marty Garcia and the Evolution of Personal Monitoring

A quarter-century ago, Marty Garcia had a vision of a different way of stage monitoring, where artists would wear earpieces carrying a personal monitor mix, thus eliminating the need for onstage wedges and sidefill speakers. After a few years of experimenting with pioneers such as Todd Rundgren, Garcia founded Future Sonics to refine and develop his designs for Ear Monitors® and Ears™-brand earphone monitors. But because live sound is a conservative industry, Garcia's in-ear monitoring concepts gradually took hold, becoming more of an evolution than a revolution.

Garcia is passionate about his audio business and not content to spend all of his time bound to a desk. Recently, he came off a road trip with the U2 Vertigo tour, where he's been working on some new earpiece concepts with The Edge and his audio guy, Niall Slevin. However, we were able to catch up with Garcia during a few rare moments of rest to talk about the evolution of personal monitoring and Future Sonics' 20-year history.

How did you get started in audio?

I was working as a land surveyor, and this company sent me to work on the layouts of the Hilton Head golf courses. One guy I worked with was a singer/songwriter. When we got back to Philadelphia, he asked me to help with his band at local clubs where they were opening up for acts like Bruce Springsteen and Jackson Browne back in the early '70s.

What were your duties?

At first, it all came down to the fact that I had the van. I had extension cords so I was running AC lines, and later helping with lights and sound and collecting their money, too. A few years later, I was introduced to Todd Rundgren, so I blame him for getting me serious about the business. At the time, I saw personal monitors as a tool that allowed performers to perform in poor acoustical venues. Now it's been 20 years since we did the last Utopia tour, and Todd's been off and on in-ears since the early '80s.

By 1985, The Tubes and Todd and Utopia were going to tour together. One of the requirements was that we wanted really quick set changes, where we'd segue right from Todd's set into The Tubes' set in minutes without an intermission, and the best way to do that is to not have any gear onstage. Todd was on Ears already, got the rest of his band on Ears and I figured we would supplement the mix with sidefills. The earpieces turned out so well that we didn't have to use any fills. In rehearsals, Chris Anderson [Rundgren's house engineer] said we should find a way to get Todd on a mic that didn't require a headset or mic stand because he doesn't like headset mics. So we took a tiny gooseneck book light, gutted it and put a tiny Countryman IsoMax on it and attached it to Todd's lapel.



Then we took a small bud box the size of a couple of 9-volt batteries, put a special belt clip on the back with a Lemo multipin connector wired to Mogami cable and added a stereo earphone jack with a volume control, a guitar/keyboard input and a vocal mic input. It wasn't wireless, but it kept the stage clean with only the "motorcycle" drum kit [Willie Wilcox's custom "ddrums" electronic kit that was designed to look like a motorcycle] and three other musicians onstage tethered by their 80-foot Mogami cables. It was a very successful tour, and that's how the Ear Monitors brand started.

These obviously weren't custom transducers on that first tour.

No, they were Sony earbuds. I cut a deal back then to buy some 20,000 transducers from Sony.

You must have had high expectations for sales.

Not exactly. There was a lot of planned obsolescence back then. These were over-the-counter earbuds, which you still see a lot of people using today, but the best-sounding transducers made were back in the 1980s. I had bought tens of thousands of these, and tested and matched them, just to get a few thousand good ones. With a lot of the consumer earbuds—the ones that look like silver/black M&Ms and slip loosely in the ear—no one's sure how good they sound if they're matched left/right. They aren't sealed and sit in everyone's ear differently. It was a real dilemma for

Break Free

Now you have a choice

SYSTEM 5 MC DIGITAL Integrated DAW Controller

Simultaneous Control of:

Nuendo
Pyramix
Pro Tools
Logic Pro
Digital Performer
Fairlight
Final Cut Pro

Control Multiple Applications
Control Multiple Workstations
System 5 Channel Strips
MC Intelligent Application Controller
Open Architecture
Record - Edit - Mix
Audio Post - Music - Video - Mastering
Affordable



EuCon
connected

euphonix.com

Euphonix
digital emotion

©2005 Euphonix, Inc. All rights reserved • 220 Portage Avenue • Palo Alto • CA 94306 • Phone: (650) 855-0400 • Fax: (650) 855-0410

System 5-MC, MC, System 5, and EuCon are trademarks of Euphonix, Inc. Other products mentioned are the trademarks of their respective manufacturers.

World Radio History

us back then and was very time-consuming. I didn't have many clients at the time, but I had to go through dozens and dozens of raw transducers to get a pair that were right.

Is that when you got into molded designs?

Our first attempt used a special denture adhesive gel to make our first ear molds. We put the earbud in the ear and then put the denture adhesive around it to seal it.

So it was an outside ear—rather than ear canal—seal?

Right. It would cure and harden up, and we could create an ear mold from that. At this point, we realized that we could get good audio if we had the right seal. This was around 1982, '83. I later experimented with some hearing aid manufacturers and made my first "shells"—hearing aid-looking earpieces—in 1984.

How did your sound company come about?

In the mid-'70s, I went to Bearsville Studios in Woodstock, New York, to record with my local band from Philly. Things didn't pan out, and I stayed after they left, working with other bands like Orleans, landing a gig as a drum tech for the band's two drummers, Ricky Marotta and Wells Kelly. Working with a lot of bands as a drum/guitar/keyboard tech, I got a good handle on the big picture of audio. I became a sort of production manager person, but I was very fussy about audio. If I weren't doing the sound, I was busting the people who were to get it right.

I filled in for a friend as a stage carpenter on Hall & Oates' 1978 *Along the Red Ledge* tour. During that time, I was thinking about building improved P.A. systems and started doing designs on paper napkins and such. In 1979, I started a sound company called Crystal Sound in Philadelphia. I had built a four-way, non-ported-horn house system with custom wedges that you could manually time-align using a stovepipe-style mechanism. The horn slid in back and forth and could be locked down with a wing nut, so I could adjust the driver alignment to make it sound right for the player's needs.

One of the first things I learned was to work directly with the musicians onstage. I employed monitor engineers—not house engineers—because if I could make the monitors and the stage sound good, then the job would be much easier on the house engineer. I recommended that bands bring their own house mixer. As a production company, I didn't want to lose a gig because the manager or artist's spouse didn't like the house mix.

We had a number of European clients—such as Renaissance—and in the States, we did a lot of fill-in work for Clair Bros. and Maryland Sound. Our company grew and



Todd Rundgren in the early 1980s, wearing custom Marty Garcia-designed products: Ear Monitors, combo belt pack and lapel-mount vocal microphone

developed because of the association with Clair and Maryland.

We also built our own consoles, with both house and monitor boards built by Louis Stephenson of Interface Electronics. We showed this 40x16x2 console with 4-band full parameters on every channel to the Todd Rundgren camp and ended up doing their sound for five years. Curiously, that board still exists. It's at Brookdale College in New Jersey.

How did Future Sonics begin?

In 1985, Crystal Sound merged with Taylor Sound and it became Crystal-Taylor Systems. Carl Taylor and I became partners, and we maxed ourselves out and I departed in 1990. We weren't sure who'd buy who out, but I wanted to develop Ear Monitors and the personal monitoring category, and I took my trademarks and everything that had to do with Ears and Carl bought me out, which helped me start Future Sonics in 1991.

By 1992, I already had quite a few artists out touring with Ears, from Reba [McEntire] to Kathy Mattea to Phil Collins to Gloria Estefan. I was pretty much in full swing with those groups when I started Future Sonics. Steve Miller was an important resource for R&D: He was really into the Ears for both audio and eliminating clutter onstage.

Were some of these early adoptees 100 percent on personal monitors or did they require wedges as a safety net?

At that time, the principal singers—like Gloria Estefan, Kathy Mattea and Phil Collins—were on Ears all the time. Reba McEntire and Steve Miller had their whole bands on Ears. In

1992, I started working with U2, but it was just Bono [on Ears]. But when they did their acoustic set on the 1992 tour that was in the center of the audience, that's when they discovered that the in-ears could work.

In 1992, things really came together. I got my Ear Monitor trademark. That was also the time that I started working with the Grateful Dead, who went full-tilt into the Ears. I had consulted with them for about a year, starting with Phil Lesh, who helped me talk the band into them. Steve Miller was already using Ear Monitors, and his band and The Dead co-headlined a stadium tour that was not only completely wedgeless, but also had no backline speakers onstage. We later received a TEC Award for Ear Monitors during the fall AES. It was a very prolific year.

I was just having fun doing this thing. There was no press, no ads, no marketing—it was all word-of-mouth via the artists. But much of the pro audio industry was against us in the early '90s. It was too dangerous of an area to be dealing with, and there were questions like, "What are you going to do to these artists if you blow up their ears?" It was a valid point, but I knew the capabilities of this stuff and I couldn't convince anyone other than meeting with my own clients one at a time.

Well, the idea of feedback at ground zero inside your head can be pretty scary.

True, but we had eliminated the worst potential source of feedback. First, you can't make a singer's vocal mic feedback even by putting the microphone right up to the earpiece, because there's not enough level to generate that. However, that singer could walk in front of a P.A. cabinet and create feedback or walk past a wedge and cause feedback in that person's wedge.

With Ear Monitors, feedback became an audible sound—like, "I can hear some feedback"—rather than a dagger. There can be feedback, but it's never the same as a 2-inch [compression] driver ripping your head off when you're a couple feet in front of a wedge or sidefill. But to me, having personal monitoring is more of an issue of saving vocal cords: preventing somebody from blowing their voice out.

You mean people having to scream because they can't bear themselves?

It's all about competitiveness. The guitar player turns up because the bass player plays louder, and then the drummer hits harder because the acoustics are bad and the bandmembers can't hear themselves. Then the guitar player turns it up more, but vocalists can only get the wedges or sidefills so loud because of feedback, and they start screaming into the mic. So personal monitors

PM1D

VERSION 2

DIGITAL AUDIO MIXING SYSTEM

WORK IN PROGRESS

PM1D has become the industry standard digital mixer because of the exceptional sound quality, reliability, training and technical support. But Yamaha never stops raising the bar. Constant communication with our customers provides us the feedback to develop the features they need to get the best mix every time.

Now with the new PM1DV2 software we offer the most significant upgrade ever for PM1D.

THE BEST GETS EVEN BETTER!
YAMAHA PM1D



Yamaha Corporation of America
P.O. Box 6600, Buena Park, CA 90622-6600
For additional information, please call (714) 522-9000 • www.yamaha.com

©2005 Yamaha Corporation of America

 **YAMAHA**

commercial audio

became a vocal cords issue. Gloria and Reba and Phil Collins all had vocal cord issues, where they had to cancel shows to rest their voices. Phil once canceled an entire tour due to vocal cord strains. But when he switched to in-ears, that issue went away and he was able to get back on the road.

When did you first get started using audiologists to do impressions for artists' ear molds?

It was back in 1984, with Todd Rundgren. We had been doing impressions on our own and were always careful, but as time went on, liability became an issue, especially to a small startup company. In fact, one of the reasons I didn't start Future Sonics earlier was because I couldn't get an insurance policy. Insuring someone's ears can be very expensive.

Aren't you glad you didn't get into the wireless hardware business?

Actually, I did. In the early '90s, I put a lot of money—hundreds of thousands of dollars—developing the Future Sonics Wave 700 radio. We still had a bug in our receiver and that was the time that Shure came out with their system. Sennheiser was coming out with theirs, and I decided that since these companies were the experts, I'd focus on what we were good at: making transducers for Ear Monitors.

When other companies started making multiple-driver, hearing aid-style armature earpieces, I pulled away from armatures and focused on dynamic miniature transducer technology. When two-way and three-way systems came to market, that terminology created a lot of interest from users who felt that a multi-way approach must be better. I felt it was better to make a one-way transducer right and avoid all the electronic and comb filtering artifacts that come from multiple drivers. Multiple-driver technology may seem well and good, but the bottom line is when you make A/B comparisons, you'll hear the difference in dynamics. Also, many people tend to mix with their eyes. We have always taken the philosophy of mixing and listening with your ears. We'll never claim to have the highest highs in our earpieces; however, those are the easiest for the end-user to adjust with a little equalization. The hardest thing to create in an earpiece is low, dynamic frequencies that don't distort, which is what we focused on.

When you first use personal monitoring, it takes about 10 minutes for the brain to decide whether it likes the experience or not. And for a couple-hour show, the brain seems to enjoy a fuller, rich, dynamic sound. We wanted our earpieces to sound like real speakers so people could tweak an in-ear mix and it would relate to listen-



Garcia doing P.A. setup at West Chester University (Pennsylvania) in 1979

ing on real loudspeakers.

Doesn't part of that have to do with power handling?

It does. The transducer has to be right, too. It's amazing how little power an earpiece requires to sound good. However, in 1992, the Grateful Dead's Don Pearson [who co-founded Ultra Sound and worked with the Dead] proved to me that the bigger and better the Class-A amplifier was, the better the sound. We would take a Crown D-75—a good-sounding amp for the time—and current-limit its 75-watt output down to a couple watts. We could hear all the transients, and the Ear Monitors had an unbelievable sound. At the time, people thought that it was earpieces that caused the problem, but it was actually having enough power to drive the clean transients. And these sounded good enough to use in the studio. One of U2's studio engineers told me that on their last album, they used the Ear Monitors brand exclusively for tracking.

Are you still surprised you have to convince people about personal monitoring?

It's still an issue. The biggest problem with veteran musicians is convincing them that it can work at all. And some of them want to use in-ears because they can't hear as well as they used to or are tired of not hearing properly onstage. With personal monitors, as long as you have all the information, the mix can be whatever you want. If it sounds too closed in, just bring in some effects or a couple audience mics to open up the sound. The biggest problem is a lack of inputs and outputs from the console. It's amazing that a product this tiny can create that large a sound—and these musicians know it's happening for other artists. But if they try it for the first time and don't get a good mix, then they think it's not for them.

But after a good demonstration of the system's capabilities, they see that perhaps

they could stretch their voice and get two shows into a night and make more money. That's what it's about for artists who can do five shows in a week instead of three and pay the same overhead. And once people have seen in-ears used properly, they would never consider bringing wedges as backups.

That's a lot easier on the freight bill.

It's a huge, huge savings in freight and time.

What's next in personal monitoring?

We're continuing to develop transducer technology. In pro audio, I don't see anything growing vastly in personal monitoring. We've been getting into the consumer/iPod market—Steve Wozniak has been one of our biggest fans in this area and loves his EM3s.

I liked the comment when you reviewed them in *Mix* ["Auditions," January 2002] and said, "A little 1.5dB boost around 10 kHz added a natural airy feel." Bass response is lacking in most aftermarket earphones, and that's where the iPods and MP3 players need it most. It was because of Wozniak that we got into the Apple door and understood more about the consumer business. We're starting to venture into the consumer field and have inked a deal with XtremeMac, a company that markets and distributes accessories for the iPod. We are to provide a co-branded earphone labeled XtremeMac, powered by Future Sonics.

So when you make your first bazillion in consumer products, will you remember your friends in pro?

Pro audio—especially in the earlier days—was never about making a bazillion dollars. It's a passion. It's about the Todd Rundgrens and Steve Millers and Grateful Deads and U2s who give us feedback on how to make products better. In the long run, that's why we're here. ■

George Petersen is *Mix's* editorial director.

Wide Dispersion



WideLine

"It gave us everything we needed in terms of performance, and because of its wide dispersion virtually every seat in the house feels like it's directly in front of the stage."

Greg Marchant, Big Easy Manager

- > Ultra-wide 140° dispersion – cover more area with less PA
- > Bass response down to 52 Hz without subs
- > Lightweight "Composilite" – 70 lbs. including rigging
- > Compact size – 10.75H x 27.5W x 20.25D
- > Fully weatherized for outdoor use



QSC™

HEAR THE POWER OF TECHNOLOGY

www.qscaudio.com • 800-854-4079

"QSC" and the QSC logo are registered with the U.S. Patent and Trademark Office. QSC Audio Products, Inc. 1675 RivaArthur Blvd., Costa Mesa, CA 92626 USA

World Radio History

Scott Sanders' Ear Candy Studios

Film, Music Get Sweetened at L.A.-Based Workshop

Sound design engineer Scott Sanders built his career in the film and music industry with as much artistry and care as the sound files he's developed for many high-profile projects. The multifaceted Sanders has recently contributed to movies such as *Ladder 49* and *Ray*, and has several upcoming projects, including *Dark Water* and Rob Zombie's *The Devil's Rejects* (both due out this year). Sanders' credits also include work with Sundance Film Festival entry *Happy Endings* (2005) and producing and engineering for bands such as Night Shift Records' Big Japan (a rock quartet that includes actors Adam Brody from *The O.C.* and Brett Harrison). These projects and many others were done in an adapted garage in Valley Glen, Calif., dubbed Ear Candy Studios.

Sanders got his start when Cherokee Recording Studios hired him to work as a runner for the night shift in 1988. "Somewhere between midnight and eight in the morning," Sanders says, "the sessions would wrap up. I'd go in and clean the studios, and the engineers would be in there finishing up. These were all world-class, top-notch engineers. I'd sit there and they'd show off what they'd done that day—the technique that they had learned or used. I can't tell you how much I learned from those shifts."

Cherokee eventually picked him up as an assistant engineer; later, he moved on to work at many other facilities, including Devonshire Studios and Soundelux. Sanders confides, "I feel very fortunate to have had the opportunity to spend so much time in studios before the workstations and virtual studio took over. I got the chance to really learn the nuts and bolts of signal flow and gain structure—how important all of that is. I apply that every day here, even if it is a virtual studio."

Sanders' "virtual" studio—previously a haven for "big-time" gamers who floated its floors and put acoustics in place before Sanders took over the space in 2002—is a 25x30-foot room with vaulted ceilings and an up-to-date collection of gear. He runs Pro Tools|HD3 with Control|24 on a Mac G4, a Mackie 1604-VLZ Pro mixer, and Yamaha P-80 MIDI and M-Audio Keystation 49 controller keyboards. Sanders' plug-in collection includes everything from McDSP and Focusrite to Reason, Sony Oxford, Waves and Bomb Factory. Outboard gear includes dbx 160XT and 165s, as well as a Lexicon 300L, Alesis Quadraverb, MIDiverb and TC Electronic M-One XL. Shure SM57 and Beta 58, Neumann U87, AKG C-451 and Oktava MK012 mics stand by, and 5.1 monitoring is through Mackie speakers, including three HR824s (left/center/right), two HR624s (left/right surround) and an HRS120 (sub).

For his work on the Oscar-winning movie *Ray*, Sanders collaborated with sound supervisor Karen



Scott Sanders—right at home in Ear Candy Studios

Baker-Landers of Soundelux to create the sounds that accompany Ray Charles' flashbacks. Says Sanders, "[Director] Taylor Hackford wanted something sort of subjective, sort of soft that worked [to indicate] the flashbacks. I created sounds—recorded my own breath, doing various kinds of inhales and exhales, pushes and *oomps* and *abhs*—and I took that, added some sweeteners and processed it to death. Then I used EQ and reverbs to spread it out into 5.1."

Because Charles "saw" his world via sound, Sanders' designs required that he also create a series of musical tones to accompany the film's recurring images. Sanders says, "In those flashbacks, there was a theme that was always present: a tree where [people had hung] different-colored bottles. I got a bunch of bottles and I recorded myself blowing across the lip of them, creating a tone, filled with various amounts of liquid. I tried to create harmonic tones that would work together as a chord. I also got a bunch of crystal glasses and wet my finger and ran it across the edge and got a tone going and shook the glass to create some interesting vibratos. I recorded a library, then started putting them together, creating chordal tones out of them, and processed that in 5.1. That's the stuff we hear, along with the bottle clinks, when we go to those moments in the film."

Sanders' contribution to various projects, as diverse as they've been, is based on his philosophy: "Basic sound effects editing is about the choice of sounds that you use to create a sound effect. You see editors creating sound with tons of *stuff*—but it's really about choosing the right sound and having an ear for the right sound. It's like creating a score, creating sounds keying off of the emotion of a given scene or instance that [allows you] to create a certain mood." ■

Breean Lingle is a Mix assistant editor.



Aurora from Lynx. Converting the way you think about Converters.



Converting What You Want to Hear. Or Not Hear.

In designing Aurora, our goal was to design the best possible A/D and D/A converters. Price was not a consideration. The result? Ironically, Aurora 8 and Aurora 16 are professional mastering-quality converters with performance that rivals products that cost two to three times Aurora's price.

So how do Aurora converters sound? Building on breakthrough technologies developed for the award-winning AES16 and LynxTWO, Aurora ups the ante with innovative design and the latest advancements in high-end conversion and digital audio. The result is Aurora's clear, pristine audio with world-class specifications.

Aurora also features our proprietary SynchroLock™ master clock technology to provide the best possible jitter-free digital audio. And SynchroLock gives you other benefits as well...

Converting How You Want to Work

Of course you can control Aurora from its ergonomic front panel. Granted, our front panel is not as complex-looking as some converters, but we thought you'd appreciate Aurora 16's 16 channels of A/D and D/A in a single rack space. So we put the most-used controls and metering on the front panel and designed Aurora to be controlled and monitored in greater depth using the Lynx AES16 in your Windows or Macintosh computer.

This is a major advancement in converter operation. In conjunction with the AES16, you have access to all Aurora front panel controls, plus added routing, level, and monitoring capabilities. This means that Aurora does not need to be installed adjacent to your mixing station. In fact (another benefit of SynchroLock), you can install and control Aurora converters up to 500 feet away, in the rafters, by the stage, in a closet, or on the truck.

Think you have enough wires in your studio already? Go wireless. Aurora's front panel IrDA port provides control using an infrared-equipped laptop or handheld PocketPC. The MIDI ports allow equipment already in your studio to provide remote control. Need more than AES/EBU and analog ins and outs? No problem. Aurora's open architecture includes the LSlot™ bay on the back panel. You'll be able to add ADAT, Firewire, and other current and future interfaces.

Aurora 8 and Aurora 16 are now available at select pro audio shops. For more information about Aurora and a list of stocking retailers, visit the Aurora website at www.lynxaurora.com.



AURORA

Yamaha enters the installation sound reinforcement speaker business.

You know Yamaha as the world leader in audio mixing consoles, signal processing and amplifiers. Now we apply our considerable talents to introduce the Installation Series loudspeaker line for commercial audio installation SR applications.

Precision engineering, consistency and unparalleled build quality creates a family of loudspeakers designed and refined by American and Japanese engineers, using their experience and golden ears to create a sonic signature to match the manufacturing excellence you expect from Yamaha products.

Yamaha formed a new design and manufacturing team with unique backgrounds and creative synergy. The Installation Series was conceptualized by Akira Nakamura, Yamaha's legendary speaker designer with over 4 decades experience in successful product development (including the renowned NS-10M). We teamed him with Mike Adams of Audio Composite Engineering. For the past 30 years Adams has developed speakers for the installation and touring markets, including the G-5 composite system for world famous Sound Image.

Nakamura and Adams understood that natural and consistent sound characteristics were key throughout the line. A true "family sound" is the heart of every model of the Yamaha IS Series. Accurate linear phase response provides seamless interaction of each cabinet when configured in a system.

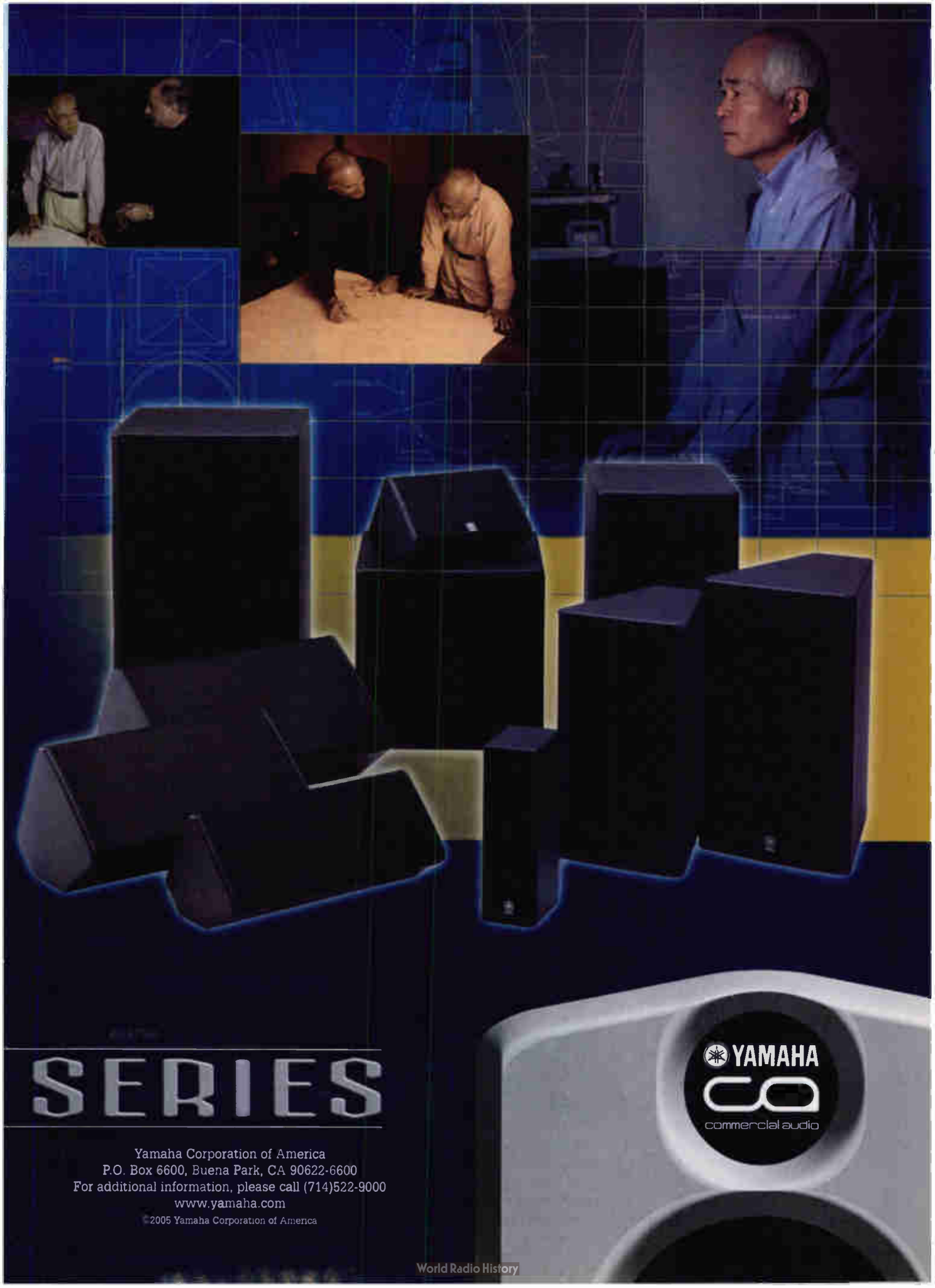
The Yamaha Installation Series is built specifically for installed SR applications. Adams and Nakamura designed a comprehensive line-up of two-way and three-way full range loudspeakers, subwoofers, stair-step, under balcony, and utility floor monitor models with passive and active crossover options. Hang-points and fly-ware are efficient, simple, and reliable.

The Installation Series is built in the USA at Yamaha's manufacturing facility in Thomaston, Georgia. Primarily a piano factory, they have applied the exacting tolerances required in building quality pianos to the new Yamaha Installation Series. They have produced the Yamaha Club Series speakers for over a decade so they know what's required for high quality speaker manufacturing.

Yamaha stands behind the IS series. Yamaha's unmatched 24/7 customer support and a 5-year manufacturer's warranty are offered on the Installation Series loudspeakers.

You need to give the Yamaha Installation Series a listen. Contact us at the number below and we'll get you in touch with a Yamaha District Manager or one of our authorized Yamaha Commercial Audio dealers for a demonstration. The IS Series is available only through Yamaha Commercial Audio dealers.

INSTALLATION



SERIES

Yamaha Corporation of America
P.O. Box 6600, Buena Park, CA 90622-6600
For additional information, please call (714)522-9000
www.yamaha.com

© 2005 Yamaha Corporation of America



Peter Murphy



Text and Photos by Steve Jennings

Former Bauhaus lead vocalist Peter Murphy is enjoying life as a solo artist, cruising through clubs promoting his latest release, *Unshattered*. Comfortable at front of house is Chris Raughley, who has mixed for Bauhaus and past Murphy outings. *Mix* caught up with the show at San Francisco's Fillmore Auditorium in late May.

Although the tour isn't carrying production, Raughley is using a number of effects units: three Yamaha SPX-990s, an Eventide H3000, two TC Electronic D2 delays, a Summit DCL-200 compressor, six dbx 160 compressors and four Drawmer DS201s. "Peter's material is all about the wall of effects and different sounds," Raughley says. "We start with 48 channels onstage—

some channels are sub-mixed to me from a Mackie digital console onstage. I typically run 32 channels at FOH, including effects. I request Midas boards."

The tour is carrying mics: Shure SM91 and Beta 52 for kick; SM57s on top and bottom snare; SM98s for toms; SM81s on cymbals; Beta 52 on bass; and Beta 58 wireless for Murphy's vocals and background vocals. "Peter's voice is very interesting and challenging to mix," Raughley says. "He has great vocal technique and uses distance and variances in how he sings into the mic to create his own sounds. Everyone but the guitar player [Mark Thwaite] uses Shure 600 in-ears. Peter is using the E-5 with the foam ear pieces. Peter is without question one of my favorite people to work for. We have mutual respect and enjoy and take pride in what we do."



FOH engineer Chris Raughley

NAB Show Stays Silent

At the recent NAB show, Yamaha, Aviom and Shure demonstrated a silent stage in which the companies' products allowed a live band to perform without onstage amplifiers or speakers. While the band was performing, front-of-house engineer John Conard (Yamaha's Southern California district manager) lowered the front-of-house mix level on a Yamaha PM5D console (with an Aviom Y1 card) until it was zero, silencing the audio heard in the hall. The only sounds remaining were the vocals and the drumsticks tapping the Yamaha electronic drum pads.



From left: Bill Bieschke, Frank Reina, Mike Overlin and Kevin MacKelvie were miked with Shure SLX mics using SM86 condenser elements and Beta 58A dynamics mics, along with PSM400 wireless monitor systems.

inside

- 72 **Live Mix News:**
Tours, Events, Installations
- 76 **All Access:** Keane
- 78 **Tour Profile:** Rebe McEntire and
Brad Paisley
- 80 **Tour Profile:** Bruce Springsteen
- 82 **Tour Profile:** Garbage
- 84 **Tour Profile:** Jonny Lang
- 86 **Venue Profile:** Commodore Ballroom
- 90 **New Sound Reinforcement Products**

News



Rat Sound Systems (Oxnard, Calif.) provided 12 QSC PL 236 amps to power Radian Micro-Wedge 12 enclosures for Bimbos 365 Club's (S.F.) recent upgrade.

The touring market's first Midas Siena has been sold to IPBAudio (Hampshire, UK) and has recently toured with Porcupine Tree and Marillion. Says company founder Ian Bond, the system "affords a huge amount of versatility. Just two days after Porcupine Tree—who use four stereo in-ears with a pair of stereo wedges and a mono drum fill—finished touring, the Siena [went] on the road with The Bays, who are mostly wedge-based." ... Broadway's *Little Women* welcomed two Lake Contour and two Lake Mesa units to the stage, which were supplied by ProMix (NYC). Sound designer Peter Hylenski notes that the orchestral speaker system was positively affected by the installation and opened the range of the MSL-2s. He adds, "We still had extreme clarity with no smearing." ... MediaMatrix recently hosted its first NION Technology & Applications seminar, featuring lectures, presentations and hands-on exercises. According to operations manager Will Roland, "There is an inherent challenge to ensure that system designers are able to get a solid base of fundamentals under their belt. Many of today's designers are not fully aware that [the NION product line] can change the entire design process."



Line Array For the Rooms You Play

Perfect for concert sound, JBL's industry leading VERTEC® line arrays can be a bit impractical for smaller rooms. Meeting the need for VERTEC quality, in a portable format that offers broad vertical coverage, JBL designed the VRX932LA Constant Curvature Line Array for sound rental companies, installers and discerning performers looking for the ultimate, flexible, no-compromise sound system. Using VERTEC's lightweight, high-power drivers and JBL's unique Constant Curvature waveguide, the VRX delivers extraordinary power and flexibility, making it the perfect line array for the rooms you actually play. For a small club, simply mount a single cabinet on a tripod. For a ballroom or small hall, fly up to six cabinets with JBL's patent pending suspension system. Regardless of the configuration, the VRX delivers cohesive, articulate, stunningly clear JBL sound. Hear the VRX at your Authorized JBL Professional Dealer or learn more at www.jblpro.com.

VRX900





On the Road

James Geddes

LeAnn Rimes is serious about sound, having invested in all of the equipment that is carried on her tours. Returning to front of house for Rimes' *This Woman* tour—which began in May and continues through September—is James Geddes, a veteran who's worked with groups ranging from Heart, Billy Idol and Boz Scaggs to Babyface and Pink Floyd. Refusing to be typecast into any genre, Geddes explains, "In the end, it's all music."

What's in Rimes' vocal chain?

She's using a prototype wireless that her longtime monitor engineer JD DuCrest has been working on with Shure. I take that feed and route it into her Avalon 747 preamp/EQ/compressor—which is very nice—and that goes in front of the EQ on her Midas XL4.

Are there any "must have" items in your rack?

At home, she has a TC Electronic M5000 reverb, Yamaha D5000 delay, some TC M2s, an Eventide DSP 4000 Harmonizer, Yamaha SPX-900, a pair of Klark Teknik DN360s, 10 Aphex Expressors and more. I have a dbx 120X boom box, and I'm partial to the Anthony DeMaria Labs stuff: compressors and DIs. But as long as I have decent gates and decent comps, I can get a sound.

What are some of your fave venues?

There are a dozen or so of those, but I do like the Bob Hope Theater in Palm Springs, California, and Chastain Park Amphitheatre in Atlanta.

What do you do when you're off the road?

My wife and I have two-and-a-half acres in Southern Oregon, and when I get home, there's usually a substantial list of things to do on the property. Right now, we're building a new house, which keeps us busy.

Now Playing

Howie Day

FOH Engineer/Console: Bryan "Froggy" Cross (also production manager)/Midas H3000
 Monitor Engineer/Console: Tim Peffer (also stage manager)/Crest LMX 56
 P.A./Amps: venue-provided
 Monitors: Sennheiser EW 300 G2, Westone in-ear pieces
 Outboard Gear: Drawmer 1968/1969 Mercenary Edition, DS201; dbx 1066; Yamaha 990; TC Electronic M1, D2; BSS 901
 Microphones: Neumann KMS 105, TLM 103; Sennheiser 604; Audix D6; Shure SM81, Beta 57A, SM57
 Additional Crew: Vance McNabb (tour manager), Herbie Jeffcoat (guitar tech)

Ben Lee

Sound Company: Wireless First (NYC), Anderson Audio (Hummelstown, Pa.)
 FOH Engineer/Console: Mat Edgecomb/Yamaha PM5D
 Monitor Engineer/Console: venue-provided
 P.A./Amps: venue-provided
 Monitors: Future Sonics Ear Monitors, Sennheiser Evolution wireless system, house wedges
 Microphones: Neumann KMS 105; Shure SM58, Beta 52, Beta 57, SM98;



PHOTO: JAKE CHESSUM



Sennheiser 906; AKG 391; Whirlwind Multi-Director, Direct Box

Cream Takes Two Midas XL4s for Recent Reunion Performances

British classic rock band Cream played four reunion shows at London's Royal Albert Hall in May 2005. The event, which brought singer guitarist Eric Clapton, bassist/singer Jack Bruce and drummer Ginger Baker together again, entailed three weeks of rehearsal time and extensive preparation. Engineer Chris "Privet" Hedge worked front of house, Chris Wibberly was in monitor world and the P.A. system was supplied by Concert Sound (Luton, UK).

Hedge and Wibberly used Midas XL4 consoles, noting, "There are about 30 inputs, which includes 14 channels of drum for Ginger, four channels of bass for Jack—who has two bass rigs a Warwick and a Gibson—and four channels of guitar for Clapton: two clean and two on his Leslie. Although the set list is the same each night, the solos, the lengths of the songs and even the basic arrangements can vary. It's all about the vibe and going with what they feel." To round out the system, Klark Teknik DN360 EQs were used and run in mono, then distributed to multiple zones in the venue.



Front-of-house engineer Chris Hedge at Royal Albert Hall, in front of the Midas XL4

US-2400

Total hands-on command of your ProTools® empire.

CO-DEVELOPED WITH
SANE WAVE

Now you can use your mouse and keyboard for what they're good at... dealing with on-screen graphical interfaces — and use the wide-body US-2400 for what it's good at — mixing and hands-on control.



LED ring encoders give you hands-on "analog" of your DAW's pan and aux sends. Special channel strip and meter modes are provided for DAWs that support these functions.

For a fraction of the cost of a ProControl® or Control |24™, you can make Pro Tools® snap to attention.

Our US-2400 features twenty-five,

Joystick for surround sound panning.



Mute, Solo and Select buttons on every channel beat the heck out of trying to mouse and click on-screen icons.



With 24 hands-on channel faders, bank switching is kept to a minimum. But for *really* big projects, the US-2400 is ready to control up to 192 channels!

100mm touch-sensitive, high-resolution motorized faders and twenty-four complete channel strips with rotary encoders plus Mute, Solo and Select buttons.

Assignable Function keys can be set to Auto-punch, Record arming, Undo, etc.

Recessed jog/shuttle wheel and solid-feeling transport controls.

The US-2400 is compatible with Digidesign® Pro Tools®, Steinberg Cubase® and Nuendo®, MOTU Digital Performer®, Emagic Logic™, and Cakewalk Sonar®.



Touch-sensitive motorized faders have 10-bit resolution — FOUR times finer than many competitors' control surfaces. You get ultra-smooth, big-console-quality fades. Hit the FLIP button and the faders can be used for writing automated pan or aux send moves while channel levels remain accessible on the LED rotary encoders.

- ▶ Footswitch jack for punch-ins
- ▶ In/Out point buttons
- ▶ Mac® OS X and Windows® XP compatible



- ▶ Adjust DAW software parameters such as 4-band EQ via the rotary encoders

For more info on the first affordable DAW controller with enough faders to handle typical recording sessions without lots of bank-switching, e-mail us for a brochure at tascamlit@teac.com or visit a TASCAM dealer.

TASCAM®



©2005 TASCAM, a division of TEAC America, Inc. All Rights Reserved. All specifications are subject to change without notice. Pro Tools and ProControl are registered trademarks of Digidesign/Avid. Control |24 is a trademark of Digidesign/Avid and some artsy designer who discovered the weird "I" mark on their keyboard. SaneWave is a trademark of some mad scientists in the basement of an old building in the Northwest logging town of Snohomish. All other trademarks are property of their respective owners.



CONTRACTOR

www.tascam.com



DJ AND PRODUCER



PERSONAL CREATIVITY

World Radio History

KEANE



In 1997, Keane (Tom Chaplin, vocals; Tim Rice-Oxley, keyboards/bass; and Richard Hughes, drums) began writing and recording original music. After several years of gigging around North London, there came one fateful day when Fierce Panda's Simon Williams took notice of them at a club date and offered to issue their first single on the spot. The rest is history. Shortly thereafter, their debut album, *Hopes and Fears*, started to take shape, and in true indie fashion, Keane immediately began playing through the UK again. *Mix* caught up with the three-piece on their current U.S. small-theater tour at Berkeley, Calif.'s Community Theatre in early May.

Photos and text by Steve Jennings



Tom Chaplin, vocals

Front-of-house engineer
Iain Slater at the *Mix* XL4

For this leg of the tour, the band is relying on gear supplied by Eighth Day Sound (Highland Heights, Ohio, using SKAN in the UK), including a dV-DOSC flown array (though it is sometimes stacked) with d&b frontfills. According to front-of-house engineer Iain Slater, the amount of boxes and configuration depends on the capacity and shape of the room in which the band plays. "It's very flexible and the boxes are small, which is nice," Slater says. "We are using Avalon VT737s on the vocals, Summit DCL 200s on the piano channels, the usual suspects on the drums, gate wise, with [dbx] 1066s chained. We use a Distressor on the bass channel, which gives a particularly smooth bass sound that is hard to describe but is very nice!"

"There is a certain amount of programming live," he continues. "Tim [Chaplin, who also plays piano on tour and played bass on the record] has it running in Logic on the Mac. We have a lovely touring party, especially Ant Carr—the best FOH system tech of all time!"



World Radio History



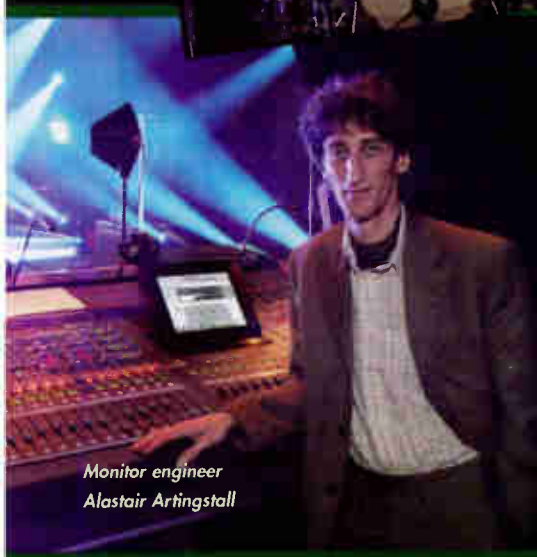
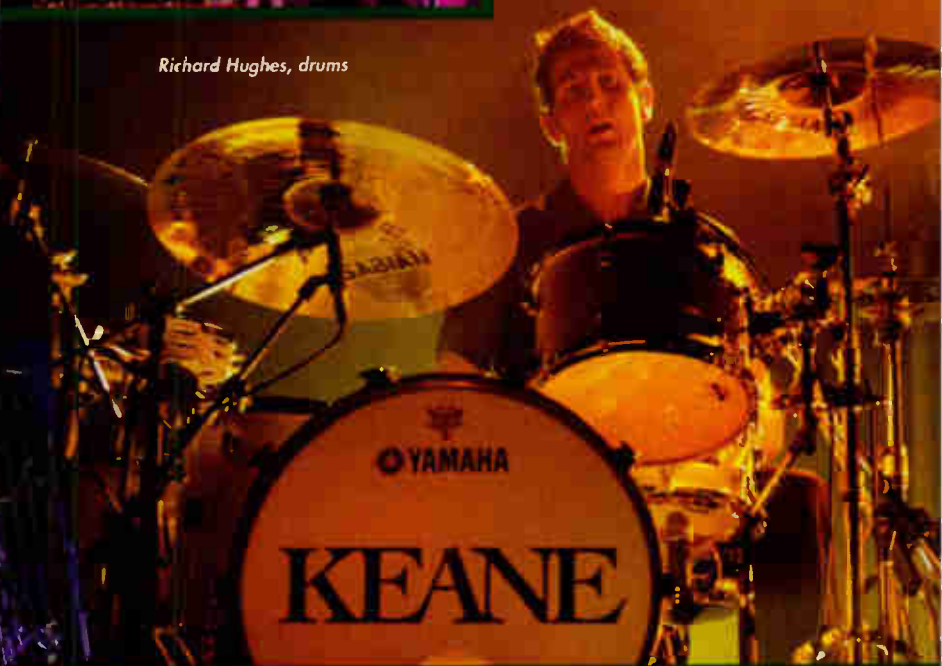
Tim Rice-Oxley,
keyboards/bass



Richard Hughes, drums

Additional Crew

- Scott Johnson, drum tech/stage manager
- Geoff Kakoschke, keyboard/computer tech
- Dermot Lynch, production manager
- Colin Davies, tour manager



Monitor engineer
Alastair Artingstall

This tour is monitor engineer Alastair Artingstall's first time out with a Yamaha PM5D console, citing the board's well-laid-out control surface and not having to use external preamps as pluses; he used a DM2000 on the last two tours. "I am definitely a convert to the digital revolution, especially in festival situations," Artingstall says. "Not having to set up a batch of in-ear mixes blind in the half-hour changeover before a festival show has removed a good deal of stress.

"I tend toward the less-is-more school of thought when it comes to gear," he continues, "though I have just used the internal gates on the PM5D to hold the rack and floor tom ring back a little, but only because I could rather than because I needed to."

Both Tom Chaplin and Rice-Oxley sing

through Sennheiser-supplied 935s. "We tried out some before last year's UK production tour, and Iain and I became instant converts." Drummer Richard Hughes' set is miked mostly with Sennheiser models—604 and 602—with a Shure 57 on snare top, Beta 57 on snare bottom, and a 91 and 421 on kick.

According to Artingstall, the band and crew are on Sennheiser G2 in-ear monitors. "The band really likes the packs and they're small enough to be nonintrusive. I like them for the easy scanning feature and reliability.

"I want to thank Eighth Day Sound for supplying the U.S. production equipment and the wonderful Ant Carr and Maria Sevilla [monitor system tech, Eighth Day Sound] for getting the system up and running every day—and for still smiling by the end of the night."

Reba McEntire and Brad Paisley

HITTING THE ROAD WITH TWO HATS AND A REDHEAD

Photos and text by Strother Bullins

Other than being classified as country music artists, Reba McEntire and Brad Paisley don't have much in common. One's a deft guitar slinger, one's an expert microphone wielder, one's a glitzy, polished Broadway-esque diva, one's an amped-up, dressed-down everyman. But in mid-April at Raleigh, N.C.'s Alltel Pavilion, one commonality was apparent: They share a ton of fans.

The audience's enthusiasm and ceaselessly swaying bodies geared up during Paisley's set and stayed put for McEntire, who closed the night with a well-choreographed production of spotless performances with the help of her backing band (Bruce Bouton, steel guitar; Spady Brannan, bass; Tommy Harden, drums; Jim Kimball, guitar/harmonica; Jerry McPherson, guitar; Jimmy Nichols, keyboards; Tammy Rogers, fiddle/mandolin; Doug Sisemore, keyboards; and Jennifer Wrinkle, guitar/fiddle).

MCENTIRELY REAL

McEntire's show may be a perfected affair, but it's 100 percent real, confirms her front-of-house engineer Ricky Moeller, who has worked with McEntire for more than 20 years. "It's all about playing the music," he says. "It's like mixing a symphony: There are a lot of



Guitar-slingin' Brad Paisley

people onstage and it must be balanced."

For Kevin Freeman, Paisley's FOH engineer of six years, his gig is defined by Paisley's onstage persona: He doesn't tame the artist and his rollicking, crowd-enthraling band, but keeps them in check. "Instead of just letting them mix, I'm driving the faders all the time," Freeman says. "They're right up front and in-your-face for a country band."

McEntire's camp selected a Clair Bros. i4 line array. "We're playing mostly sheds, and the i4 offers a lot of clarity and separation in the low-mids," Moeller explains. "It's very detailed. But until someone can design something better, my first choice will always be a PRISM system. The PRISM is a bit denser-sounding and a lot easier to set up and tear down, but it takes up sight lines."

Moeller is using a Showco Showconsole at FOH. "I've used just about every one of them that they've made," he boasts. "I like digital control but love the sound of analog. The Showconsole's EQs, mic preamps and onboard compression sound great. I also have a couple of Summit Audio DCL-200s." Moeller also considers the Clair I/O crossover



Country diva Reba McEntire

management system crucial to his work: "I'd never leave home without it," he says. "It gives you so much control that even inferior gear can be made to work optimally."

Freeman is using a 48-channel Midas Heritage 2000, which he says offers superior sound and straightforward operation. "I used a Midas XL4 in the past," he recalls. "I don't need that much console. The older I get, the more simplistic I get. That's probably why I haven't delved off into digital [consoles]. I'd much rather concentrate on what my band is doing instead of technology."

The rest of Freeman's rig is similarly simple and includes varied Drawmer and dbx dynamic processors and several effects units. "I have a TC Electronic M5000 for vocals," he explains. "There's a wealth of clean, nice reverbs on there. For drum 'verb, I use a Yamaha SPX-990 because it's a little trashier. I just use Program One—'Large Hall'—and adjust the length longer or shorter depending on the tempo of the song. It makes the snare sound incredible." But in the end, "It's not my job to make them sound good," he insists. "It's my job to keep them from sounding bad."

ONSTAGE SETUP

Monitor engineer Robert Kosloskie—who has worked with McEntire for more than 20 years—helms a Midas XL4 console to mix



McEntire's engineers: Ricky Moeller, Robert Kosloskie



Paisley's engineers: Kevin Freeman and Mark Gould

the band's Sennheiser G2 in-ear monitoring system, augmented by a few sidefills and a sub-bass cabinet for Harden and Brannan. "Generally, everyone wants a solid stereo mix," Kosloskie says. "Most have everything, with themselves on top a little bit." McEntire has a "straight-up" mix, with a slight boost for the rhythm section. "Establishing time and pitch are her main things. Sometimes in these big sheds, I have to take out little instruments for clarity." Shure U4D beltpack/handheld wireless systems are used with a SM58 capsule for McEntire's vocals. Other than drums and background vocals, fewer than average instrument mics reside onstage. "We use Shure Beta 98D S on toms, an AKG C408 on floor tom and AKG C414s on overheads," says Kosloskie. "Nearly everything else is direct. The band has many of their effects built into their rigs."

Paisley's band also relies on Shure in-ears—PSM 700 Series with Ultimate Ears UE5 custom earphones—while monitor engineer Mark Gould handles the mix via a Ramsa SX1 console. "I like the Ramsa," explains Gould. "Brad likes a lot of warm tone, and the Ramsa offers that. After I started using it, he's been very happy with his mixes." As for Paisley's mics, it's all Shure: SM58 for lead vocals, SM58 and SM86 for background vocals, and KSM27, KSM44 and SM57 on his three-guitar amp configuration. "Brad's very particular about what his guitar sounds like," Freeman says, "but we ended up finding a great mic combination."

FINAL ENCORE

So other than the packed venues and the musical variety, what's the coolest aspect of mixing country music's most prominent redhead? "Reba's challenging," Moeller replies. "She expects nothing but the best out of her audio team, and that's what we give her. We try to maintain a high standard of audio reproduction no matter what kind of environment we find ourselves in." ■

Strother Bullins is a North Carolina-based freelance writer.

BBE® MaxCom



World's First and Only!
Stereo Compressor AND
Sonic Maximizer, One Great Unit.

- On-board BBE Sonic Maximizer
- THAT Corp. state-of-the-art VCA
- Linkable for true stereo operation
- Precision LED input and gain reduction metering
- Side-Chain insert
- XLR balanced i/o

BBE

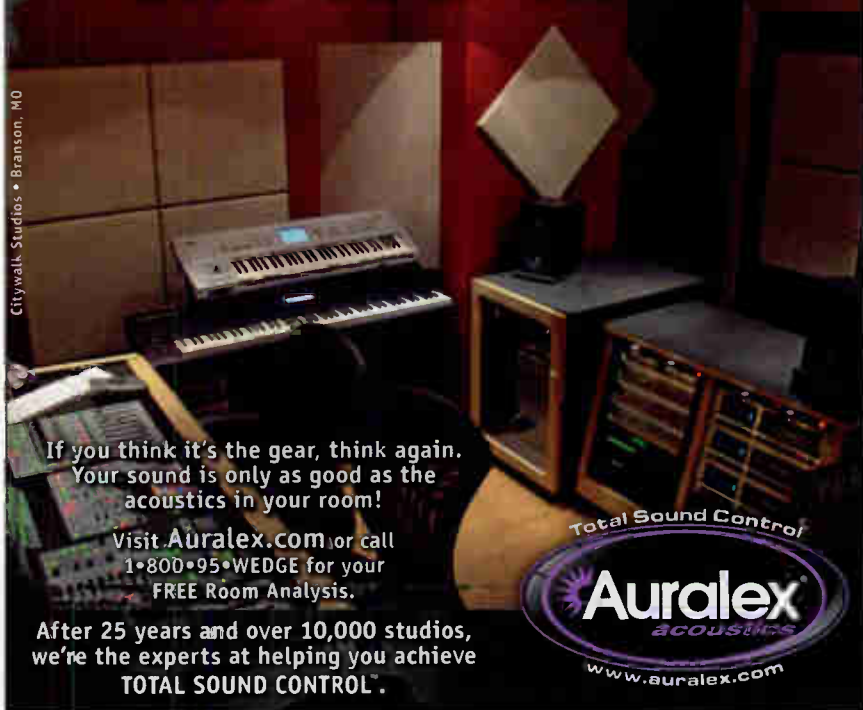
www.bbesound.com

BBE® MaxCom...Get a true 'first', see your dealer today.

Great gear and great tracks...**BUT...**
your mix doesn't sound the same in the car?

Tune Your Room!

Citywalk Studios • Branson, MO



If you think it's the gear, think again.
Your sound is only as good as the
acoustics in your room!

Visit Auralex.com or call
1-800-95-WEDGE for your
FREE Room Analysis.

After 25 years and over 10,000 studios,
we're the experts at helping you achieve
TOTAL SOUND CONTROL™.



DEVILS AND DUST

Bruce Springsteen Flies Solo

By Maureen Droney

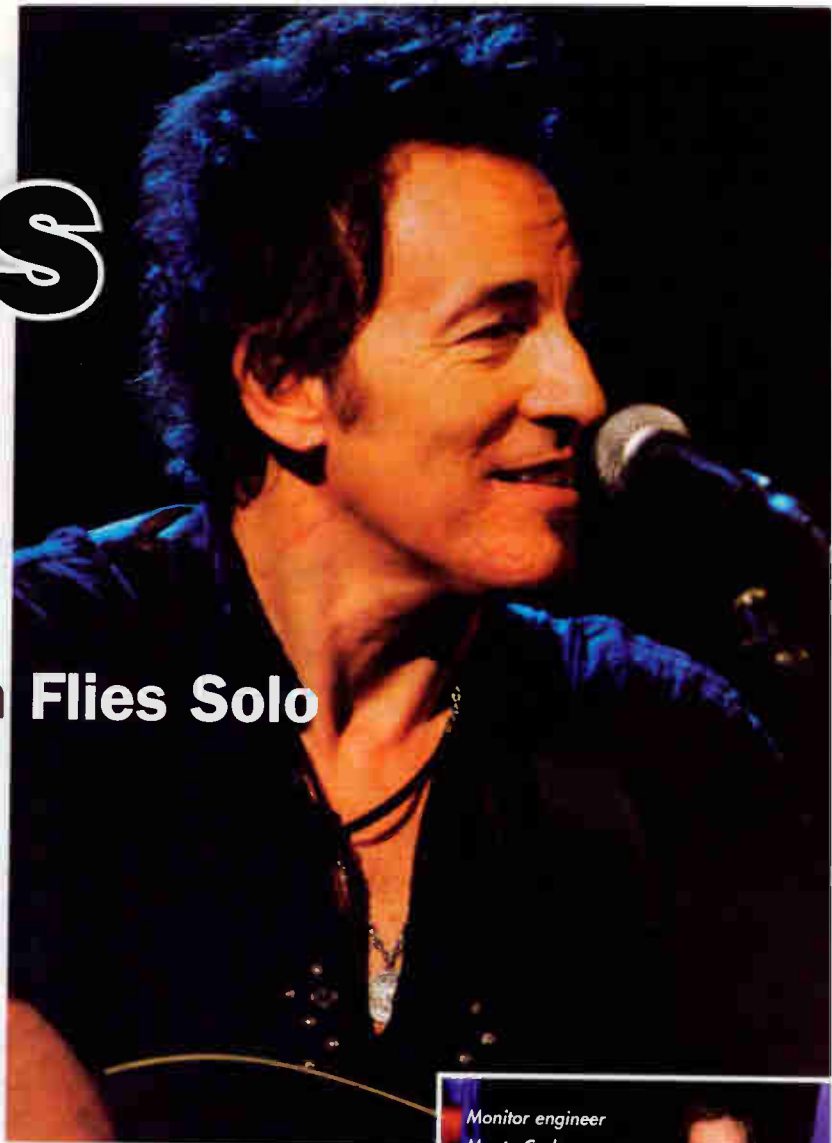
Opening his shows with an admonition to “Turn off your cell phones or I’ll have to cut a swath through the audience with a chain saw!” Bruce Springsteen set the tone for his solo acoustic-oriented Devils and Dust tour (out in support of the same-named album, Springsteen’s 19th album). “And since my sense of rhythm is tenuous at best,” he continues wryly, “please don’t clap along.”

Solo performances take a lot of courage. And when a superstar artist, best known for rocking out with a large band, takes the stage alone (especially as the last solo tour Springsteen performed was in 1996 for the *Ghost of Tom Joad*), the creative freedom is no doubt giddy and the pressure intense. In an intimate theater, with all eyes—and ears—focused on one person, small errors become glaring and bad sound intolerable.

Few performers can command an arena like Springsteen. He also, obviously, feels the need to showcase his contemplative, troubadour side, and the fans that packed the 2,500 to 7,000-seat theaters and scaled-down arenas for the tour welcomed the opportunity to hear him do so. “Play what you want!” shouted one, as the artist settled in on stage at the lavishly restored deco jewelry box that’s Hollywood’s Pantages Theater (where *Mix* caught up with The Boss and crew in early May).

Under a pair of chandeliers, with large video screens on each side of the curtained stage, Springsteen performed 26 songs for more than two-and-a-half hours, accompanying himself on harmonica, piano and a collection of acoustic guitars.

Colorado Springs’ Audio Analysts has worked Springsteen’s tours since 1992; out for Dust are front-of-house mixer John Cooper, monitor engineer Monty Carlo and P.A./stage tech T.J. Rodriguez. The tour—which despite its small size onstage comprises three trucks and a total crew, including video, of 17—uses a JBL VerTec line array system with 32 VT4889s and 16 VT4880 subs, augmented with Meyer CQ2s and M1Ds erected in varying configurations for each venue. At Pantages Theater (a classic proscenium house), the speakers were stacked on each side of the stage with Meyer enclosures covering near-field for



Monitor engineer
Monty Carlo



PHOTO: MAUREEN DRONEY

the first rows: a CQ2 at each stage corner and M1Ds along the front.

“This is the sixth show and the sixth different P.A. configuration,” comments Cooper. “All the venues are a different size and shape, with different access and [rigging] points. In Asbury Park [N.J.], we did the whole theater with [just] the Meyer speakers onstage. At the Fox [Theatre] in Detroit, we did a single column split 20 feet out on each side, flown with a couple of sub-bass cabinets at the top of each cluster, eight full-range VerTecs underneath that and a small ground stack at each corner.”

A Yamaha DM2000 serves FOH and, except for vocals, Cooper relies on onboard signal processing. No wireless mics are used onstage. [Audio Analysts created a wireless harmonica rig—added after the L.A. show—which comprises a Lectrosonics MM400B transmitter on Springsteen’s harmonica with an M150 lavalier microphone; the receiver is an R400A. The tour is carrying a dual-channel unit with an extra transmitter for backup—Eds.] Guitars take Radial Active direct boxes, and the Yamaha MIDI grand piano uses a Yamaha P-50 sound module. Springsteen sings through a Shure SM58.

Cooper uses SIA Smart Live for room acoustic analysis and tunes the sound system “with Lake I/Os with EQ for each zone

Front-of-house engineer John Cooper



and an all-zone EQ for touch-ups on-the-fly. I also use the Crown IQ, which allows me to go into every amplifier onstage and adjust things. With the computer, I have independent level control over each component in each cabinet, so I can deliver the most even sound front to back."

Cooper archives the shows to 24 tracks of iZ RADAR and uses the recordings for room tuning and tone tweaking, with the return routing from the recorder set so that the tracks come up in their respective stage channels. He also constructed a stomp board by sandwiching a Shure Beta 98 between two pieces of plywood, with anti-skid material on the bottom. Beating time with his hoot, Springsteen uses it to good effect for "Reason to Believe," for which he sings and plays harmonica through a Shure "Green Bullet" mic that feeds a Fender Tweed amp, miked with a Shure Beta 57 for a howling, 1930s/Delta Blues effect.

At the Pantages show, Springsteen began experimenting; At soundcheck, he was auditioning two pump organs. Cooper, whose console inputs are full, scrambles to switch between the two for comparison. "I've got eight more preamps coming from our shop tomorrow," he says. "We're starting to grow." Two weeks later, instrumentation had grown to include a Wurlitzer piano and a banjo, with a beat box in the works.

Much of what fills up the 24-fader DM2000 is, Cooper notes, "redundant backup stuff. I've got vocals in an outboard circuit [SM58 to Rupert Neve/Amek 9098 preamp and a Tube-Tech compressor], but I always patch to an onboard preamp so it's on a fader if I need it. The main vocal has two channels of spare; the piano vocal has one."

Audience mics are key for the recordings: two onstage, three in the audience. "I have them on digital direct outputs to the recorder," Cooper says. "The two at the stage also go to a recording matrix that feeds the backstage Beta Pro,

—CONTINUED ON PAGE 153

SONIC MAXIMIZER



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

Call 800-233-8346 x114 today for a dealer near you & get a FREE t-shirt.*

*While supplies last.



BBE
Sound Inc.

bbesound.com

5381 Production Drive • Huntington Beach, CA 92649 • 714-897-6766
Look for BBE High Definition Sound in TV and audio products from Sony, Panasonic, JVC, Aiwa, Hitachi, Pioneer, Alpine and other fine manufacturers.

 **ADAM**
PROFESSIONAL AUDIO



P-Series

P11A P22A P33A

ADAM Audio USA
(805) 413-1133

www.adam-audio.com

GARBAGE

Electro-Rock Foursome Reclaims the Stage

By Heather Johnson

During the four years between Garbage's 2001 release *Beautifulgarbage* and their new album, *Bleed Like Me*, vocalist Shirley Manson, drummer/producer Butch Vig and guitarist/keyboardists Steve Marker and Duke Erikson endured illness, surgery (Manson's vocal chords), a band breakup and marital dissolution (Manson again). But as the saying goes, "What doesn't kill us makes us stronger," and Garbage proves the point with one of the most initially successful albums of their career, supported by a European and U.S. tour recently ignited in early April at The Warfield in San Francisco.

Though recovering from a cold, the petite but fiery Manson appeared strong and ready to kick the sold-out crowd into submission as she stalked back and forth across the stage, joining her studio cohorts and touring bassist Eric Avery for a mix of old favorites and more stripped-down newer material.

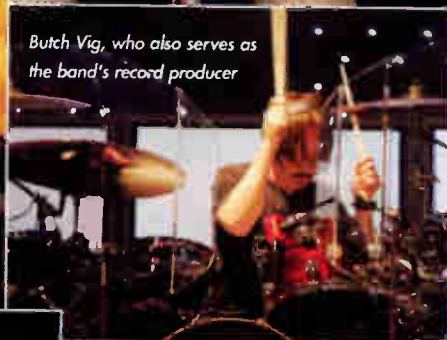
Longtime Garbage front-of-house engineer Tom Abraham resumes his post for this tour, manning a Nexo GEO T tangent array system supplied by Michigan-based Thunder Audio. For the U.S. dates, the band is carrying 24 GEO T4805 full-range modules with four T2815 downfill cabinets, powered by NX241 digital controllers, the Lake Contour Pro 26 digital loudspeaker processor, Camco Vortex Series amps and 16 Nexo Alpha S2 subs. "The Alpha subs are more like an old-fashioned pile of 18s, which work better for the kind of gigs we do where things are really tight," says Abraham. "It's a beautiful, even-sounding P.A. It's very small—the whole thing only weighs 1,500 pounds a side. And these gigs only have one sound point per side, so we can get this up in the air instead of doing some ground stack."



Front-of-house engineer Tom Abraham



Guitarist/keyboardist Steve Marker



Butch Vig, who also serves as the band's record producer



Guitarist/keyboardist Duke Erikson



Vocalist Shirley Manson sings through an Audix OM5.

Abraham mixes the band on DiGiCo's D1 digital console, while monitor engineer Clay Hutson works on a D5. Abraham notes that the D1 works well with the band's streamlined setup, which requires only 30 inputs off the stage. Aside from EQ, dynamics processing and effects provided by the DiGiCo board, Abraham's equipment roster includes a Roland SDE-330 delay, Eventide Eclipse with Version 3 software and a TC Electronic Gold Channel. "There's no sound onstage; everyone's on in-ears, so when I turn off the P.A., you don't hear anything." The band only uses three mics: an Audix OM5 for Manson's vocals and two Audio-Technica 4050s for overheads. Drum sounds for Vig's kit are loaded into a Clavia d-drum. "It makes everything that much more present," says Billy Bush, Garbage's studio engineer and guitar tech/programmer on the road. All inputs besides the mics are



Monitor engineer Clay Hutson at the DiGiCo D5

routed through Radial JDI direct boxes.

One of Bush's primary tasks was to translate their studio sound to a live setting. Guitar and bass effects are provided by two Line6 Pod Pro XTs and one Bass Pod, while keyboards are used with the Muse Research Receptor VST plug-in player. "We used a lot of soft synths and virtual synths making the record; figuring out how to re-create those was going to be a big problem because you can't bring racks and racks of stuff [on the road]." Receptor contains a library of pre-installed plug-ins and also runs software synths, guitar processors and audio effects. "We run the M-tron Mellotron soft synth and [NI] Kompakt for all of our samples," Bush says.

All bandmembers wear Sensaphonics ear molds and monitor through the Sennheiser EW 300 IEM G2 in-ear system. Hutson keeps the mixes pretty straightforward, "except for Shirley's," he says, "where there's a lot of extra processing going on. Her band mix goes through a Waves L2 limiter, which makes everything sit in the pocket all the time. The band is really dynamic, and that doesn't necessarily play well for in-ears because everybody wants to hear everything pretty linear all at the same time." Hutson also uses an L2 on Manson's vocal, along with an ATI Pro 6 mic pre. The absence of monitors means zero stage volume and no monitor volume, making Hutson's job easier and allowing Abraham to crank the volume at FOH.

Abraham notes that despite the band's stripped-down sound, "It's a strange band to mix. You couldn't just put it up like any four-piece rock band. It would sound kind of messy. You have to really know the songs."

According to Hutson, they also have to know their gear. "The tour has been based on the latest technology," he says. "They're very cool about us trying something new, and it seems to work right off the bat." ■

SONIC MAXIMIZER



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

Call 800-233-8346 x114 today for a dealer near you & get a FREE t-shirt.*

*While supplies last.



BBE
Sound Inc.

bbesound.com

5381 Production Drive • Huntington Beach, CA 92649 • 714-897-6766
Look for BBE High Definition Sound in TV and audio products from Sony, Panasonic, JVC, Alwa, Hitachi, Pioneer, Alpine and other fine manufacturers.

DRUMCORE

"Finding the right loop and getting it into Pro Tools® becomes effortless..."

Jay Baumgardner

Engineer/Producer
(Shirley and Fern, Page Booth)
www.jaybaumgardner.com

"Clearly when you call A-list drummers it makes all the difference..."

Keyboard Magazine
December 2004

"practically a non-existent learning curve...a truly all-star library"

Computer Music
November 2004



10 amazing drummers • 8 GB of loops, fills, hits and kits • loop libraries • DAW integration
MIDI drums • beat generation.

www.v.drumcore.com

DrumCore and DrumCore are trademarks of DrumCore Music, Inc. Pro Tools is a registered trademark of Autodesk, Inc. All other trademarks are the property of their respective owners.



JONNY LANG

Modern Blues Guitarist Brings Acoustic Fun Onstage

By Jeff Forlenza

Jonny Lang bends the strings of his guitar and the lighting on The Fillmore's (San Francisco) crystalline chandeliers mutes to purple. He soulfully croons in a rich, well-traveled voice that belies his 24 years of age and the audience, 1,000 strong in mid-April, swoons.

At this point, Lang is already a seasoned veteran who has toured the globe, bursting into the national spotlight as a guitar phenomenon when he hit the road at age 14. Lang's latest CD, *Long Time Coming*, shows off his songwriting and vocal chops. During the gig, he also jams on numerous stringed instruments: acoustic guitar, dobro, mandolin, electric guitar and piano.

Lang's four-piece acoustic band (Reeve Carney, guitars/vocals/piano; Stephan Hovsepian, violin/mandolin/piano/vocals; Jim Anton, bass/vocals; Luke Fisher, drums/percussion) is a stripped-down version of his electric outfit. Accordingly, Lang tours with a minimal crew: Mike Ronkainen, who has been mixing monitors for Lang since 1997, has added front-of-house duties; Greg Classen is the tour manager and lighting director; and Erik Cartwright is guitar and stage technician, who also joins the band to play slide guitar for the encore.

"It keeps me in shape," Ronkainen says, referring to his double duties. "I also set up

and tech the drum kit and bass rig." Ronkainen, who is also a drummer, spends a good deal of time tuning and miking the kit. "I have eight inputs from the drum set," he says. "I use all Shure mics: Beta 52 on kick, 57A on snare, two KSM32s for stereo overheads, Beta 98s on rack and floor toms, and I mike the hi-hat from underneath with an SM81. I also use an SM81 on bongos."

In addition to a lightweight crew, the tour is only carrying Shure mics and Countryman DI boxes. As such, Ronkainen acclimates himself to whatever gear he finds at load-in. He's pleased with the sound system at tonight's Fillmore show: a Crest Century FOH console, a Crest Century LMX monitor mixer and a full complement of flown Meyer powered line arrays and stage wedges.

Lang normally travels with Electro-Voice XW-12 wedges and Shure PSM700 in-ear monitors provided by Wood Sound of Bloomington, Minn. Because the Fillmore is a one-off fly-in date, they are using the venue's Meyer wedges. Ronkainen presets five monitor mixes to the wedges at soundcheck. During the show, a Fillmore tech will oversee the monitor mixes while Ronkainen is stationed out at the house mix position.

Ronkainen gets 23 feeds from the stage to the Crest Century. Except for drums, keyboards, bass and the variety of stringed instruments go directly to the board. There are amusing exceptions. "Jonny plays electric guitar on two songs," Ronkainen explains. "He plays through his practice amp that has a 4-inch speaker. Then I mike it with a KSM32, which is almost bigger than the amp. The first time we put it on there with a Z-Bar, it knocked that little amp over!"



PHOTO: STEVE JANNINGS

All vocals are captured with Shure Beta 58s, and everyone but the drummer sings. In fact, the musicians trade off instruments and mics all night, which keeps Ronkainen on his toes. Just when he has a level right on a mic, a different performer steps up and sings into it.

Ronkainen explains how he builds his mix for the night: "It's pretty easy since it's an all-acoustic show. Everything onstage is so quiet. I basically build the mix around Jonny's vocals and then start pulling everything back from there rather than trying to push his vocal more and get everything louder."

Ronkainen makes use of the outboard gear racked at the Fillmore: Yamaha SPX-1000 and TC Electronic D-2 on Lang's vocals; Summit Audio DCL to slightly compress the vocals and acoustic guitar; and judicious use of compression on the bass and dobro with a dbx 160X. "I keep it pretty dry," Ronkainen says. "I'm using the same plate reverbs on instruments and vocals. Since it's acoustic, you want it to be organic. I just tweak the reverb time for each room we're in."

"It's really different to be out in the audience after mixing monitors onstage for seven years," Ronkainen concludes. "When I'm doing monitors, I get so focused on breaking up the sound into individual mixes. Now that I'm mixing for the house, it's like, 'Oh, yeah, that's what goes on out here!' I see how the music affects the audience. It's been a lot of fun." ■

Jeff Forlenza is a freelance writer based in San Francisco.



Monitor engineer turned front-of-house: Mike Ronkainen at The Fillmore's Crest Century board

A Soundcraft live sound mixer for the price of an ordinary live sound mixer.

GB8
□ □ □ □ □ □ □ □



Why buy an ordinary live sound console when you could be mixing on a Soundcraft? The affordable new GB Series dual-format consoles draw on over 30 years of Soundcraft experience to deliver the sonic performance and features you need to create a memorable FOH and monitor mix.

GB4
□ □ □ □ □ □ □ □



Unlike other mixers in their class, the GB4 (4-bus) and GB8 (8-bus) consoles are built strong, with a rigid steel chassis, high quality vertically mounted fibreglass PCB channel strips and individually nitted potentiometers, ensuring reliability in both fixed installations and on the road.

So if you thought you couldn't afford a fully professional, dual-mode live sound mixer, think again - and check out the new Soundcraft GB Series.

Main picture: GB8 8-bus dual-format live sound console, available in 16, 24, 32, 40 and 48 channel frame sizes.
Pictured above: GB4 4-bus dual-format live sound console, available in 12, 16, 24, 32 and 40 channel frame sizes.

 **Soundcraft**

A Harman International Company

Soundcraft T: +44 (0)1707 665000 E: info@soundcraft.com
Soundcraft US T: 888-251-8352 E: soundcraft-USA@harman.com

www.soundcraft.com

It's a family affair

The GB Series joins the new generation of Soundcraft live sound consoles and shares technologies derived from the nightly-acclaimed MH Series dual-mode mixers.



LX7



MH3

World Radio History



MH4
□ □ □ □



The Fabulous Commodore Ballroom Turns 75

Audio Revamp Takes Centerstage

By Tim Moshansky

There's no mistaking the Commodore vibe. From the neon sign over the tiled entrance, up the winding staircase and into the second-story ballroom in Vancouver, British Columbia, you feel the presence of this classy 75-year-old lady. Art Deco elegance and classic architecture are evident everywhere you look: huge arching windows on both sides of the room, curved staircase to the mezzanine, chandeliers, luxuriant plum-colored carpeting and a majestic coffered ceiling above the massive "sprung" hardwood dance floor.

The ballroom played host to many talented big band acts

in the early days—Tommy Dorsey, Glenn Miller, Count Basie, Cab Calloway—and for nearly 40 years, it was a mainstay for a variety of performers and private events. For the past three decades, the legacy has only improved: Devo, The Ramones, Iggy Pop, Dire Straits, David Bowie, KISS, The Police, Graham Parker and The Rumour, Tom Petty and The Heartbreakers, The B-52s, Talking Heads, The Pretenders, Blondie and hundreds more. Many bands, especially the British ones, performed their first North American date here, including U2 (1981) and The Clash (1979). In 1992, the London *Sunday Times* ranked the Commodore Ballroom as Number Five on a Top 10 list of live venues in the world.

Much of the modern attraction can be attributed to Drew Burns, a young entrepreneur who, in 1968, took over the club and brought it international stature. Part of Burns' vision was to encourage and book all types of musical acts: calypso, reggae, heavy metal, jazz, folk, blues, punk, zydeco and everything in between. Burns was also very generous to local acts, fostering and cultivating Canadian bands and performers of all levels, including the Barenaked Ladies, 54-40, Colin James and Sarah McLachlan.

Then in 1996, due to an expiration of Burns' lease and some legal hassles, the Commodore shut down. For three years, the room sat silent and there was a definable hole in Vancouver's music scene. In 1999, House of Blues Concerts, along with Roger Gibson and Bryan Adams' manager, Bruce Allen, decided to reopen the room. The task before them was multifold: restore the room to its original character and completely upgrade the audio system. After eight months of renovations costing a total of \$3.5 million, the grand old



Commodore technical director Byron Lonneberg seated at the Soundcraft Series 5

PHOTO: TIM MOSHANSKY

PHOTO: NICK BERGSTEDT

“Its high-end audio quality, flexible routing and processing capabilities, advanced performance features, sophisticated editing tools, powerful search functions, and streamlined user interface make it once again the ***indisputable gold standard*** in software samplers.”

ELECTRONIC MUSICIAN, MAY 2005



GIGASTUDIO™3.0



We couldn't have said it better. For more GigaStudio information, visit www.tascamgiga.com
©2005 TASCAM, a division of TEAC America. All Rights Reserved. All specifications are subject to change without notice. GigaStudio is a trademark of TASCAM/TEAC.

World Radio History

TASCAM
www.tascamgiga.com

lady was ready to rock (and swing) again.

"The renovation that began in 1999 was extensive," recalls technical director Byron Lonneberg, who came in about a month before renovations were complete. "We basically stripped the place down to its four walls and started over again. We kept the mezzanine and the dance floor, but the tiered flooring was replaced and re-designed to improve sightlines." The stage and backstage areas were all completely rebuilt, and the P.A. was recessed into the walls beside the stage. The majestic arched windows, some of which had been covered or mirrored, were all restored. That was especially important, as the audience

knows the show is about to begin when the electronic blinds magically descend over the windows and darken the room.

From an audio perspective, Lonneberg and his team looked at two or three options in 1999 and eventually decided on an L-Acoustics V-DOSC line array system. At the time, the Commodore was the first venue in Canada to install such a system and probably one of the first half-dozen in North America. "The speakers are the same size as in any other box," Lonneberg explains, "but they are all aligned in a row. It acts as if the full-spectrum range is all coming from one point. It eliminates a lot of comb filtering, phase problems and it sounds great all over the room. It's also much easier to control: Instead of the sound coming out and bouncing everywhere, you can focus the V-DOSC so that it doesn't bounce off the ceiling as much. They actually aligned it with a laser so the top of the waveform ends at the ceiling.

"One of the biggest complaints that touring acts have is the [FOH] mix position. Here, it's on house right. Everybody wants it to be at the back of the dancefloor at the center. I'd love it to be there, too, but it doesn't work for all the events that we do. If we were a concert hall and we only did concerts, then that would be the place to have the console. But we do everything from fashion shows to cooking competitions to corporate gala dinners. Having a big footprint of sound and lights at the back of the room was not going to cut it.

"The mix position isn't ideal, but it makes the engineer get out from behind the console and walk around and listen to the sound from different parts of the room. There is always the option for acts who prefer to bring in their own console to set up at the back of the dancefloor."

The FOH console is a Soundcraft Series 5 48-channel board, which was purchased new in 1999. Lonneberg says it has been a good "workhorse" for the club, but he's hoping for a new board, possibly a Midas Heritage. The monitor mixer is a Ramsa WRS 840F 40-channel console with the Ashly Protea digital EQ recall system, allowing for

recallable settings during soundchecks. An update to this console is also in the works.

One aspect of the room that is memorable to anyone who has been to the Commodore is the sprung hardwood dancefloor. It takes a bit to get the floor moving, but with 600 people jumping up and down simultaneously, it becomes a human-powered trampoline. The whole building seems to actually move.

Another notable feature is the huge 30x40-foot stage. During renovation, the crew found *two* old stages underneath—a square one and a round, rotating bandshell-type stage, most likely originating from the '30s. The front of the stage was originally on the dancefloor. "We've recently repaired that so the stage is supported from off the dancefloor," says Lonneberg. In the past, musicians complained that they were being hit in the mouth by their microphones from the movement of the dancefloor. The new stage is now very solid, and as a result, the stage sound is a lot tighter.

"When we renovated," says Lonneberg, "we wanted to make sure it was not only a great experience for the crowd, but also a great experience for the artists." Previously, the only backstage amenities were a small green room, a couple of tiny dressing rooms behind the stage and a soda machine filled with beer. Now there's a large common room and snazzy dressing rooms with hardwood floors, TVs, refrigerators, Wi-Fi and bathrooms with heated tile floors and double-headed showers.

"We're kind of an anomaly," Lonneberg says proudly. "We're not really a bar or a club or even a theater; we're primarily a concert venue. There are not a lot of venues around that are like the Commodore. The stage is pretty big for a 1,000-person venue. That's why we can bring in bigger shows. I've seen so many bands, especially support acts, that come out here and we rush them through soundcheck and they're usually nervous. We've got great gear and great techs who can dial it up quickly for them and make it sound good right away. That always boosts their comfort level: 'Hey, I can hear myself. I haven't been able to hear myself for the last six nights.' There's a room full of people out in front of the stage and then that magical Commodore vibe kicks in, and they walk off the stage and go, 'Wow. That was amazing!' And they're just the opening act! It just gets better from there."

Tim Mosbansky is the author of A to Z Guide to Film Terms and lives in Vancouver. Visit bim at www.filmterms.com.

Additional Audio Gear



PHOTO: NICK BERGSTEIT

FOH Drive: XTA DP-226 crossover (3), BSS FCS-960 dual EQ and FCS 930 mono EQ

Signal Processing: TC Electronic M2000 and M3000 dual reverb, 2290 digital delay; Yamaha SPX-990 multi-effects; Drawmer 241 dual auto-compressors (4); dbx 904 gate modules (8) with dbx 900 rack; Denon DN-C550R dual CD recorder

FOH Amps: Crown MA 5000 VZ (12)
FOH Speakers: Eight V-DOSC three-way cabinets (2x15-inch, 4x7-inch, 2x2-inch), six V-DOSC SB-218 subs

(2x18-inch), dV-DOSC center-fill cabinet

Monitor Processing: Meyer B-2A (3), M-3 (2); dbx 904 gate (4), 903 comp modules (4) with dbx 900 rack; TC Electronic M3000 dual reverb

Monitor Amps: QSC 3500 (10), 3800

Monitor Speakers: Jason Sound J17 low-profile bi-amped wedges (9)

Drum Fill: Jason Sound J17 wedge, Kian 650 sub

Side-Fills: Meyer MSL3 (2), Kian 650 sub (2)

Direct Boxes: Klark-Teknik Active (12)



PHOTO: NICK BERGSTEIT



Revolution



DIGIDESIGN VENUE **LIVE SOUND ENVIRONMENT**

Purpose-built reliability • Studio-grade sound • Third-party plug-in effects • Stage I/O expandable to 96 inputs & outputs
Pro Tools record/playback options • Snapshot automation • Personal Q monitoring option

New Sound Reinforcement Products



AUSTRALIAN MONITOR MULTICHANNEL AMP

Unveiled at NSCA, the AMIS480P multichannel power amp from Australian Monitor (www.australianmonitor.com; dist. by Sennheiser, www.sennheiserusa.com) delivers four independent channels with 80 watts into 4 ohms or 70/100-volt lines. The two-rackspace unit has individual ground lifts, level control and signal present and clip LEDs for each channel.

GEMINI CDX-01 PRO CD PLAYER

Designed for installs, touring racks or DJs who prefer single-deck units, the CDX-01 rackmount CD player from Gemini (www.gemindj.com) features CD-R/RW compatibility, mechanical anti-shock mechanism, instant start/cue with preview, soft-touch rubber jog wheel, pitch control with pitch-bend buttons, and a bpm counter and tap button for easy beat matching. Retail: \$319.95.



CREST NEXSYS MODULE AND CMI AMPS

The Nx CobraNet-8 control module and CMI Series power amps from Crest (www.crestaudio.com) work in tandem to support Crest NexSys 4 and Peavey MediaMatrix® MWare software for advanced control and audio routing with CobraNet digital audio I/O on a Cat-5 Ethernet cable. The module, which fits into the rear bay of (4-channel) CMI 2204 and (8-channel) CMI 2208 amps, supports all NexSys functions and DSP, including delay, EQ, compression/limiting and crossover, as well as monitoring active clip limiting, instantaneous gain modulation, I/O gain (VU), DC, thermal protect, fault, mute, Ethernet data and link status. A four-character LED allows easy setup, control and monitoring of up to eight CobraNet audio channels from CMI amp's rear panel.



IVIE IE-33 RT-60 OPTION

Ivie (www.ivie.com) now offers an RT-60 option for its IE-33 PocketPC audio analysis system, which includes RTA and SPL measurement, polarity check, oscilloscope, signal generator, audio level voltmeter and other functions. The RT-60 software module is a separate purchase and requires IE-33 software Version 5.9 (or higher).



EXPLORING SOUND REINFORCEMENT DVD

Produced by Keyfax NewMedia with Yamaha, the 130-minute *Exploring Sound Reinforcement* DVD examines all aspects of buying, assembling and operating live sound systems. Starting with the basics of mics, mixers, amps, speakers and effects, the DVD explains the critical functions and options in a logical "signal flow" style and then takes the viewer through the main/monitor setup process, from

positioning and cabling to running a soundcheck. The \$49.95 program can be purchased from Yamaha dealers or direct from www.keyfax.com; it is available in English, Spanish, French, German and Japanese.



INNOVASON DIO-ES

An upgrade for InnovaSon's (www.innovason.com) Sy80 and Sy48 digital mixers, Dio™ multichannel audio interfaces simplify connecting systems with third-party-compatible products while greatly increasing the console's I/O capabilities. The first product in the range, Dio-ES can link 64 bi-directional EtherSound audio channels between two InnovaSon DSPs, letting users share audio resources between one or more consoles. This same interface can also access up to 64 channels of audio from external devices via EtherSound or connect to a second InnovaSon Stage Box, which will be available shortly after Dio ships in Q3 2005.



mile family

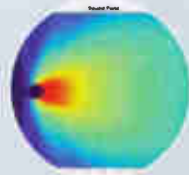
MICA



compact high-power curvilinear array loudspeaker



patented REM™ coupled to newly designed horn



100° horizontal coverage



new QuickFly® rigging with captive GuideALinks™



integrated 4 channel amplifier produces 3,020 W of total output power (6,000 W peak)

MICA

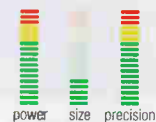
compact high-power curvilinear array loudspeaker



Features & Benefits

- very high power to size ratio
- newly designed horn, RE™ and high-frequency drivers
- self-powered
- newly designed high-power 15-mm cone drivers
- QuickFly rigging with captive GuideALinks™
- seamless integration with ILO

MICA delivers the smooth, extended high frequencies and high power-to-size ratio of ILO in a compact, road-ready package appropriate for smaller venues. We developed all-new components and smart new QuickFly rigging specifically for MICA. Add seamless integration with the ILO family of loudspeakers, and your options have grown exponentially.



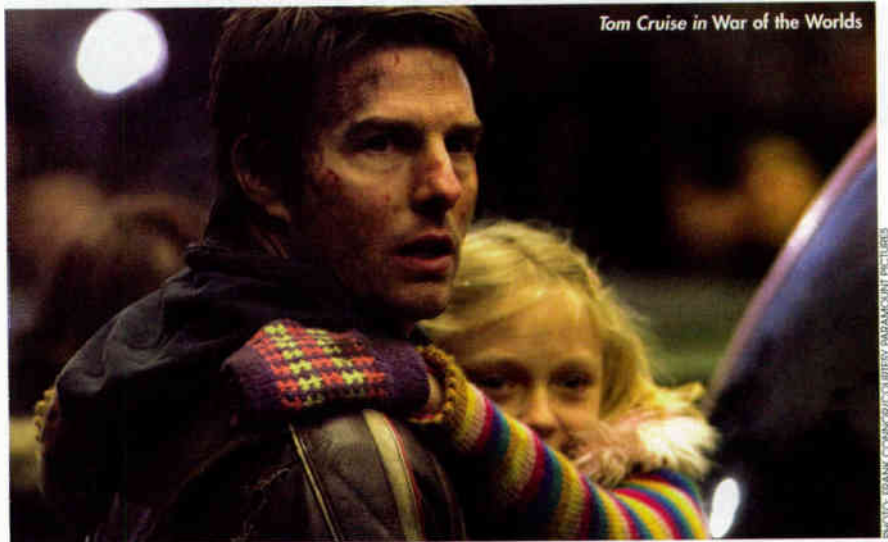
Location Sound Effects Recording for Film

Eric Potter and John Fasal Have Become Hollywood's Go-To Guys

By Blair Jackson

You can be forgiven if you don't know the names Eric Potter and John Fasal. But you've undoubtedly heard their work. They are location recording specialists, toiling behind the scenes for days, weeks or months on a film, usually gathering raw material that will become vital elements in a movie's soundtrack. They're the guys you'll find shivering in the snow on a military firing range capturing the sound of an 18th-century cannon; or placing microphones in the attic of an abandoned house and then cutting down a giant tree to fall on the roof; or setting up recording rigs perilously close to rumbling tanks and roaring jets—all in the service of making a great film.

Together, they've recorded (or, in their parlance, "shot") effects for such varied films as *Lemony Snicket's A Series of Unfortunate Events*, *Master & Commander: The Far Side of the World*, *Signs*, *Training Day*, *Unbreakable*, *The Jackal*, *Independence Day* and, most recently, Steven Spielberg's new version of H.G. Wells' *War of the Worlds*. (See sidebar.) Individually, Fasal's long credit list includes *Days of Thunder*, *The Hunt for Red October*, *Top Gun*, *The Fugitive*, *Crimson Tide*, *The Rock*, *Con Air*, *The Fifth Element*, *The Thin Red Line*,



Pearl Harbor, all three *Matrix* films, *Men in Black II* and *Road to Perdition*; Potter worked on *Speed*, *Rob Roy*, *Twister*, *Solaris*, *Ronin*, *Erin Brockovich*, *The Green Mile*, *Men in Black*, *Ocean's Eleven*, *The Time Machine*, *Spider-Man* and *The Manchurian Candidate*, among others.

"They're absolutely the best at what they do," comments supervising sound editor Richard King, who has hired the duo to work on numerous films, including *War of the Worlds*, *Lemony Snicket* and

Master & Commander (which earned King an Oscar). "They're both really technically savvy and informed and also creative and clever about getting the sounds that are described to them. Both together and independently, they can always figure out how to accomplish it."

A lot of other sound supervisors evidently agree—Potter and Fasal are not lacking in projects, to say the least. Because of the nature of their job, the duo's work schedule can be somewhat amorphous, depending on the requirements of a given film. Sometimes, they're called upon to record just a few select effects that are fairly easy to coordinate; other times, there are unending and time-consuming logistical hurdles to overcome, involving civic or military officials, producers, directors, camera operators—almost *anyone* can be an impediment (and, conversely, an aide) to their unique needs.

Not surprisingly, both cite the incredible variety of recording situations they face month after month as one of the most satisfying aspects of their work. The sonic universe of *Master & Commander* couldn't be more different than *War of the Worlds* or *Lemony Snicket*. "Every film has its new challenges and new terminology," Fasal says. "We learn about jets, tanks, ships, cars... we've spent days in shipyards recording sounds and also been on all sorts of firing

—CONTINUED ON PAGE 94



Eric Potter with his highly portable location recording rig



John Fasal emerges from a tank during an effects shoot for *War of the Worlds*

Fantastic Score

Orchestra-Heavy Recordings Bring Life to Superhero Sound

By Matt Hurwitz

"I can play the trumpet, you know," says the Human Torch. Actor Chris Evans, who plays the fiery member of Marvel's *Fantastic Four* (20th Century-Fox), has dropped into Fox's Newman Scoring Stage from a nearby looping session to hear John Ottman's score recording. But the real action is out on the stage, where the orchestra is in its last of five days of recording.

Ottman is finishing his second Marvel film (the first being *X2: X-Men United*) before dashing off to Australia to begin his next comic book adventure, *Superman Returns*, for which he will act as both composer and film editor. It's clear who the real superhero in the room is.

"This is a score-heavy movie," explains music supervisor Dave Jordan. "There's 90 minutes of score and eight or nine songs. There's nonstop music."

Ottman is recording his 35 cues for the film at Newman, his stage of choice. "It's like a morphing together of the best of Sony and Todd-AO into one," he says. "It's not too dead, it's not too live. After I recorded my first score here—for *Eight Legged Freaks*—I never wanted to go

anywhere else."

He also brings another part of his success story: scoring mixer Casey Stone, who has worked with the composer since the 1998 *Halloween H20*. Stone is recording to Pro Tools|HD—running at 96 kHz, 24-bit, on a 64-input/80-output rig—on this day, which was rented from DMT Rentals. "Our Pro Tools operator for the majority of the show is Larry Mah, who has his own rig. But we're in a hurry to get started on our mix tomorrow at Signet Sound, so we sent Larry over there to get set up." Stone, instead, took advantage of the skills of freelance Pro Tools operator Erik Swanson for the final day of recording.

Ottman made use of both a 95-member A orchestra and a 67-member B orchestra, though, he notes, "This was

like 90 percent A because every scene was big. This was just balls-out music all the time." The orchestra was arranged in a standard studio setup. "Casey often asks if I want to do something different, like putting the basses in the middle. But it would be weird for me listening to the orchestra and not hearing the basses on the right, violins on the left; it throws me off. It wouldn't sound true to the orchestra."

Stone mikes the room with three Neumann M50s in a Decca Tree setup, running through Groove Tubes Vipre preamps. "The M50 is great because it becomes more directional at high frequencies where it picks up more on-axis like a cardioid, but still, at the low end, it scoops up all the bass like an omni mic," he explains. "It's a really unusual combination that works perfectly on the tree," he says. Stone also places a pair of Sennheiser MKH-800s in a wide cardioid pattern—for wide left and right—and two Neumann M150s to pick up distant room ambience, which he combines with surround reverb to build the surround channels.



PHOTO: NILES BRONSTEIN/TM AND © 2004 TWENTIETH CENTURY FOX. ALL RIGHTS RESERVED



PHOTO: RUBY HOPKINS

Mixer Casey Stone (L) and composer John Ottman "hard" at work on the score for *Fantastic Four*

All seven room mics run through Genex DSD GX-D8 AD/DA converters. "DMT feels they've got a slightly higher-quality sound than the Pro Tools|HD converters," Stone notes. "So I'm giving them a try on this project for the overall room tracks."

For individual instrument groups, Stone uses a selection of favorite mics. Violins and violas are picked up with pairs of Neumann KM140s, while the celli are miked with a single pair of Sennheiser MKH-40s. "The 140s aren't bright, per se, but they've got a little more bite in the top end, which helps pick the violins up out of the room and focus on them a little bit," Stone says. "As for the celli, I'm using just two MKH40s, even though there are 12 celli. I've experimented with putting up more mics, such as one next to each stand. I've just found that using fewer mics gives you a clearer, more pure sound and still picks up the celli section well. And the MKH-40s are just a really beautiful, natural-sounding mic. I love them on woodwinds and the celli."

Ottman and Stone prefer boosting the strings on big cues via layered overdubs, rather than close-miking. "We always fatten them up and it makes a huge difference. We always plan our schedule to do that," says the composer. "When we do separate passes for strings, I usually just record the whole room array; I don't even record the close mics, except on the basses. When overdubbing any section or individual player, you don't want to get stuck with just that one close mic—it won't sound orchestral."

Having separately recorded string sections also provides options for the music editor, Ottman points out. "She can actually create little pseudo-compositions with them in cases where there's picture changes."

With big effects pictures, such as this one, Ottman can often find himself composing cues for sequences he hasn't even seen. "They're still shooting right now as we speak. So I had to imagine, based on script pages, what the scene's going to be. I'll create longer cues with lengthy connectors and held sustained chords that can be edited to the scenes. Hopefully, it will work."

"The tough part is to create themes for today's films with an orchestra because John Williams has already done it all! My whole goal is to keep the traditions of the '70s film scoring era alive but without sounding dated. So much of scoring these days is becoming part of the sound effects mesh and less of an effort for the score itself to tell a story away from the movie." ■

Location

—FROM PAGE 92

ranges recording different weapons. You never know what's going to come up, which is part of what makes it fun.

"And though you think of the job we do as being technical on one level, it's also very people-intensive, because, often, we are our own front guard in making connections and introducing people to a project and asking for their cooperation. Besides researching what it is they do, you



Supervising sound editor Richard King (l) listens back to tracks recorded by Eric Potter

also have to be aware and respectful of their needs. We're asking for a lot sometimes, and one of the things that Eric and I have in common is we're *people* people, so we enjoy learning about these people and involving ourselves momentarily in their lives."

Typically, Potter and Fasal are hired by a film's supervising sound editor, prioritizing their needs based around factors ranging from the film's shooting schedule—if they are going to capture some sounds on location during filming—to the requirements of various outside parties. Potter notes, "There's always enough time in our weeks to do the little things, too, because with the big things that require planning and scheduling, you may find you're on the phone for two days trying to arrange a session with the military or something that requires a lot of coordination and logistical aspects to be worked out. In between phone calls, you can record that alarm clock and the other little things."

"On a picture like *War of the Worlds*, we're getting scenes as soon as they're edited, so we're starting to see things that need doing," he continues. "This schedule is so tight and compressed that we get little chunks of picture every couple of days to look at, so we're seeing a sort of automatic prioritization that way, and then we know there's some really big stuff coming down the pike that we've seen in the script that hasn't even been shot yet that is going to require a lot of planning. It can take

weeks and weeks of calling and planning and auditioning before we can show up and record some of these things."

So, who are these guys and how did they become location recording's top dogs?

BACKGROUND IN SOUND

Born in Lancaster, Penn., Eric Potter grew up in Morristown, N.J., and then lived in rustic Western Massachusetts before moving to Boston, where he studied mass communications at Emerson College. As a tyke, he remembers playing with a Sony reel-to-reel tape recorder his father had won at a golf tournament, and later he was impressed by visits to Bell Labs' museum. "I would get home and take the telephone apart and examine the line and the connectors, then I'd find all these

combinations of numbers you could dial to get test tones and tone sweeps from low to high. It was my introduction to electronics diagnostics."

At Morristown High, Potter worked for the school radio station, WJSV, where "I learned to work with the old Ampex reel-to-reel machines and mixing consoles, getting signals from one place to another and doing live remote broadcasts." A few years later, at Emerson he got the opportunity one Christmas break to go to Los Angeles to see how films were made. "I asked the person running the Emerson program if there was anything about film sound I could check out," Potter recalls. "They introduced me to a lot of people and I saw *Star Trek IV* being mixed; Mark Mangini was supervising sound editor. He was really nice, and it was cool watching him work. That's when I first realized the sheer magnitude and number of tracks that go into making a film soundtrack. And I remember a real nice vibe on the dub stage, and thinking, 'I could work

with these kinds of people.”

A semester later, Potter decided to make the move to L.A., where he managed to land a position as a gofer at Weddington Productions, Mangini's base. “I went over and volunteered and literally swept the parking lot and changed air conditioner filters until some kind of job appeared working in the sound library several months later; then I got hired. That's where I met Larry Blake and learned all sorts of stuff from him. It was a vital time at Weddington in the mid-'80s—a lot of talented people were passing through there for one film to the next.”

The first sound effect Potter recorded at Weddington was for one of the greatest films ever made—*Lawrence of Arabia*, or, more precisely, the restored version released in 1989. Weddington partner Richard Anderson called on Potter in a pinch late one night, asking him to quickly come up with some boot stomps for a particular scene. Potter grabbed a Nagra, rushed home to collect his and his roommate's shoes, then went over to Warner Hollywood and recorded all the stomps he needed in an echo-y hallway. Potter's real break, though, came when Anderson and co-supervising sound editor

David Stone brought him onboard to help create the sounds for *Edward Scissorhands'* steely digits. It was shortly after working on that film that Potter encountered Fasal.

Growing up in the Marin County, Calif., town of Kentfield, Fasal also showed early technical inclinations. He was an inveterate tinkerer, “taking things apart but rarely getting them back together right, at least at first—but I got better at it,” he says with a laugh. He, too, became somewhat interested in recording after his father brought back a Sony 355 from Japan.

However, Fasal's main interest during—and after—his high school years was music.

In the Field for *War of the Worlds*

Sound supervisor Richard King describes Spielberg's *War of the Worlds* as “an action movie with heart, soul and great special effects.” When King and I spoke in mid-May, the final mix—with the team of Anna Behlmer and Andy Nelson presiding—had just begun, and Potter and Fasal were still delivering new effects to the stage, nine months after their work on the film began.

“We did quite a lot of recording during the production of the film, which is not entirely unusual but not often in this quantity,” Potter says. “For one scene, they took over an entire town in upstate New York to film these scenes of people panicking. At some point, they had up to a thousand extras running through the streets in panic mode, so that's an example of an opportunity you really can't re-create in post-production. So we set up our mics and tried to capture as much as we could along with the production [sound]. After a few days of getting that stuff, they were able to cut loose about 300 extras that we took into a quiet neighborhood a few blocks away and had them running around and screaming.”

Both Potter and Fasal ran Devas for those shots: “For some, I would be among the crowd with a boom pole going straight up to get above people's heads, a general overall stereo shot, and John would often be forward of the crowd or off to the side, getting various medium and medium-long shots.”

Another trip east took the duo to the Red Hook shipyards in Brooklyn to capture sounds and ambiances connected to Tom Cruise's character in the film. “The shipyard was really a fantastic opportunity because there was quite a bit going on—they were arranging these giant cargo containers and we practically had free run of the place,” Fasal says. “I'm pretty sure we destroyed every OSHA rule that's ever been written. [Laughs] We were in there booming up within maybe six inches of these containers, and Eric's directing these trucks that are taking away the containers. We even got to get up on the gantry and crawl out on these catwalks to record various exterior perspectives. The wind was blowing about 30 miles per hour and it was really cold. It was another OSHA nightmare. Once, when the shipyard guy who brought us up there saw that we were happily recording, he said, ‘You guys okay? I'm outta here! It's too cold,’ so we had another hour of unsupervised recording.”

A while later, Potter and Fasal went on an expedition to record a



PHOTO: FRANK MAS/COURTESY PARAMOUNT PICTURES

military convoy down in the Blue Ridge Mountains region of Virginia. “We went up the Maury River to a picturesque rural farm area where military vehicles were staging a convoy to approach the big battle in the film,” Potter recalls. “It was quite an assortment of Humvees, troop carriers and tanks, and they had a minimum of three cameras rolling at all times. These vehicles just kept coming by; it seems like miles and miles of them. I think they actually only had about 20, but they cut them together and it seems like it will never end.”

“Due to the many, many takes they shot, we were able to run down or up from where the scene was shooting and capture the vehicles coming by close and medium and long shot. At the end of the day, we figured we'd shot way too much material on this, but now that we've seen it cut together, it's a good thing we did. All those takes could be laid together and they could maintain the continuity of the flow of the convoy without the same sound passing by over and over.”

“And interestingly,” Fasal continues, “even with all the material we shot, we still had to shoot more for some specific moments we didn't know about until it was cut together.”

According to Fasal, “Almost without fail, the military is very cooperative. When you're trying to get their cooperation, they need to see a script or at the very least an outline because they want to see how they're portrayed. And if they like it, they'll really help you a lot

—CONTINUED ON PAGE 96

Beyond playing casuals and solo gigs (guitar), he acted and played in an original musical comedy written by composer/songwriter Brenda Warren. Together, they moved to L.A. hoping to break into show business. They built a demo studio and Fasal got into songwriting. "It was a great time to be here," he relates. "The punk thing was happening, so there was a lot of energy in the music scene. I was a starving musician, but all our friends were either playing music or acting or doing a showcase for someone. It was a lot of fun."

To make ends meet, though, Fasal took a job doing transfers at a post-production

house called Mag City. "They knew I was a musician and had synthesizers and things, and at one point, they asked me to make some spaceship sounds for something," he says. "So I got into sound design, usually using Prophets, Oberheims and other gear from my studio. People also started bringing me sounds to process, and the quality of some of them was so bad that I'd record new ones. I worked on a few low-budget films, and at the same time I was still writing and producing songs with Brenda on an 8-track."

In 1985, through his acquaintance with a sound editor at Mag City named Julia

Evershade, Fasal landed a small sound effects job on Motown producer Berry Gordy's film *The Last Dragon*. "It had all these karate punches in it," Fasal recalls, "and they decided they didn't want to hand-cut every one; they wanted another way to combine them. I had bought an Emulator 2, so they hired me to sample all these Foley hits and library punches and whatever I could get together and make punch combos for all these various hits." Fasal was installed in a small office in an old building on Hollywood Boulevard, along with Becky Sullivan, a well-known ADR editor and supervisor today. "[The L.A. band] X had a rehearsal room there and sometimes we could hear them playing through the heater ducts. After a while, I more or less segued out of music and into design and recording."

Fasal credits Evershade with his own ascendancy in the sound business. "She's a really fantastic editor who kept getting better and better jobs, and she kept recommending me for special sound effects work," he says. "That's how I got onto *Top Gun* [1986], working with Cecelia Hall and George Waters [both supervising sound editors], and another of my favorite early films that I worked on, *Ironweed* [1987; directed by Hector Babenco]. I shot probably 60 or so ¼-inch rolls of sound effects on Nagra for that. It was all Industrial Age stuff, so I went out to the old Kaiser steel mill out in Fontana that still had that great rumbly sound; it wasn't modern-sounding at all. I also went to train switching yards and recorded all sorts of impacts and brake screeches, some of which we ended up slowing down so it was almost like a music track. Vicky Sampson was the supervisor on that."

Fasal and Potter first worked together on *Doc Hollywood* in 1989. "We met to record a semi truck for Richard King," Potter remembers. "John had a lot more experience than I did at that point, and one of the first things I noticed about him was that he really seemed to know a lot about microphones."

"In my early years at Weddington, we just had some Schoeps pairs in the closet and those were the SFX mics: CMC 3s and 4s and the MK41 hypercardioid. Occasionally, I'd use the old Radio Shack PZMs for certain situations where there was an interesting flat surface to mount the PZMs on."

"But I remember John had a few different mics with him [on the *Doc Hollywood* shoot] and he pulled out a Neumann shotgun for the long-in and stops of the tractor-trailer coming from almost a mile away. That's when I noticed

War of the Worlds

—FROM PAGE 95

because they see it as a great advertisement. Of course, working on a film by Steven Spielberg will open a few doors, too. They were happy to help."

Do Fasal and Potter always get everything they want from the military? "We've gotten pretty good at gauging what you can ask for and how to phrase it in a way that doesn't make you seem like a jerk," Potter says. "Can you think of some way we could...?' And we've found that if you cue them with headphones it sometimes helps. They hear M-1 tanks firing every day and they hear F-18s flying over all the time and it's nothing special to them. But you pass them the headphones after getting a few good takes and they're usually quite amazed, and they often get newly enthusiastic about helping you get more sounds in different ways."

How often, I wonder, are Potter and Fasal actually in danger? "A lot," Potter says. "The danger comes from being in unusual or novel situations where you don't have complete control, so you have to really stay on your toes." Adds Fasal, "I think the most dangerous ones are when we have to trust someone else's skills. A lot of times with recording cars, planes, trains—anything that moves fast—you're trusting that the tires aren't going to blow and this suspension arm isn't going to break. We do things with cars at super-high speeds and ridiculous maneuvers—full-on power slides and doughnuts and sessions with cars crashing and sideswiping each other."

For *War of the Worlds*, one recording session had the duo in a wrecking yard dropping cars from a forklift to get crashing metal sounds for some of the battle mayhem in the film. And they traveled to the Twentynine Palms marine base in Southern California's desert to capture the new M1A2 Abrams tanks. Then there was that tough assignment back East getting a bar ambience at a place called the Anchor Tavern: The Irish bartender "made sure our glasses weren't empty all night," Fasal says with a chuckle. "There were eight or nine regulars and they had plenty to say and plenty to drink. It took us eight hours—we took the time to meticulously capture this ambience by ingratiating ourselves with the locals, complete with arm wrestling the bartender."

Just as the final mix on *War of the Worlds* was starting, Potter spent an afternoon capturing a new engine sound for a Shelby Mustang that appears in the film, and Fasal had a day of recording metal groans and noises in a swimming pool for a scene in which a ferry capsizes, spilling cars and people into the water. Says Fasal, "I had these DPA underwater mics, and also the traditional condom mics, and unfortunately I had a leaker, so I lost a nice AKG Blue Dot mic. We'd used that on *Lemany* in the condom and it worked real well, but it developed a little tear and then it was snap, crackle and pop. We had two different sound sources: We had speakers actually floating on the surface of the pool on rafts and then we also had an underwater speaker. The problem with recording underwater is getting the low end, so we tried various things, including a subwoofer, which wasn't effective. But the 15-inch powered monitors worked quite well, and then it became a question of trying different mics and keeping them from getting fried." ■

INTEGRATED

Pro Audio Solutions

Logic Pro 7

Desktop Audio • Live Sound/PA • Pro Recording
• Broadcast/ENG • Electronic Field Production

420 Ninth Ave., NYC 10001
www.bhproaudio.com

800-947-5508
We Ship Worldwide



that he was making different choices with different microphones—using Schoeps for some detailed situations and Neumanns for a smooth midrange and lower-mid accents. Later, when we started doing these bigger multitrack situations—like on *Independence Day*, we sometimes had three or four DAT machines going

transition away from the Nagra,” Potter offers. “Certainly, *Edward Scissorhands* and various films around that period were mostly done on the Nagra. DAT recorders were available and we were using them in some situations, but we found that we missed the quality of the mic preamps of the Nagra when we recorded to DAT, as

“That’s when I started being able to make a DAT recording more satisfactorily. At the same time, people on the receiving end, the editors, were much happier to receive things on a DAT than on a quarter-inch reel, what with the program numbers making it easier to find things and the loading easier.

“By 2000, it was a real burden for me to lay a quarter-inch reel on someone, even though it made a superior recording in a lot of ways. The only time I bring out the Nagra these days is for some explosions and gunshots. The strength of the tape compression and the exciting distortion—it’s another flavor that I like.”

Beginning in 1998, Fasal and Potter added the Zaxcom Deva 4-track digital hard disk recorder to their road kit. “We found them to be very, very reliable, though not optimal,” Potter comments. “I like the way I can reach down and hit that Record button and not have to worry about what’s happening. The foibles of the Deva had to do with us later on exporting the sounds out of the machine and getting them to show up in Pro Tools; it wasn’t really Mac-friendly. But I’ve had that machine in extreme heat and extreme cold, and it’s always performed very well. It had some vibration problems: Riding on an M-1 tank and having it sitting on a chair, it would have a little seizure. [Laughs] Or, one time recording a tilt-a-whirl for [M. Night Shyamalan’s] *Unbreakable*, John and I had to do a little fancy suspension of the unit to record that. But in general, it’s been a real workhorse.”

Nevertheless, the two have continued to explore other recorders as they come out. On *Lemony Snicket’s A Series of Unfortunate Events*, they used an 8-channel HHB PortaDrive, and though the higher bit rate capability and additional tracks gave it



Potter records U.S. fighter planes for *War of the Worlds'* climactic battle.

to record some effects—we got more and more into the idea that you could use different flavors of microphones to capture a single event.”

Working on music recordings in conventional studios also expanded their repertoire of microphones. Fasal started using large-diaphragm Audio-Technica 4050s and 4033s in certain applications, and Potter found that “even kick drum mics like [Electro-Voice] RE-20s that can take a big, hot level can be good for recording large tanks and cannons—things that are big and loud and have a deep sound to them.

“I blew up an [AKG] 414 on a gun shoot once,” Fasal adds with a chuckle. “It was one of the dumber things I ever did. I also baked a pair of SM57s that someone suggested I put right under the barrel of a cannon.

“I think of mics like brushes. They’re all good for different things, and certain combinations of mics and recorders are magical, like the Schoeps/Nagra combo. That worked for so many things.”

GOING DIGITAL

The Nagra was still king when Potter and Fasal got their starts, but it wasn’t long before the more portable DAT came into vogue for effects recording. “It was a long

well as the tape compression—especially when recording race cars or sports cars, big American V-8 engines, jet aircraft; things with a lot of dynamic range and a lot of punch. Those were still best captured on the Nagra.

“By the early to mid-’90s, though, we started to see the introduction of portable 2-channel mic preamps from guys like Andy Cooper that made interfacing with DAT a lot more palatable,” Potter continues.



Fasal recording an ATV, which may be used for any number of sound effects for *War of the Worlds*

sound line
 d line
 sampling line
 effects line
 synth line
 guitar line

CREATE THE UNHEARD



KONTAKT 2 transforms the usual into the extraordinary. From subtle sound enhancements to profound sonic twisting, this truly versatile sampler meets all the demands made by any modern stage or studio. Its innovative technology is balanced by a clear, new and intuitive user-interface. The modular architecture guarantees near limitless possibilities. Whether multi-format surround sound, state of the art effects or highly advanced script processing, KONTAKT 2 sets new standards in quality, flexibility and performance. Believe your ears!

CONNECT TO SAMPLING

www.ni-kontakt.com



Includes over 15 GB of professional samples

"KONTAKT is in a class by itself – an undeniably powerful instrument."
 Keyboard, USA, November 2004

- 
Remix
USA, 12/2002
- 
Keyboard
USA, 11/2004
- 
EQ Magazine
USA, 03/2002
- 
Future Music
UK, 12/2002
- 
Future Music
UK, 02/2004
- 
Electronic Musician
USA, 01/2003
- 
Future Publishing
UK, 12/2002
- 
MIPA Award
2003

Awards and press statements in reference to KONTAKT


NATIVE INSTRUMENTS
 SOFTWARE SYNTHESIS

GENERATE THE FUTURE OF SOUND



certain advantages, "I didn't think it was as well-suited to sound effects recording [as the Deva]," Potter says. "There's a lot of setup involved and a lot of options that would be good for a production mixer, but are a little too cumbersome for us to use in a down and dirty kind of way. Some of the channels developed residual hard drive noise: The sound of the hard drive spinning would actually leak into the analog electronics somewhere.

"In December [2004]," Potter continues, "I took delivery of a Sound Devices 744T and it's been a very handy machine. It's a very small—possibly too small—4-channel recorder in the same vein as the old Deva II, but spec'd out for us modern Mac users. It's got a FireWire output for getting the files out. It's easy: I can hook it up to my Powerbook at the end of the day and pull the sounds off onto the Mac and the sessions will go right into Pro Tools as broadcast .WAV files in Mac format. It's also a very good-sounding machine. It records all four channels at 192 if you want, and it runs a very long time on a not-so-expensive battery. I have this little Sony camcorder-style battery that I snap into the back of the unit and it'll go all day long."

Fasal admits that "I always tend to bring too much equipment [out in the field]. I always have enough inline pads, patch cables or mic stand adapters for everyone, and sometimes I'll pull out some oddball mics. I can pretty much kluge something together in any situation. I use my [Sound Devices] 442 mixer mostly, but I sometimes bring my Cooper 104 4-channel [mixer]. They have different sounds. I still drag out the DAT machines as a backup to the 744T. Eric and I have used basically everything that you can take out and power with a battery or a car battery, and each one has its strong points."

Potter and Fasal have an amazingly complementary relationship based on friendship, trust and a mutual love of their work. Of course, not every film has a budget for two location recordists and each continues to work independently. "As the possibilities in film sound have expanded and situations demand a more thorough and spacious sound, it's become more common for two people to go out," Potter



Water played a prominent role in the effects tracks for the Oscar-winning *Master and Commander*

says. "I've gone out with other people, but I've found that due to our personalities and our experiences in the field and our working methods, John and I work remarkably well together. We're able to get a lot of things done in not a lot of time."

"It's a great thing," Fasal says, "because I really trust him in the way he records—if only he'd remember to push Record. [Laughs] Seriously, I know that even if you split us up, with him doing one thing and me another, he's always going to get great stuff." ■

m902

reference headphone amplifier

The m902 is the proud successor to our venerable model 901 reference headphone amplifier, updated with many new, essential features designed to make it an even more powerful tool for all audio monitoring applications.

At the core is our meticulously designed amplifier circuitry, which effortlessly drives even the lowest impedance headphones, while delivering the same high-resolution audio performance for which all our products are famous. Familiar recorded material becomes at once *transparent and alive*, making critical details in editing and mastering obvious and easy to manipulate.

Professionals and audiophiles alike will simply be floored by the m902's latest generation high performance 24/192 DAC, which includes our remarkable s-Lock™ dual stage PLL for extremely low intrinsic jitter and rock solid digital performance.

The m902 also cleverly adds stereo analog line outputs for connection to studio monitors, allowing it to double as an elegantly simple monitor controller or purist audiophile preamplifier/DAC.

The m902 reference headphone amplifier stakes its claim as the final word in reference headphone amplification and as the new *must have* tool for audio playback in any environment.

high fidelity by

GRACE

d e s i g n

for complete information, visit
www.gracedesign.com
 or call 303.443.7454

ONE OF A KIND

- sound line
- drum line
- sampling line
- effects line
- synth line
- guitar line



REAKTOR 5 delivers originality every time. The fifth generation of the award winning sound studio will inspire your creativity with a massive collection of pioneering sound generators and cutting-edge effects. Its unique adaptability allows you to modify any instrument or build new ones from scratch. The new REAKTOR Core Technology™ delves deeper into modular construction than ever before, breaking new ground in versatility and audio quality. Sound synthesis and signal processing have never been so powerful.

THE FUTURE OF SOUND

www.ni-reaktor.com

"Top-of-the-line sound quality and flexibility. Excellent array of instruments. You can truly make almost anything you can imagine with REAKTOR."

Remix, USA, November 2003



Remix
USA, 01/2004



Future Music
UK, 08/2003



Computer Music
UK, 07/2003



Electronic Musician
USA, 01/2004



MusicTech
UK, 09/2003



Keyboard
USA, 11/2003

Awards and press statements in reference to REAKTOR 4

NI NATIVE INSTRUMENTS
SOFTWARE SYNTHESIS

GENERATE THE FUTURE OF SOUND

www.native-instruments.com

Tools of the Trade



EDIROL UA-101 USB 2 INTERFACE

On-the-go PC-based recording engineers will want to check out this new feature-packed I/O box from Edirol (www.edirol.com, \$695). The half-rack UA-101 provides 10 ins and outs, up to 24-bit/96kHz full-duplex audio and MIDI I/O. The box also has two mic preamps on XLR/TRS Combo jacks, one with a hi-Z input for instrument recording. There is a switchable analog confidence limiter, as well as six TRS balanced inputs (+4 or -10 dB, switchable) and optical S/PDIF I/O.

HHB DVD-R/+R MEDIA

Need fast, reliable DVDs for your studio that are guaranteed until 2075? The new 1x to 8x-speed DVD+R and DVD-R recordable discs from HHB (www.hhbusa.com) promise consistently



low-block error rates and ultralow-jitter performance. The DVD media's unique azo-dye formulation guarantees complete stability and a secure archival life for more than 70 years. The media

is available in inkjet and thermal-printable versions, and offers exceptional whiteness and printing definition, plus compatibility with an extremely wide range of printers.

YORKVILLE YSM2P STUDIO MONITOR

Yorkville (www.yorkville.com) releases the YSM2P Active Studio Monitor (\$169 each), a powered bi-amplified loudspeaker delivering 70 to 19k Hz from its 5.25-inch woofer (46W) and 1-inch soft-dome tweeter (14W). The active crossover network ensures a smooth transition between the components and accurate source representation without requiring EQ. Input is on XLR and 1/4-inch jacks, with an input trim on the back of each shielded cabinet.



DIGIDESIGN D-COMMAND

Seeking a smaller console solution than Digidesign's (www.digidesign.com) ICON environment? Check out the medium-format D-Command. The base unit is equipped with eight channel faders and a center section, but is expandable to 24 faders by adding a 16-channel Fader Module. Each channel strip features a touch-sensitive motorized fader, two

multipurpose rotary encoders and multiple pushbuttons that provide quick access to key session parameters. Much like ICON, D-Command has dedicated EQ and dynamics editing panels and a

monitor control area that uses the X-Mon interface for vital monitoring functions. For now, there is no dedicated surround panner, but the unit will work with third-party panners such as the JLC Cooper MCS.

DIGIGRAM UAX220 USB INTERFACE

The current star of "The Incredible Shrinking USB I/O," the plug-and-play UAX220 USB bus-powered interface from Digigram (www.digigram.com, \$490) needs no specific driver, thanks to USB Audio compliance. Features include balanced stereo I/O on XLR connectors,

up to 24-bit/48kHz resolution, a 1/4-inch headphone out, zero-latency monitoring and a dynamic range spec of less than 103 dB (A-weighted).

VSL OPUS 2

As if 1.4 million samples weren't enough, Vienna Symphonic Library (dist. by ILIO, www.ilio.com) adds OPUS 2 (\$495) to its collection of libraries. Expanding

the potential of OPUS 1 and the First Edition, the collection offers new articulations, such as quick string runs, flautando string ensembles and muted brass. In addition, it also has marimba, vibraphone and waterphone, along with basic articulations of instruments taken from other Horizon Series titles, such as Solo Strings, Epic Horns, French Oboe or Woodwind Ensembles. OPUS 2 (available in EXS24, GigaStudio, HALion and Kontakt formats) includes 9.3 GB of data on two DVD-ROMs.

CREATIVE NETWORK DESIGN NETMIX PRO 3.3

Newly tweaked to work with Pro Tools 6.9 on Mac and PC platforms, NetMix Pro 3.3 sound library manager from Creative Network Design (www.creativenetworkdesign.com) makes many

tasks easier in the post environment. New features include transfer to region list, transfer of metadata, spot sync point to timeline, spot to timeline, spot to timeline using selection and handles, spot multiple audio files to timeline, spot sub-sequence to multiple tracks and spot to absolute timecode.

SANKEN COS-22 MICROPHONE

The tiny and versatile COS-22 from Sanken (www.sanken-mic.com) is a dual-capsule lavalier offering redundancy and boasting high-quality audio, but it could also be used for location recording applications. Its phantom-powered



twin omni capsules measure just 1.25 inches in length, weigh only 20 grams (including the cable) and take up to 137dB SPL (1% THD). Channel 2 can be flipped in polarity, offering noise



cancellation when both channels are summed.

AUDIO EASE ALTIVERB 5 PLUG-IN

Audio Ease (www.audioease.com) pumps up the volume on its Mac-based Altiverb 5 convolution reverb. New features include iLok authorization; stage positioning control, letting users place source sound anywhere onstage; 4-band EQ; internal level meter; I/O controls for front, rear, center bleed and LFE; and separate gain and delays for direct, early reflection and reverb tail. There is also extensive CPU load control and support for Audio Suite, in addition to existing support for HTDM, VST, MAS, RTAS and AudioUnits. Prices: \$595, MAS/VST; RTAS AudioUnits/AudioSuite bundle; and \$895, HTDM/RTAS/MAS/VST/AudioUnits/AudioSuite bundle.

OTARI DR-100 DIGITAL RECORDER

Otari's (www.otari.com) next-gen DR-100 recorder features 48-track recording at 24-bit, 44.1/48 kHz, or 24-track at 24-bit, 88.2/96 kHz. Priced at \$19,000 (including

remote), the unit records directly to a high-performance, 15,000 rpm, 72GB SCSI hot-swappable hard drive, allowing seamless/gapless punch-in/out throughout all 48—or 24—tracks (48/24-channel crossfade). In addition to the 48 tracks, the DR-100 offers 208 virtual tracks with five editing layers, totaling 256 tracks including 48 nominal tracks. The system includes MADI digital I/O and a dedicated 48-track direct-access remote control connected to the audio recording engine via standard 100Base/T Ethernet network and TCP/IP protocol.

PRISM ADA-8XR CONVERTER

Prism's (www.prismsound.com) ADA-8XR offers eight channels of 24-bit, 192kHz, A/D and D/A conversion, or 16 channels of either A/D or D/A. I/O includes AES3 (two-speed or two-wire), S/PDIF, FireWire, direct connection to Pro Tools|HD (32 I/Os per card) and direct connection to Pro Tools|24 MIX (without an 888 I/O). It also converts to DSD for SACD production with SDIF 2/3 and optional Mac-DSD (Cat-5) interface, and





allows sample rate conversion between any PCM rates. Built-in processors include Prism Sound SNS noise shapers, MR-X word mapping and the DRE function, providing 24-bit performance on 16-bit media without sacrificing tracks. The stereo monitor section can be switched to either the A/D or D/A path, pre- or post-processing, and has a Monitor Cut, Invert, Mono and Swap buttons and a volume control. The ADA-8XR is priced from \$11,000, depending on configuration.

SNS GLOBALSAN X-24 STORAGE NETWORK

Need *lots* of storage for your facility? Then check out Studio Network Solutions' (www.studionetworksolutions.com) new globalSAN X-24, the company's latest addition to the globalSAN X Series of products. Just like the X-8 and X-16, the X-24 is a fully configured iSCSI SAN solution supporting Mac and Windows, but the X-24 provides large facilities with a more expandable solution for storage networking needs (up to 9.6 TB). The globalSAN X-24 basic package includes 6 TB of SATA storage and six iSANmp user licenses that can be upgraded to support additional users/storage. Prices start at \$28,999.

DYNAUDIO BM 5P STUDIO MONITOR

The affordable, passive BM 5P (\$695/pair) monitor from Dynaudio



Acoustics (www.dynaudioacoustics.com) features components that adhere to the company's rigid quality standards. The two-way unit has a 6.9-inch woofer and 1-inch soft-dome tweeter, all manufactured in Denmark. A newly redesigned exterior offers a small footprint, making it perfect for applications where space is tight, such as remote recording vans, editing suites and home studios.

DIGIDESIGN M-POWERED PRO TOOLS

Bringing more choices than ever to DigiDesign Pro Tools users at the entry level and above, the new \$349 M-Powered Pro Tools software from M-Audio (www.m-audio.com) works with a variety of interfaces. Similar to Pro Tools LE (but without certain features such as SMPTE timecode), the new software includes more than 30 DigiRack and Bomb Factory plug-ins

and supports ReWire. Supported interfaces include M-Audio's top-of-the-line FireWire 1814 (\$799), offering 18 in/14 outs; the Ozonic (\$599) 37-key audio/MIDI FireWire interface and controller; and down to the extremely affordable Audiophile 2496 PCI interface (\$129).

WAVES MAXXBCL PROCESSOR

Waves' (www.waves.com) new MaxxBCL (\$3,200) processor brings the company's Maxx-

Bass, Renaissance Compressor and the L2 Ultramaximizer limiter plug-ins into a two-rackspace box. MaxxBCL features analog (balanced and unbalanced with Jensen transformers on input) and digital inputs and outputs, the latter including both AES/EBU and S/PDIF capabilities at sample rates up to 96 kHz. Independent input and output level matching is provided in six steps from 9 to 24 dBu, with 12 additional 1dB steps of level trim per channel available on the front panel. Post-quantization processing is supplied by Waves' IDR (Increased Digital Resolution) dither system, which includes ninth-order noise shaping to minimize audible noise while dithering to 16- or 24-bit output.

TERRATEC HI JACK

This instrument preamp/DI from TerraTec (www.terratec.com, \$79) offers up to 40 dB of gain for either passive or active guitars and basses. The balanced out makes running long line-levels to the recorder a breeze while keeping instrument level runs as short as possible, resulting in a cleaner signal path. The front of the box carries a hi-Z ¼-inch input and gain control, with a ¼-inch TRS jack and DC supply input on the back.



DIGITAL AUDIO WAVE WORKSTATIONS

Digital Audio Wave (www.digitalaudiowave.com), maker of custom-built digital audio workstations for multimedia applications, offers a new line of PC-based digital audio workstation systems founded on a proprietary ultra-quiet, high-performance and reliable platform. These custom platforms are built around the new Intel Pentium 4 600 sequence

Associate of Science & Bachelor of Science Degree Programs

Full Sail's Studio B features an 80 channel,
160 input SSL 9000J console.

With over twenty production environments on campus that include world-class recording studios and multi-station digital audio/MIDI labs, Full Sail Recording Arts students learn audio concepts with a host of software and hardware including Digidesign Pro Tools.

➔
Earn your Bachelor's Degree in
Entertainment Business

800.226.7625
fullsail.com

FULL SAIL
Real World Education

school of

Computer Animation

Digital Media

▶ Entertainment Business

Film

Game Design & Development

▶ Recording Arts

▶ Show Production & Touring

*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 • Job placement assistance • Accredited College, ACCSCT

© 2004 Full Sail, Inc. All rights reserved. The terms "Full Sail," "If you're serious about your dream, we'll take your dream seriously," "Full Sail Real World Education," and the Full Sail logo are either registered service marks or service marks of Full Sail, Inc.

World Radio History

processors that are ready to support 64-bit software using Intel Extended Memory 64 Technology. The processors support 2MB L2 cache, enabling improved performance, enhanced power management and improved virus protection. Customers can choose several different SATA hard drives, up to 4 GB of memory and up to 1.2 TB of storage. The systems also feature the latest in networking technology—integrated Gigabit (10/100/1000) Ethernet—to ensure fast data transfer over network connection.

TASCAM X-48 RECORDER

Tascam's (www.tascam.com) new X-48 hard disk recorder/editor boasts 96kHz/24-bit recording across all 48 tracks or 24 tracks at 192 kHz. It supports Broadcast .WAV and OMF import/export for compatibility with other workstations. Other features include support for FireWire hard drives and Gigabit Ethernet, VGA display output, built-in DVD-RW backup drive, word clock and HDTV tri-level sync, built-in 80GB hard drive and more. If that weren't enough, the built-in 48-channel digital mixer

offers four VST plug-in inserts per channel, six stereo returns (60 inputs at mixdown), 24 buses, six aux sends, stereo master bus and full dynamic automation.

SPECTRASONICS BURNING GROOVES

Featuring the playing of Abe Laboriel Jr. (drummer for Paul McCartney, Sting, Seal, Shakira, Liz Phair, Steve Vai) and mixing of producer Eric Persing, Spectrasonics' (dist. by ILIO, www.ilio.com) Burning Grooves (\$99) is the next release from the S.A.G.E. Xpander library for the Stylus RMX virtual groove instrument. Just like the existing Xpander libraries (Backbeat, Retro Funk, Liquid Grooves and Metamorphosis collections), Burning Grooves features Groove Control, which allows the user to play the audio loops in a wide range of tempos with no loss in audio quality.



UNIVERSAL AUDIO LA-3A

Going back to the future again, Universal Audio (www.uaudio.com) released an exact clone of the classic LA-3A solid-state opto-compressor. The new unit adds some enhancements, including XLR connectors in addition to the barrier strip, IEC power and a rear switch for the popular Gain Mod option that was often soldered into the

original LA-3A. Other features include custom re-issue UA transformers and T4 cell and a discrete Class-A amplifier providing up to 50 dB of gain. The unit is finished in brushed-black aluminum and offers gain- and peak-reduction controls on rotary pots. The signature UA analog meter is switchable between gain reduction and output. The LA-3A offers up to 40 dB of gain reduction and boasts a noise floor -80 dB below program at threshold of limiting. Price: \$1,499.

Upgrades and Updates

BIAS (www.bias-inc.com) announced that current versions of **SoundSoap**, **SoundSoap Pro**, **Peak** and **Deck** are now compatible with **Mac OS 10.4 Tiger**. Update info is available on the site...**Microboards' CopyWriter Tower** supports true 16x disc replication out of the box. More info on the new capability can be found at www.microboards.com...**Symetrix** (www.symetrixaudio.com) is shipping the **AirTools 6200** Digital Voice Processor, intended for on-air and production processing of mics and line-level signals in radio and television...**Cakewalk** (www.cakewalk.com) and **Edirol** (www.edirol.com) have joined forces to offer **SONAR LE** bundled with select **Edirol** products. SONAR LE provides users who are getting started with PC-based recording with a host of recording and MIDI features. More info can be found on each company's Website...**Native Instruments** (www.nativeinstruments.com) announced

that its **Electronic Instruments 2 XT collection**—an extended version of the Reaktor instrument collection, offering unique synthesizers, drum machines and effects—is now available...**TC Electronic** (www.tcelectronic.com) released **Version 2 software for its flagship EQ Station and MotoFader64** equalization system as a free download. New features include improved fader latency, 0dB detent on the MotoFader64, MIDI implementation and new security lock-out features...**Euphonix** (www.euphonix.com) announced that all of its **digital audio mixing systems** are now capable of **fully integrating with most router control systems** that use the ES-Switch protocol. Vendors include NVISION, Pesa, Pro-Bel, Sony, Grass Valley and Utah Scientific...PC audio system builder **Rain Recording**

(www.rainrecording.com) received official certification from Cakewalk as a **recommended DAW manufacturer for Cakewalk users**. Rain's Element desktop and LiveBook laptops were tested to provide optimal user experience when running demanding project sessions...The **SonicStudio•DDP V. 2** upgrade to **Sonic Studio's** (www.sonicstudio.com) premastering application for Mac OS X supports ISR codes and PQ subcodes with indexes, plus UPC/EAN, SCMS and digital emphasis flags as part of the standard feature set...**Monster Cable's** (www.monstercable.com) new **digital line of interconnection products**—including Datalink digital co-ax, LightSpeed digital fiber optic, AES/EBU, Firelink, Pro Series Monster USB and Monster word clock cables—are now shipping. ■

British by Heritage...

Front End: ASP008
8ch Variable Impedance Class A Discrete Mic Preamp



Back End: sumo
16x2 Balanced Summing Mixer with Mix-bus Compressor



- ASP008 - 8 Class A Mic/Line inputs with 2 DI inputs (the same preamps found in the ASP8024 Console)
- SUMO - 16x2 Fully balanced high resolution summing mixer, stackable up to 64 inputs, each with console quality mix-bus compressor (also from the ASP8024 Console)
- Optional AES/Optical digital outs
- Small footprint, one rack space each
- HUGE SOUND
- Affordable Excellence
- Console replacement systems starting under 3,000 dollars

Visit our website and enter to win an Audient Sumo!

The drawing will be held at AES on Sunday, October 9, 4PM at the AXI booth. You do not need to be present to win.

Simply fill out our form: (click on the "Contact Us" button on the axidistribution.com homepage) to enter.

audient

Better by Design.

For more information and to find a dealer near you contact:

Audio Exchange International

357 Liberty St., Rockland, MA 02370

Phone: 877-440-2717 Fax: 877-442-6822

<http://www.axidistribution.com> info@axidistribution.com

World Radio History



Sony Acid Pro 5 Loop Editing Software

Improved Routing, VST Support and More

Loop-based music production and Acid software have gone hand-in-hand since 1998, when Sonic Foundry first introduced the program. Since then, the range of tools and content available to people who make loops have progressed with blinding speed. Acid, however, has taken a much more studied approach: The recent release of Acid Pro 5, now owned by Sony, means there have been just four significant updates in seven years—a relatively slow pace, considering how fast the rest of the field seems to be moving.

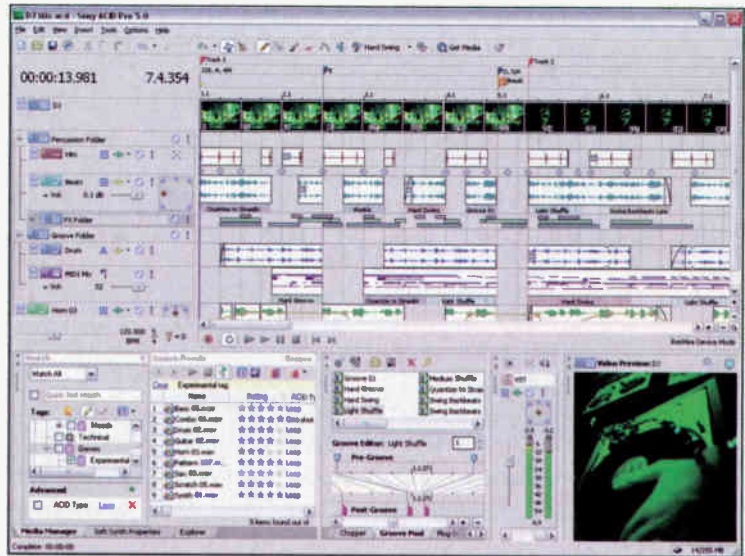
WHAT'S NEW?

While it still doesn't qualify as a DAW, Acid comes closer to being a one-stop shop than it did in the past. Upgrades include VST effect support, a powerful new way of manipulating loops called Groove Mapping/Groove Cloning, multiport VSTi soft synth format (including a nice Xpress soft synth bundle from Native Instruments), a Media Manager tool for improved organization of loops and one-shots, and ReWire device support. Other new features of note include tempo-based DirectX effects (finally!), real-time event reverse (ditto), metronome for playback and record, bus-to-bus routing, nestable folder tracks and enhanced MIDI editing with piano roll snap-to-scale and note filtering.

OUT OF THE GATE

Getting started was easy. Installation on my main machine, a PC running Windows XP with a 2.26GHz processor and 1 GB of RAM, went smoothly. No dongle is required: The program asks you for your serial number the first time it boots and you're good to go. Don't overlook the content disc when you're getting set up! More than 1,000 music loops are included here, with a large number of highly usable and inventive sounds.

Anyone familiar with the Acid interface will feel at home in Version 5. There are a few subtle cosmetic touches and additions to the toolbar, but apart from the new features, the business-like functionality of Acid that makes it so intuitive and efficient for arranging and editing remains firmly in place. I'll always wonder why you can't



New Acid 5 features: VST effects support, advanced loop manipulation and ReWire support

"close" a project in Acid, however; to move on, you have to either quit, start a new project or open an existing project.

RECORDING/ARRANGING TOOLS


I have always depended on Acid for arranging my compositions, many of which began as loops constructed in Reason, but I found it frustrating to have to subsequently export the stems to my DAW just to be able to use VST effects. In V. 5, this time-consuming step is a thing of the past. A tab in the Preferences folder allows you to direct Acid to a default folder where your VST effects live, as well as two additional VST search folders. Opening up your projects in Acid and seeing all of your VST plug-ins available for the first time is nothing short of exhilarating. On a recent media project, for example, I was able to apply my much-used freeware Blockfish compressor VST plug-in to a drum loop within the Acid environment, allowing me to complete the mix on-the-spot. For me—and I suspect a significant number of electronic music producers—this addition alone justifies the cost of the upgrade.

While the ability to morph and mangle loops is a favorite pastime of those who work with them, past versions of Acid weren't necessarily the best place in


which to do that. With the new Groove Mapping and Groove Cloning quantization processes, however, Acid is now the perfect environment in which to create completely new grooves from existing loops.

The Groove Mapping tool uses a system of markers called "beat anchors" to redefine the relationship of the source groove or loop to the point in time when the beat will be played (i.e., the destination of the groove adjustment). Select from a list of dozens of preset Groove Maps—such as Bounce, Conga Groove and Polyrhythm—apply them to, say, a Mick Fleetwood drum loop and you'll be amazed at how quickly it can change into something else (which may be incredible or completely unusable). This feature can also help you better match up seemingly incompatible beats. The project above, for example, used both a drum and bass beat and a stock conga loop. By selecting Conga Groove 2 in the Groove Tool menu and painting it onto the drum loop, I made the drum and percussion loop lock even more naturally. Want to apply the feel from your own original riffs instead? Groove Cloning uses the same process to analyze any loop you select and save it into the bank of presets. It has never been this easy to take a stock Acid loop and make it distinctly your own.


Wishing You Success




Jonathann Launer - Director
LARS Graduate
Music Videos, TV Shows
3 Telly Awards
2 Videomotion Awards



Akane Nakamura - Engineer
LARS Graduate
"The Marshall Mathers LP"
Eminem (over 16 million sold)



Lisa Huang - Engineer
LARS Graduate
"Sak" The Silk Alhija (East Platinum)
Godlock'd - The Soundtrack (Cont. Gold)



Wassim Zreik - Engineer
LARS Graduate
Most recent:
Britney Spears
Christina Aguilera
Mary J. Blige
Janet Jackson
Beyz 2 Men
Enrique Iglesias
Destiny's Child, Pink
Method Man, Red Man,
Seal, Mystikal

"I can't tell you how much I learned from being at The Los Angeles Recording Workshop. It set the perfect foundation for working confidently with the biggest and most demanding stars. If you seriously want a recording career, LARS is the place to go." - Wassim Zreik

The Los Angeles Recording School is one of the best-equipped recording engineer schools on the planet. If you are interested in training for a professional career in Audio we're sure you'll be knocked out by our training facilities, our extensive equipment, our curriculum and our outstanding staff and faculty. Just ask our graduates!

888-688-LARS
(5 2 7 7)

larecordingschool.com

THE
LOS ANGELESSM
RECORDING SCHOOL

WE WILL BEAT ANY DEAL!

EVERY MAJOR BRAND IN STOCK!

Guitars • Amps • Drums • Keyboards • Synthesizers • Samplers
Sound Systems • Recording Equipment • Software • Accessories



Renowned arranger Paul Buckmaster with West L.A. Music's Andrew Grad

Noel Gould with System of a Down bassist Shavo Odadjian

The legendary DJ Quik with West L.A. Music's Mark Spiwak

Don Griffin and Meg Reyburn with ZZ Top guitarist Billy Gibbons



West L.A. Music staff member with legendary keyboardist Herbie Hancock

West L.A. Music staff member with renowned producer Trevor Horn

Legendary drummer Terry Bozzio with West L.A. Music's Glenn Noyes

Legendary rapper Tricky with West L.A. Music staff member

Shop Where the Pros Shop • Call Us Today!



West L.A. Music

We will beat any price from any authorized stocking dealer anywhere in the United States
call now: 310-477-1945 • sales@westlamusic.com

MIX
Subscribers Get
30% OFF
New Policies

Your Studio Is
Not Complete

Without **CLARION**

ASSOCIATES INC.
MUSICAL INSTRUMENTS

1711 New York Avenue
Huntington Station, NY 11746

1-800-Vivaldi

www.ClarionIns.com

When you're making all these tasty new loops, the Media Manager helps you make better sense of your Acid files. An advanced database organizer, the system lets you gather media based on file attributes, metadata and assignable "tags" and makes them easier to search for and access. For producers who often need to find frequently used audio and MIDI files, I can see this feature as being a big time-saver in the face of tight deadlines.

If you want to perform into Acid instead of building with the blocks, you now have a very good reason to do so. Version 5 comes bundled with a set of highly usable soft synths from Native Instruments, including the B4, solid FM7 and trippy Pro-53, plus a Sony DLS soft synth with a very respectable piano. MIDI tracks time stretch to fit your project's tempo, and you can use those same valuable VST effects you've been applying to your audio tracks.

The new metronome is a nice addition, making it that much easier to actually record vocals or other live instruments on top of your tracks for a demo—made easier by the fact that Acid records multiple takes with a loop relatively easily. To do this, I turned on Loop Playback, pressed Record and went on to record multiple takes with the Pro-53. Acid conveniently creates a region in the new recorded file to show the beginning and end of each take. I was able to listen back, position the loop region around the keeper and then select Render to New Track from the Tools menu—a painless and convenient process.

SO WHAT'S THE BUZZ?

Is this latest update worth the wait for Acid's legions of dedicated users? The answer is a resounding yes. It may have taken a while for the new release, but the program's developers have kept up with what their main competitor, Ableton Live, has been doing and upped the ante in several ways. Support for VST effects, new organizational tools, tempo-based effects and bus-to-bus routing, and the bountiful content disc give the user plenty to groove with right out of the box. The new tools are well done and vastly improve workflow. Depending on what you do, Acid may very well graduate from being a construction zone to a comprehensive final stop.

MSRPs: Acid Pro 5, \$399.96; Acid Pro upgrade, \$149.95; and Acid Music or Studio upgrade, \$299.95.

Sony Professional Audio, 800/577-6642, www.sony.com/mediasoftware. ■

David Weiss is Mix's New York editor.

WE MAKE GREAT ROOMS HAPPEN



Sound Kitchen Studios, Studio D, Franklin, TN PAD provided Certified PreOwned SSL XL9000K, Aug-purger Speakers, and outboard gear

Great Gear, Great Value.

Whether you're building a personal project studio, a world-class facility, or something in between, Professional Audio Design can help you make the most of your investment. Our staff of real-world engineers and technicians understands what makes a great recording facility, and can recommend solutions that meet every budget. We carry over 150 brands of new, refurbished and vintage equipment, including Certified Pre-owned SSL Consoles.



Service, Support and Satisfaction

Professional Audio Design has a world-renowned technical services team that provides in-shop repair, refurbishment, custom electronics, and modifications for many stock items. Our on-site support includes wiring, system commissioning, installation and maintenance. We stand behind our work with full warranty coverage and after sale support. We service the top studios in the world, and your studio should experience that same level of satisfaction.



Before you settle for something less, visit us online, or call (877) 223-8858, and find out how our personalized service approach will make your room happen.



**Professional
Audio
Design
Inc.**

ALWAYS A SOUND DECISION

www.proaudiodesign.com

- Equipment Sales
- Consultation
- Technical Services
- Wiring Systems
- Installation
- Custom Monitors
- Custom Furniture
- Certified Pre-owned SSL's
- D&W Systems

Primera BravoPro CD/DVD Duplicator/Printer

Turnkey Multi-Disc Dynamo for Mac and PC

In the duper wars, speed and the set-and-forget factor rule. No one wants to baby-sit a robot as it churns through a burn run of 100 discs, especially if it's printing labels. The BravoPro, the latest integrated duplicator and printer from Primera Technology, addresses these issues and more. Designed for businesses and studios in need of a turnkey solution for small-run duplication, the BravoPro features two Plextor 716 drives, Lexmark 4800 dpi print resolution and faster robotics than past efforts. The BravoPro also includes a Kiosk mode that allows it to print up to 100 DVDs and CDs in a single run.

I'm happy to see that Primera is now using Plextor drives, as Plextor diligently tests a wide range of media with its drives and publishes the results. The firmware seems to be stable, and the BravoPro can burn some discs beyond their rated speeds. However, your computer will have to keep up.

The BravoPro requires a single USB 2 connection. At faster speeds, especially with DVD media, the drives will cycle on and off using the memory buffer to prevent the jobs from failing. At slower speeds, such as 4x DVD burning, the drives are able to continuously burn. This isn't much of an issue for cranking out CDs at high speeds, as the mature players seem to be more forgiving. However, DVD players can be a little more fickle, and DVDs created at high speeds may sometimes freeze or fail to play.

CAPABLE AND SPEEDY DUPLICATION

The BravoPro can burn DVDs and CDs at top speed: 16x and 48x, respectively. It's no longer necessary to make a decision about your duplicator based on the type of media you're most likely to be using; i.e., CDs or DVDs. The Plextor 716s are equally capable at burning both types of blank media in all current formats. For this test, I used Taiyo Yuden printable CDs and DVDs. I created DAO audio CDs and CD-R video DVDs from ISO images.

The BravoPro is equally at home in the PC or Mac environment. However, the software bundles have a slightly different look and feel on each platform. Because my studio,

AVT Pro, is more of a PC house, I actually prefer to work with the PC version, but found that the Mac version worked admirably and the disc design and layout tools were more elegant. The Mac software also includes a nifty utility for copying multiple master discs during the same job. For example, it's possible to make three copies each of five separate discs: Just load all of the discs in the right order and let it rip.

It would be nice to see some consistency in the look, feel and feature set of the software bundle between the two platforms. Better yet, I'd really like to see a custom integrated software package from Primera. That way, you could learn one set of tools with the same look and feel for both the PC and Mac.

ON THE JOB

The BravoPro robotics' mechanism is twice as fast as previous generations, according to Primera. Previous duplicators I've tested from Primera—such as the Composer, Bravo and Bravo II—were noticeably slower. While I didn't get out the stopwatch to time the various models, I can confirm that the BravoPro is the most refined of the duplicators in the line. The machine did a good job of picking and putting discs in and out of the bins and drive trays without missing any during the tests. I ran multiple small runs of both DVDs and CDs, usually 25 or so, without any problems. Compared to other Primera products I've tested in the past that weren't always "pick perfect," the BravoPro required less eyes-on time.

However, in Kiosk mode, the output tray had to be positioned just so to work. When I ran the first job of 100 discs in Kiosk, I returned the next day to find 100 DVDs burned and printed. But when I moved the machine or removed and replaced the output bin and attempted to run another job in Kiosk, sometimes the discs would not slide correctly out of the front and into the output bin; they tended to stand on edge.

What I don't understand is why they made the output bin in Kiosk mode adjustable at all? It should just snap into place and work. The duplicator also has to sit at the edge of a table so that the bin can hang down—not a very elegant solution.



Kiosk quirks aside, the BravoPro produced quality CDs and DVDs and the print quality is stunning. Even at the lower-quality settings, the discs looked great, especially when paired with high-quality printable media. I really enjoyed the results from using silver printable media, which adds a certain glow to the colors.

DOES BRAVO GET A BRAVO?

I've had considerable experience with Primera dupers, and the BravoPro is quieter and more predictable than other products in the company's line. As I mentioned above, DVDs are, as a rule, quirky, so to be safe, slow the burning speeds and verify that each disc has been burned correctly.

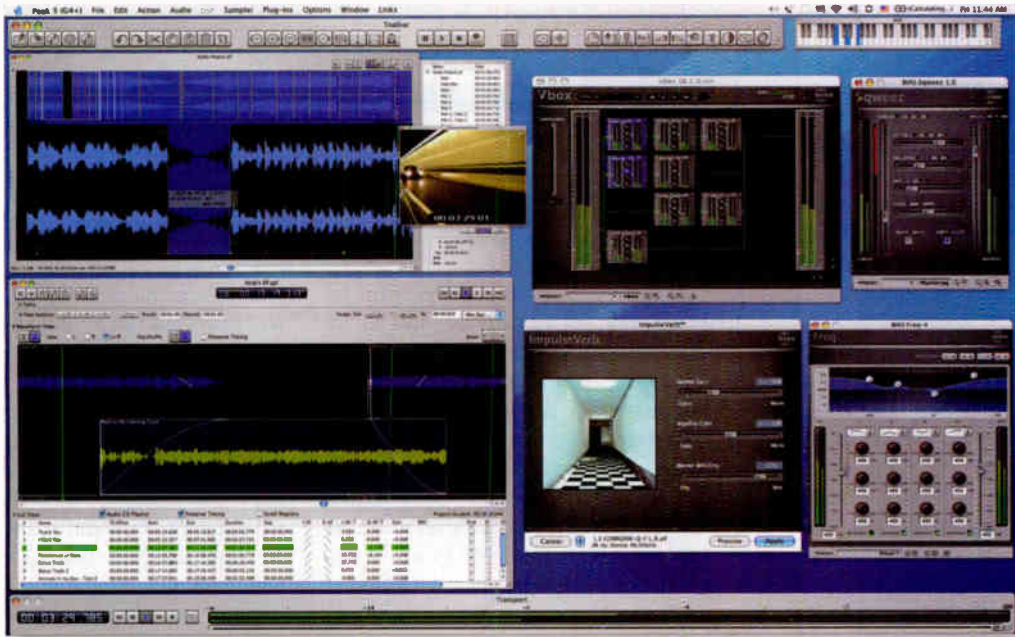
If space is an issue, the BravoPro has a fairly large footprint. Other downsides are that the software package feels a bit disconnected between Mac and PC, and the kiosk isn't perfect. However, in most respects, this third-generation Bravo hits the mark. Primera has created a turnkey solution that can run itself. The BravoPro is worth serious consideration for any business looking to do small-run in-house duplication.

MSRPs: CD-R, \$3,495; DVD±R/CD-R, \$3,995.

Primera, 800/797-2772, 763/475-6776, www.primera.com. ■

Rick Spence is the owner of AVT Pro, a production company in the Silicon Valley.

Edit. Process. Master. Burn. In ways your DAW can't touch.



www.bias-inc.com • 1 [800] 775-BIAS

In this age of “do-everything” digital audio workstations, it seems they all forgot something big. Namely, true professional-quality CD mastering.

Fortunately, your own mastering lab awaits you: Peak Pro 5. Along with award-winning editing and sound design tools, now you also get the world's very best mastering solution. With advanced playlisting. Superb final-stage processing. Disc burning. Plus subcodes, DDP export, 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, SuperFreq, five new plug-ins, and more.

Burn, Baby, Burn!

So, when you're ready to master, Peak Pro 5 has everything you need. It's the perfect complement to your DAW. Or, perhaps we should say, it's the perfect finishing touch.



Peak Pro XT 5 comes with these five new plug-ins — plus SoundSoap Pro (a \$599 value) & more!



Squeeze-5™
5-band compressor/limiter
with linear-phase performance



Reveal™
Professional 7-tool audio
signal analysis suite



GateEx™
Top-performing gate/
expander plug-in



Repli-Q™
EQ matching, with
astounding results



PitchCraft™
Super natural
pitch correction

Limited Time Offer: Buy Peak Pro 5 or Peak Pro XT 5 & get even more extras — up to \$399 in value!

www.bias-inc.com/peak5

© 2008 BIAS, Inc. Peak, Peak Pro, Peak Pro XT, Peak LE, Peak DV, Deck, Deck LE, SoundSoap, S-unSoap Pro, Vhez, BIAS Studio, Free, Squeeze, ImpulseVerb, PitchCraft, Repli-Q, Squeeze-3, Squeeze-5, Reveal, GateEx and SuperFreq are trademarks of BIAS, Inc. VST is a registered trademark of Steinberg Media Technologies AG. All other trademarks are property of their respective holders. All features, prices, specifications, and offers are subject to change. Certain features such as the number of simultaneous plug-ins or tracks are dependent of specific versions of BIAS software, along with CPU, operating system requirements and capabilities. BIAS, Inc. assumes no responsibility for or guarantees of third-party software or hardware specifications, features, or compatibility with BIAS products.

TC Electronic EQ Station

Processing Powerhouse for Live Sound

When it comes to working in a live sound environment, an engineer often uses a different sound system each night. Up until now, the idea of carrying your own EQ for numerous monitor mixes may have seemed a luxury, but now this luxury is both an option and affordable with the new TC Electronic EQ Station.

The EQ Station packs eight channels of 24/48k digital DSP in a two-space chassis, which is a foot deep and weighs 12 pounds. The front panel features a very bright Quarter VGA (320x240 pixel) color LCD. Two large rotary encoders for channel selection and adjustment are located in the center with a four-way navigation pad between them, and a trio of smaller EQ filter knobs on the right.

Each channel of DSP is divided into four pages of control: a main page with delay (to 600 ms) and a brickwall limiter; a graphic page with 29 standard filters from 31 to 20k Hz (and highpass to 600 Hz); a 6-band parametric page; and a page for two types of dynamic EQ. Each section can be turned on and off, or edited independently using columns of four on/off buttons and four edit screen buttons on either side of the display.

It's widely known that manufacturers implement graphic filters with different kinds of response. The EQ Station provides four popular graphic EQ types, with up to 12 dB of cut or boost—a design feature based on the BSS 960, the Klark Teknik 27 and TC Electronic's 1128. I prefer the 960's narrow-Q filters for monitor EQ as they provide minimal interaction with adjacent filters. The ability to see the actual curve created on the display is very helpful.

VERSATILE, POWERFUL INTERFACE

The EQ Station's simple yet powerful functions include the ability to define a group (on the EQ Station via the MotoFader remote or in the Virtual EQ software) so that a number of each channel's graphic sections can be easily controlled. The All function allows users to grab a frequency on every graph globally at one time.

In the 6-band parametric section,



the highest and lowest filters can be independently set as shelving, and all six provide ± 24 dB of cut or boost. In the dynamic EQ section, the filters can be set for mastering applications as 3-band, crossed-over full-range or for proximity effect/de-essing as 2-band parametric to isolate specific frequencies. Gain scaling allows the maximum signal level to be set in 3dB increments from +15 to +24 dB to match analog equipment. Digital AES I/O is available via an optional card with a 25-pin D-type connector.

In addition to eight pairs of XLRs on the back for analog I/O, a pair of Ethernet jacks connect multiple EQ Stations in a peer-to-peer network so that no matter which EQ one unit contains, you can control any channel from any EQ Station in the network. Virtual EQ Station PC software duplicates front panel display functions, and because EQ Stations run on an Ethernet network, running them wirelessly is as simple as plugging them into a 802.11 router and using a WiFi-equipped laptop or tablet.

The MotoFader remote head's 29 motorized 60mm faders can operate up to eight EQ Stations' graphic EQ sections for a total of 64 channels. It handles 64 channels as four banks of 16, so a 16-channel system is ideal. The best use of this four-rack-space fader head is to mount it either in the top four spaces or to set it on top of the monitor drive rack, putting graphic controls for every EQ at eye level. Its A/B control allows quick comparison between a saved preset and its current edit.

DAY-TO-DAY WORK

I carried the EQ Station on tour for many weeks. Although the singer I worked with often had the same pair of wedges, each night, the sound company du jour provided me with a different make of matched single-12 wedges for the band. After giving them

hearing screenings, I was able to put tweaks for their individual listening preferences into the parametric section and stored these as presets. Each day, I'd flatten the new wedges' response using SIA Smart, mowing the tops off of the "mountains." On frantic days, I'd just shoot one wedge and copy that setting to the other mixes. The EQ Station's copy and paste functionalities are built into two buttons over the three filter controls.

With 250 user memories available, the EQ Station can store presets for every speaker model—or every speaker—in your inventory, leaving the graphic filters to be used by mix or system engineers. I saved a preset for each type of passive or self-powered wedge, knowing that I could rely on them to quickly get what I wanted in the future. Also, 127 scene presets allow for snapshots of the entire unit or network of units to be stored.

RELATION WITH THE STATION

The EQ Station's versatile and powerful interface made setting and recalling my EQ settings a breeze. It is upgradable via Ethernet, and there have been several updates in the past year. Version 2 adds, among other things, a lock with the option of using the graphic and/or recall of presets.

Conveniently, I put a TC Reverb 4000 in the same rack and beat the restrictive 50-pound weight allowance for domestic U.S. airlines. The unit runs on international voltages from 100 to 240. The EQ Station is the single best upgrade for the "A" monitor rig and is sure to be added to many tech riders this year. Systems start at \$5,245.

TC Electronic, 818/665-4900, www.tcelectronic.com. ■

Mark Frink is Mix's sound reinforcement editor and k.d. lang's monitor engineer.

SOMETHING MISSING in your buying experience? Then you should speak to the pros.

The pros at Full Compass offer the best buying experience in the audio industry. Serving our customers for 28 years, we offer knowledge, loyalty and long-term service. Our honest personal consultants reveal

your options and capabilities using the most competitive pricing available. Serving the audio and video industry for 28 years, Full Compass is proud to offer the most extensive selection of products and services in the nation.

Services we offer:

- >Rentals
- >Integration
- >Authorized Service and Parts
- >Online Product Info
- >Leasing



The most comprehensive catalog in the audio industry.

Request your free copy: FULLCOMPASS.COM



World Radio History

Full Service Consultation



WHERE THE PROS ARE.

800-356-5844
or 608-831-7330 locally
Monday-Friday 9-5:30 CST

¡Expertos que hablan español disponibles en x1178 y 1342!

Extended hours-Quick answers



800-476-9886

M-F 8-8 Sat 10-4 CST

Quested S7 Powered Reference Monitor

A Smooth Operator for Near-Field Applications

British manufacturer Quested is no stranger to high-end studios. The company's reference monitors have been installed in such iconic music production facilities as Abbey Road, The Hit Factory and Wisseloord. The S7 is Quested's newest line of monitors, the S Range. The S7 is a two-way, active bi-amplified monitor suited for near-field applications, such as recording and mixing, post-production, broadcast and surround sound.

LET'S TAKE A CAB

The S7's cabinet is compact yet hefty, measuring approximately 9.6x11.9x13.7 inches (WxDxH) and weighing roughly 26 pounds. The magnetically shielded cabinet allows it to be placed in close proximity to CRT monitors or TVs, and is finished with an attractive, black-ash veneer. Cabinet edges are not radiused. Two drivers, a 6.5-inch woofer and 1.1-inch soft-dome tweeter are vertically aligned and flanked by two bass-reflex ports that vent out the front of the cabinet. A small, dim dual-colored LED on the monitor's face lights green when power is applied and changes to red 2 dB before the internal amplifier clips. Attachment points for an optional grille frame are provided on the cabinet's front face.

On the rear are a power switch, IEC power receptacle (for the detachable power cord), XLR/TRS Combo jack (for balanced audio input), input-sensitivity switch and two pairs of tiny dip switches to adjust high- and low-frequency responses. The input-sensitivity switch is a 10-position rotary control that takes a small slot-head screwdriver and adjusts sensitivity 2 dB higher with each clockwise click. (Sensitivity range is -12 dBu to +6 dBu for 96dB SPL at 1 meter.)

Depending on their settings, the dip switches for HF adjustment alternately produce a +2dB, 0dB (flat) or -2dB shelving response above 10 kHz. The dip switch settings for LF adjustment alternately offer a flat response or highpass filter settings yielding -2 or -4dB cut at 65 Hz. When all dip switches are set for flat response, the S7 exhibits a stated frequency response of 65 to 22k Hz, ± 2 dB. A fixed subsonic filter rolls off lows at 24 dB/octave for a

-3dB down point at 30 Hz, while a fixed ultrasonic filter rolls off highs at 4 dB/octave for a -3dB down point at 75 kHz. The monitor's crossover is at 1.19 kHz.

The S7's two integral power amplifiers deliver more than 120W RMS power to the woofer and more than 70W RMS to the tweeter. That produces a maximum SPL of 121dB RMS at 1 meter with music input, which is plenty loud for any reference application. The S7 can be set via internal plugs for either 115- or 230V operation at 50 to 60Hz AC; an external switch would have been more accommodating for producers and engineers working with the S7 in the U.S. and Europe.

TAKE THE STAND, MR. SPEAKER

For my listening tests, I placed a pair of S7s on 16-inch-diameter Acoustic Sciences Corporation (ASC) Monitor Stands. The stands are configured in my control room as part of an ASC ATTACK Wall, a modular and contiguous arrangement of tube traps that wrap around the back side of my mixer to essentially soffit the speakers in an acoustically controlled environment.

I listened to a variety of country, pop and metal material, including some of my own recent mixes. I heard no thumps when powering up or down each S7, and the built-in amplifiers produced no discernible acoustic noise when operational. The S7s sounded great placed either in vertical or horizontal orientation, and I was immediately impressed by how incredibly wide the sweet spot was (both on horizontal and vertical axes). This is a major consideration if, for example, you're mixing on a large-format console.

The S7s exhibited a very smooth and balanced frequency response throughout their usable range. Transient response, imaging and depth of soundstage were all excellent. My only substantial criticism is that bass guitar, although prominently reproduced, could have sounded a little tighter. This is a tradeoff that ported cabinets commonly impose in exchange for greater bass extension. Speaking of which, you'll want to add a subwoofer to an S7 monitoring setup. For example, the low Chapman Stick notes on Paula Cole's "Tiger," while audible,



were very understated. Quested states that adding its SB Series sub bass to an S7 setup extends the system's frequency response down to 20 Hz.

The S7s move a lot of air when reproducing low frequencies at high monitoring levels. Listening briefly to a mix at 90dB SPL while sitting 3.5 feet away from a pair of S7s, I often felt wind from the bass ports hitting my face. It was a minor distraction. Heck, I might have just found a way to cut down on my air-conditioning bill!

CONCLUSION

The S7 does not have a classic "small monitor" sound. If you're looking for a near-field that will give you a band-limited window into the mix's midrange, then the S7 won't be your cup of tea. This monitor leans more toward a full-bandwidth solution (minus at least the bottom octave) while retaining a modest footprint. The S7 excels particularly in situations in which a wide sweet spot is required. The price, \$999 each, is quite reasonable, and the S7's overall performance delivers.

Quested, 011/44-1404-41500, www.quested.com. ■

Mix contributing editor Michael Cooper has been recording voice-overs with news correspondent Barry Serafin for The Journal Editorial Report, airing on PBS.

INTEGRATION

Desktop Audio &
Pro Recording
Solutions

Desktop Audio • Live Sound/PA • Pro Recording
• Broadcast/ENG • Electronic Field Production

420 Ninth Ave., NYC 10001
www.bhproaudio.com
800-947-5508

B&H
PHOTO - VIDEO - PRO AUDIO

USB Ultra Focus Virtual Instrument

Popular Classic Synths Reproduced in One Anthology

Purists believe that virtual instruments that emulate classic synthesizers never sound quite as good as the real thing. The engineers at Ultimate Sound Bank (USB) agree. In their quest to produce a plug-in anthology of the most popular synthesizers ever made, USB decided to *sample* custom patches played on classic hardware synths. They then fitted the plug-in with a GUI using familiar subtractive-synthesis controls. The result is Ultra Focus (\$399), an editable ROMpler (sample player) that is one of the most impressive-sounding, versatile and user-friendly virtual instruments on the market.

HIGH-END SOUND QUALITY

USB used varied high-end recording gear to do the sampling for Ultra Focus, and the character of those audio paths is clearly audible. Simply put, Ultra Focus sounds awesome. More than 50 synthesizers were sampled (see a partial list at www.mixonline.com) to create more than 8 GB of content. Most of Ultra Focus' presets incorporate the sound of one synth (although some stacks are included) to easily organize and preserve the identity of historic synth sounds.

However, the plug-in's dual-layer architecture allows you to combine two multi-sampled presets to create hybrid sounds. These can be a constant stack or you can use a mod wheel or other controller to morph between the two layers. You can also use one layer to modulate, or vocode, the other. Incredibly, Ultra Focus also includes almost 200 presets comprising basic waveforms (with every note sampled) from nearly every major classic synth, so you can roll your own patches from scratch.

Presets are organized and accessed within the plug-in via a pop-up menu representing each synthesis type. Each type is further divided into submenus that thoughtfully group presets together according to their application (synth bass, pads, strings, sweeps and so on). This arrangement makes it easy to find the right sound from the more than 2,000 quality presets within Ultra Focus.

TWEAKER'S DELIGHT

You can edit Ultra Focus' two layers independently or simultaneously. Each layer can have its level, pan, mute status and pitch (both coarse and fine) adjusted independently of the other layer. You can also choose one of four defeatable filters (three lowpass filters and one highpass filter) to apply to each layer; a set of common filter controls—frequency cut-off, resonance, drive (distortion), keyboard tracking and envelope amount—retains the current settings for the layer no matter which filter is chosen.

Pitch, filter, amplifier, drive and pan can each be modulated independently for each layer by any one of 20 modulation sources (including velocity, after-touch, mod wheel and two host-synchable low-frequency oscillators); a dedicated depth control for each destination adjusts the amount of modulation. Two ADSR envelopes control the filter and amplifier for each layer, and the envelopes' attack and decay times can each be modulated by velocity.

Parameters that control both layers simultaneously include velocity curve, polyphony, octave, glide, solo, pitch-bend range, controls for a master filter (highpass or lowpass with adjustable cut-off and resonance), two more tempo-synchable LFOs and two defeatable effects (also tempo-synchable). Twenty-nine quality effect algorithms—mostly time-based effects, filters, distortion and dynamics processors—are included and offer up to five adjustable parameters each. I wish Ultra Focus could accept audio input so it could be used as a processor.

ROOM TO GROW

Although the sound quality is impeccable, Ultra Focus does have some faults. Edited presets show no indication that an edit was made and tweaks should be saved. You cannot gang the layers' two output fader controls to make global output level adjustments while retaining the relative balance between the two layers. Switching Ultra Focus' time-based effects presets often crashed Digital Performer V. 4.52, and two of the auto-wah presets silenced the plug-in's output. The only way to refresh



Ultra Focus' GUI offers familiar synth controls.

Ultra Focus' directory listing of presets is closing and re-instantiating the plug-in. The effects parameters are not documented in the manual. MIDI program change is not supported.

Some limitations can be overcome with creative solutions. For instance, although Ultra Focus is not multitimbral, you can use multiple instantiations as a workaround. While you can't automate Ultra Focus' controls, you can use MIDI continuous controllers with a sequencer to accomplish much the same thing.

HOW WAS IT?

Ultra Focus gobbled up a fair amount of CPU power on my dual 867MHz G4 running Digital Performer V. 4.52. With no audio tracks playing, buffer set to 256 samples and polyphony set to 10 voices while playing two layered presets of sustained sounds without a sustain pedal, my peak CPU load was roughly 75 percent.

If you're looking for a phat plug-in that covers virtually all traditional synth-based sounds in one nut, this is it. Ultra Focus has become one of my favorite virtual instruments, as it offers a tremendous variety of impressive synth sounds with an intuitive interface that encourages tweaking.

Supported formats include DXi, VST and RTAS for PCs, and VST, MAS, AudioUnits and RTAS for Macs.

Ultimate Sound Bank (dist. by ILIO), 800/747-4546, www.ilio.com.



Look and sound like a million bucks. Pay only \$990.

 **DISC MAKERS**[®]

CD AND DVD MANUFACTURING MADE EASY



Now get 1,000 CDs in full-color jackets for the remarkable price of

\$990

This complete package includes our award-winning, three-color on-disc printing, and full-color jackets with high-gloss UV coating.

1,000 CDs in jackets for only \$990.

You'll be thrilled with how incredible your CDs look and sound when you choose Disc Makers. You get 1,000 CDs in full-color jackets for the remarkable price of only \$990. And you get them super quick. Complete your package by adding our affordable award-winning graphic design, mastering services, and promotional resources such as posters and postcards.



MUSIC



FILM



BUSINESS



DO-IT-YOURSELF



GET OUR FREE FACTORY-DIRECT CATALOG
1-866-677-7912 • www.discmakers.com/mix

Eventide Anthology Plug-In Bundle

New Effects Round Out Legendary Processors

To celebrate the creation of more than three decades of digital effects, Eventide has released Anthology, a gigantic software bundle with every plug-in the company has designed. All nine plug-ins are written for Pro Tools TDM only, starting with the Clockworks Legacy plug-ins (see *Mix's* July 2003 issue) and comprise Instant Phaser and Instant Flanger, the original H910 Harmonizer, H949 Harmonizer and Omnipressor.

Two plug-in offsprings from the Orville unit are represented with the Eventide Reverb and Octavox, an 8-voice diatonic Harmonizer (reviewed in *Mix's* November 2004 issue). Anthology finishes with plug-in versions of programs from the H3000 Ultra-Harmonizer called Factory and Band Delays, which are the focus of this review.

TAKING THE FACTORY TOUR

Factory, a re-created version of the classic H3000 Mod Factory [One, Mod Factory | Two and Patch Factory algorithms, is a wonderful plug-in that allows you to "design" any effect by connecting color-coded virtual patch cords between 18 different effects blocks.

Both Factory and Band Delays' GUIs are divided into three main sections with nearly all controls and buttons automatable. At the top is a virtual H3000 front panel with four programmable soft keys to manually control (or with MIDI or automation) the parameters of any effect patch. There are also quick ways to choose snapshots, navigate the other sections of the GUI and monitor input and output audio levels.

A Preset Parameter section offers wet/dry mix, input/output level faders and session time/tempo windows to set time (in bpm). You can also configure whether the plug-in's effect will be session tempo-based or free-running.

The Program page shows Factory's 18 effects blocks as a small patchbay; clicking on any block expands it for programming. This page also includes a white noise output for a truly random modulation source, plus the left and right inputs from the channel you've inserted it on. A full-scale input is used to maintain

steady control signals and sidechain input routes the audio from any Pro Tools bus or interface path to any effect module. The Mod knob input directly routes the H3000's large knob to manually control any parameter.

Effects blocks include two delays with beat grids where you can freely drag the delay time value or across a single bar of music, which is divided into quantized 16th-note slots. Maximum delay time is 600 ms per delay module. Two pitch-shift modules also offer beat grids for setting the additional delay time for any pitch-shifted audio. Pitch shift has two modes: Detune (for micro-pitch-shifting) and Pitch Shift (for retuning notes anywhere up to an octave and down four octaves).

Two identical parametric filters have a choice of highpass, lowpass and bandpass modes with selectable Q ranges all the way into self-oscillation, as well as a graphical representation of the filter's action. The two Ampmod modules are virtual VCAs and are useful for creating dynamic effects, such as compressors, gates, duckers or auto-panners. The two scale modules are for audio and control signals: They modulate level controls.

Two LFOs feature graphical displays with 13 different wave shapes and provide the ability to trigger a single LFO wave cycle. There are two independent envelope generators that create a trigger output in response to an audio level change on their input. Envelope generator has two output "polarities": an envelope follower and ducker output. Four 2-input/1-output mixers are provided for mixing audio or control signals. If that weren't enough, two deeper pages called Expert and Function allow for even more tweaks.



Factory lets you "design" effects by connecting processor blocks.

FACTORY FUN

Programming Factory is really fun, similar to wiring up a synthesizer patch. For a recent rock project, I built a snare drum remover for the drum overhead tracks. I fed audio for the left and right overhead tracks into two Ampmod modules and fed the sidechain input from the close-miked snare track's audio into the envelope generator. I added a bandpass filter before the envelope generator to rid this trigger signal of any kick drum or cymbal leakage. The envelope generator's ducker output modulated the Ampmods that shut down—not passing any audio—with every snare hit. By adjusting the envelope generator's attack and release times, only the snare drum was extracted, leaving the cymbals and tom-toms untouched.

You can also use the built-in Function Generator for a modulator. The Function Generator is an LFO adopted from the H3000 that has 19 different wave shapes, including single-shot triggered waves and a triggered sample and hold wave that generates a new random value with each trigger. Getting the most elaborate-sounding effects from Factory and Band Delays is all about the modulation schemes you develop.

I also came up with a dynamic stereo delay patch. Essentially, the softer a musician played, the more delay level and longer delay times were heard. As the musician played harder, his sound got drier and drier. I used an envelope generator connected to

A DIFFERENT KIND OF DESK JOB



training for a career in the audio industry

OPEN HOUSE August 6th: Los Angeles, Miami, Nashville
August 7th: New York City

Individual Lab Time
Hands-on Training
Over 40 Schools Worldwide
Full and Part Time Courses
Job Placement Assistance for All Graduates
Financial Assistance for Those Who Qualify



Solid State Logic - Approved Training



New York City*

1293 Broadway, 9th Floor
New York, NY 10001
212-944-9121

Los Angeles

6565 Sunset Blvd., Suite 100
Los Angeles, CA 90028
323-466-6323

Miami

16051 West Dixie Highway
Suite 200
North Miami Beach, FL 33160
305-944-7494

Nashville^Δ

7 Music Circle North
Nashville, TN 37203
615-244-5848

Every new student enrolling in our Audio Technology Program at SAE Institute in the US receives their own Apple iBook and Pro Tools LE digital recording system! Subject to change without notice; terms and restrictions apply.



1-877-27-AUDIO • www.sae.edu

* accredited by the Accrediting Commission of Career Schools and Colleges of Technology (ACCSC) - Δ accredited by ACCSC, federal financial aid for those who qualify

2-way?
3-way?
ALL-ways



THE ORIGINAL & FINEST QUALITY
PROFESSIONAL PERSONAL
MONITORING PRODUCTS.

- MG4™ DRIVER TECHNOLOGIES
- MAXIMUM BASS RESPONSE
- MAXIMUM VOCAL QUALITY
- MAXIMUM CLIENT SERVICES
- MAXIMUM RELIABILITY



AND WE'RE JUST GETTING STARTED.

IF THEY DON'T SAY
**FUTURE
SONICS**
THEY'RE NOT
EAR MONITORS®
BRAND

BELIEVE YOUR EARS™

TOLL FREE: 877.FSI.EARS
OUTSIDE U.S.A.: +01(215)598.8828
INFO@FUTURESONICS.COM
WWW.FUTURESONICS.COM

FIELD TEST

the Ampmods to duck the level of the two delay blocks and, simultaneously, modulate the delay times.

DELAY DELIGHT

The Band Delay's plug-in comprises eight tempo-based multi-tap delays, each featuring a fully programmable parametric filter and feeding a stereo output mixer. The filter frequencies can be "played" using MIDI. You can select between lowpass, bandpass or highpass-type filters and have bandwidth

GREAT DELAY EFFECTS

Band Delays is the answer to lackluster timed delays or "throws." I set up a simple rockabilly slapback echo using four delays spaced eighth-note apart, panned left and right and with lowpass filters increasingly rolled off with each successive repeat.

Choosing one of the 54 great-sounding presets is a great place for new users to start building patches. I liked that I could ride and automate delay lengths, levels, filter widths and feedback amount to keep the effect from



Band Delays offers eight tempo-based multi-tap delays, each with a programmable parametric filter.

control (Q) with high resonance.

The Preset Parameter section has been expanded, offering similar tempo controls as Factory, but adding global—or master—parameters that control all eight delays together as a group. You can control and automate the input and output levels, wet/dry mix, frequencies, Q, pan and independent Feedback Delay section.

The Program page shows the eight delays in a stack, each represented by a color-coded "x." The right half of the Program page shows the Band Display, a beautiful graphical 3-D representation of the eight delays using the same color-coding. The horizontal x axis shows the frequency span and shape (lowpass, bandpass, notch or highpass) of the filter programmed on each delay, while the vertical y axis shows amplitude or gain of the filter and the z axis (or depth into the image) displays the delay length, the shortest filtered delays in front with later delays lining up behind. You cannot directly edit here, but it is helpful to see the delays and filter's action when under modulation.

taking over at certain moments in the song. I used an eight-delay patch for an Edge-inspired guitar part with the filters gradually opening up with each delay repeat.

THE VERDICT?

Both Factory and Band Delays are powerful Pro Tools plug-ins that are perfect for sound designers or mixers who want to develop personalized and unique effect treatments for their music mixes. The interfaces are well-done and provide an incredible palette on which to create unique time-based effects.

The two plug-ins tested here, bundled with their Legacy and Orville partners, are priced enticingly at \$1,195. Owners of any Eventide plug-in (including any Digidesign Massive Pack) who purchase Anthology from July 1, 2005, to September 30, 2005, is eligible for a \$200 cash rebate.

Eventide, 201/641-1200, www.eventide.com.



Barry Rudolph is an L.A.-based recording engineer. Visit his Website at www.barryrudolph.com.

Quality High Speed Audio

USB 2.0 or FireWire - You Choose

UA-101

10-in 10-out USB2.0 Audio Interface



FA-66

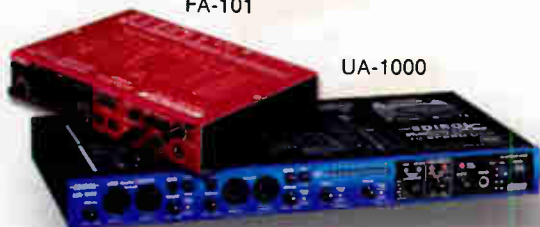
6-in 6-out FireWire Audio Interface

Meet the Parents.

The Edirol UA-1000 is the world's first USB2.0 audio interface and the FA-101 is the FireWire predecessor to the FA-66 with enough ins and outs for demanding applications.

FA-101

UA-1000



Instead of spending your time comparing interface technologies, spend it making music with high-quality FireWire and USB2.0 audio interfaces from Edirol, the leaders in high speed audio.

EDIROL
Produced by Roland

www.edirol.com • info@edirol.com • (360)594-4273

World Radio History

Pearl ELM-C Cardioid Condenser Microphone

Rectangular Capsule Takes On Resonance

While the rest of the world is at play, it seems that the Swedes are spending their long, cold winters pushing microphone technology in new directions. Though rectangular capsules are nothing new—Sweden's Pearl and Milab are the only companies making them—a capsule with such a large surface area is. The spin on this interesting capsule design is that it is said to offer many benefits over the time-tested circular diaphragm.

ANATOMY OF AN UNUSUAL MIC

According to the manufacturer, the traditional circular capsule design carries a flaw: Its primary resonance can be sonically detrimental, especially when it resides in the audible range. Damping can help, but it does not eliminate the problem. Larger capsules improve signal-to-noise but add to the problem by lowering resonance further into the audible range. The ELM-C's rectangular capsule greatly reduces resonance while adding more than double the surface area of its circular brother, thus improving the signal-to-noise spec (10 dBA).

Other benefits of the 7:1 length-to-width capsule ratio include more high-frequency linearity across the very wide horizontal axis and more rejection above and below the mic where floor and ceiling interaction can be a problem.

The mic comes in a sturdy aluminum box with a snug-form insert. Each mic is tested separately, and the frequency response chart is tucked neatly below the mic. Response is nearly flat from 20 to 20k Hz, and the mic can handle 126dB SPL before distortion. Each mic has an LED mounted inside that glows brightly when phantom power is introduced—a very nice confidence monitor. An optional stereo bar and shock-mount are available.

ON THE JOB

The science and theories explained above are impressive, but how does the mic sound? The answer is equally impressive. I had a pair of ELM-Cs with the optional stereo bar and shock-mounts for this test and was able to hear them in a wide variety of applications. First, I used them as drum

overheads. Due to the unusual horizontal and vertical linearity and rejection characteristics, I wanted to place them both top-to-top and side-by-side to hear the difference. This procedure was impossible to accomplish with the stereo bar—one of the few gripes I have about the product. Calling this rig clunky would be a compliment.

I found the best way to use the mics was to forgo the supplied mount and instead use an Audio-Technica spring-clip mount. The two-pair configurations each had their own personality and provided subtle differences in the stereo picture. It's something new to be able to "play" the room by putting problem areas off the mic's vertical axis.

The pair worked equally well as room mics and knee-highs. I used them to capture room ambience in many applications with great results. For instance, the mics shined when used to give a larger picture to percussion, trumpet and a drum kit.

Although the ELM-C sounded great on most recordings carried out for this test, it was simply awesome when used in stereo on a Yamaha C3 grand piano. The mics were placed about a foot over the strings and provided a beautiful rendition of the C3's brightness and body. Even when the player hit it hard, the ELM-Cs hung in there. ELM-C + Piano = A Love Thang!

Next, I tried the pair on a small brass ensemble, comparing them against a pair of Neumann U87s. The Pearls were noticeably brighter on the top and gave a very nice picture of the room. The stereo picture was beautifully rendered. Surprisingly, the mic was underwhelming when used in mono on a tenor sax. The Pearl simply did not flatter the tenor sax, bringing out the upper mids disproportionately. When used against a Neumann M147 tube mic, the Neumann easily won.

The mics sounded good when used to

record percussion up close. They didn't sound as open and had less top than a pair of DPA 4061s, but they hung in nonetheless and took well to being brightened at the top with a bit of EQ.

The wide cardioid pattern and even off-axis response were proven when the ELM-C was used in mono on an acoustic guitar. A single mic rendered a balanced picture of the guitar, even though it was placed near where the neck meets the body, an area that usually sounds thin. It also sounded very good when put in front of a guitar amp. It handled all the level the amp could give, never breaking up.

Last, I used the mic on a vocal. I really didn't know what to expect and it didn't disappoint. It did a journeyman job against a U87 and a DPA 4061, providing some nice top without being strident and sat nicely in the mix. Although it wouldn't be my first-call vocal mic, it wasn't bad.

A MIC FOR EVERY JOB?

Asking a mic to be the be-all, end-all transducer is unfair, but I found the Pearl to be versatile, delivering usable tracks in a variety of applications. My favorite application was as a stereo pair on piano; this seems to be why this mic was born. The sound from top to bottom and the stereo picture were stunning. One of my favorite aspects of this mic was that thanks to the capsule's natural directivity, I could use placement to de-accentuate unflattering parts of the room, such as floor and ceiling reflections.

My only disappointments were the less-than-stellar results recording tenor sax and the far-from-useful stereo bar and shock-mounts. Other than that, I'd highly recommend the Pearl ELM-C, especially as a stereo pair for high-end room, piano and orchestral applications. Price: \$2,000.

Pearl, dist. in the U.S. by Independent Audio, 207/773-2424, www.independentaudio.com. ■



BSW's Total Traveler Laptop Recording Package!



MOTU
MOTU's Traveler pictured
Front, Rear and Side



1 MOTU Traveler Digital Interface **NEW!!**

The MOTU Traveler turns your laptop computer into a mobile 24-bit, 192 kHz digital audio workstation, with renowned MOTU audio quality. Powered by your computer's FireWire bus, the Traveler easily fits into a travel bag and gives you eight channels of pristine 192 kHz analog recording and playback with four mic inputs, combined with all of the digital I/O you need: ADAT optical, AES/EBU and S/PDIF (both TosLink and RCA). No mixer is required, thanks to CueMix DSP, the Traveler's latency-free, 8-bus digital mixer. Monitor via the Traveler's main outs, headphone jack and/or any other output - even create separate monitor mixes for the main outs, headphones and other outputs. The Traveler provides compatibility with Mac OS X (10.2.3 or higher), Windows Me/2000/XP and all of your favorite software and host-based effects. Or you can use the included AudioDesk workstation software for Macintosh. Tres cool!

2 Sony MDR 7506 Headphone

The Sony MDR-7506 headphone is a best-seller at BSW and has been for the last 15 years! It delivers a wide frequency response of 10 Hz-20 kHz in a comfortable, sealed-ear format that provides excellent isolation.

3 AKG C2000B Packages (Two of em!)

The C2000B features a cardioid pickup pattern and is an excellent high-quality condenser recording microphone. It offers almost ruler-flat response providing a crystal-clear, "up-front" sound. Features a switchable bass roll-off filter and 10 dB pad and a built-in pop screen and shock mount. BSW's exclusive package includes the mic, a boom stand and 25 ft. XLR cable!

LowestPrice@bswusa.com Package Only \$1,299!

You Save \$506 AND get FREE SHIPPING when you order on the web • Order Item Number: TRAVELERPKG

Save a SACK 'O CLAMS with BSW on these hot rides:

Multiple Pattern A-T

Superior performance makes the Audio-Technica AT4050 condenser mic the first choice for award-winning producers, engineers and musicians. It packs three switchable polar patterns into a dual-diaphragm studio mic. Transparent users' mids balanced by rich low-end qualities provide wonderful audio. Transformerless circuitry, switchable 80 Hz high-pass filter, 149 dB max SPL and 10 dB pad.



AT4050 List \$995.00 **LowestPrice@bswusa.com**
OR CALL 1-800-426-8434



Groove Tubes Tube Compressor

The GloryComp was created to be the very best all-tube compressor on earth. Own it and you'll be recording the purest audio of your life. It employs seven vacuum tubes to accomplish its dynamics processing. Compression ratios, threshold controls, logarithmic and linear release modes, VU meter, sidechain EQ, 2nd-order harmonics control and more.

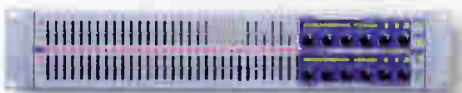
GLORYCOMP List \$3,499.00 **LowestPrice@bswusa.com**
OR CALL 1-800-426-8434



Marantz Portable Flash Recorder

It's here! The new Marantz PMD660 digital recorder is in BSW's warehouse ready for immediate delivery! Record hours of MP3 audio on a single Compact Flash card (or as high-quality WAV files) and transfer to your computer via USB. The PMD660 offers onboard stereo mics for on-the-spot recording, or use your own mics via two XLR inputs.

PMD660 List \$649.99 **LowestPrice only \$499!**



PreSonus Digital EQ

The DEQ624 is the digital processing unit with an analog feel. It provides separate high- and low-pass filters for each channel, a narrow Q select that gives more precise control over the frequency being attenuated, and also a switchable range control that changes the cut/boost of individual frequencies over three different dB ranges... Order today.

DEQ624 List \$799.95 **LowestPrice@bswusa.com**
OR CALL 1-800-426-8434



The Liquid Channel Voice Processor

Imagine being able to access any of the best compressors and/or mic preamps ever available—even the ones that are impossible to find, let alone afford. The Focusrite Liquid Channel is the ultra-cool channel strip that emulates virtually every classic mic pre and compressor. See it at www.bswusa.com.

LIQUIDCHANNEL List \$3,495.00 **LowestPrice@bswusa.com**
OR CALL 1-800-426-8434



5-Pack Sennheiser HD202



Five Sennheiser HD202 headphones for \$89.00!! We're not kidding. These sealed-ear headphones provide crisp bass response and good insulation from ambient noise. Powerful neodymium magnets for high sound levels. 18 Hz-18 kHz.

HD202PKG **LowestPrice 5 for Only \$89!**

FREE SHIPPING ON MOST WEB ORDERS OVER \$189!!! Jus' make your purchase on our website and we'll cover the shipping!

Lowest Prices at: www.bswusa.com



1-800-426-8434
World Radio History

Knowledgeable Staff
Our sales professionals have firsthand studio experience. As often as not, you'll have your equipment purchased from them.

LowestPrice@bswusa.com
For the best prices on all of your gear visit us on the web at www.bswusa.com or email us at lp@bswusa.com

Same Day Shipping
2000 BSW is a huge warehouse of products. We have 15,000 sq ft of space to store your gear. We'll ship your gear out the same day you order it.

Free Shipping on Web orders over \$189
We'll ship your gear to your door for free. (continental US only) We'll ship your gear to you for a fee. (international orders)

It's My Party and I'll Rant If I Want To Birthdays, Ear Health and DC Power Distribution

This month kicks off and wraps up with two birthday celebrations—both national and my own, the latter marking a half-century of heartbeats, breaths, strange sounds and geekish behavior. So before addressing a most important health-related issue and zooming in on an SSL dynamics module's power distribution, I'm going to indulge myself.

In the spirit of celebratory chutzpah, so many things come to mind: semi-mental wanderings, "advertising" for that dream job (Hey, Pixar, you really want me?) or getting a few political rants off my chest. Audio and politics seem to be like oil and water, so 'nuff said 'bout dat, but my summer reading schedule will include Thomas Friedman's *The World Is Flat*.

Relative to Pixar, Sarah Vowell's vocal contribution to *The Incredibles* DVD makes me want to nominate her for the Queen of Geeky-Cool Award. (I understand that she considers herself a nerd and that I should, too, but geek works for me.) One final indulgence and then down to the real biz.

FORBIDDEN FRUIT

Would someone please explain why Fiona Apple's album, *Extraordinary Machine*, has not yet been released? After reading a "bootleg review" in *The New York Times*, I confess to downloading it before Sony closed down all the fan sites. I've even passed it along, guilt-free, to a few friends. It's a great record that should be released with this warning: "Contains Music. Has Potential to Stimulate Brain Cell Activity," unlike 50 Cent, who seems focused on activity below the waist. Candy stores just ain't what they used to be.

CANARY IN THE COAL MINE

We all value our hearing, and nothing is more disturbing than temporary hearing loss due to colds or, worse, permanent damage due to high SPLs. Consider that most hearing tests focus on the upper midrange (speech intelligibility and not high fidelity). From here, extrapolate the medical profession's prioritization that your ability to *hear well* is tertiary to your ability to hear at all—heart health being its primary concern.

Some studies have linked elevated cholesterol and triglycerides with high-frequency hearing loss. In food—as well as in the body—most fat exists in chemical form as triglycerides. If these studies are correct and considering our preoccupation with hearing well, perhaps we can be of service to the medical profession by being the auditory

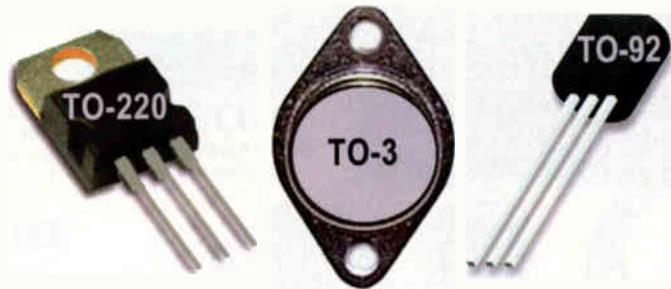


Figure 1: standard transistor and voltage-regulator case styles

canary in the coal mine. So if you are having odd or intermittent hearing issues, I suggest getting a blood test and making note of cholesterol and triglyceride levels.

Most of the time, my hearing is fine. A sympathetic audiologist went beyond the normal speech intelligibility range, and while I don't hear 18 kHz the way I did at 18, I was thrilled that my hearing was symmetrical. Bandwidth does not necessarily translate into knowing what to listen for; there's a lot to be said for educated ears.

SSL'S NOT WHISTLING DIXIE

And now, on to this month's topic. Twenty years ago I went freelance to help elevate the fledgling project studio environment to technically relevant level. Sounds better than "jumping on the bandwagon," doesn't it? I dreamed of having my own miniature studio, and now I do, so you could say my belief and passion in a concept paid off. This is why I'd never seen the soft underbelly of an SSL. I never had the opportunity to track, overdub or mix on one, until recently, when I began teaching at the Institute of Production and Recording (www.ipsr.school.com).

IPR's on-call technical wizard is Julie Gardeski. A recording engineer by trade and a technician out of necessity, Gardeski is a very intuitive troubleshooter because she understands signal flow and can follow the AC signal path on a schematic. We're exchanging specialties—she knows the SSL maintenance protocol, and I know circuits—so when asked for troubleshooting assistance, I jumped in.

DIGGING IN

All channel strips can be interrogated via the patchbay, and with a little practice, anyone can become familiar with op amp-based circuitry. Even with variations, a mic preamp, EQ and summing amp are recognizable in most mixer brands and models. It's a great triumph to successfully find and replace the right IC.

Most dynamics processors have DC control circuitry in the sidechain. But don't be intimidated by unfamiliar

Empower Your Laptop

\$499.99*

MASTERING GRADE
24-bit/192kHz
112dB SNR measured
A/D & D/A Converters



E-MU's new 1616M is the only laptop audio interface to offer mastering-grade 24/192 converters, zero-latency monitoring and hardware-accelerated effects – at any price. E-MU's CardBus card plugs straight into your laptop's PCMCIA slot, offering you all the DSP power of E-MU's award-winning PCI Digital Audio Systems in a mobile interface. You can use the CardBus card alone for its hardware-accelerated effects and premium stereo headphone/line output, or plug in the MicroDock for complete analog and digital I/O flexibility.

- ▶ 2 Mic/Line/Hi-Z preamps
- ▶ 4 TRS line inputs
- ▶ Turntable input
- ▶ 6 TRS line outputs
- ▶ 5.1 speaker outputs
- ▶ ADAT I/O
- ▶ S/PDIF I/O
- ▶ Headphone/Line output (x2)
- ▶ MIDI I/O (x2)

You don't have to compromise performance for mobility anymore.



MicroDock M back

E-MU Production Tools Software Bundle included:

SONAR LE

T-RACKS EQ

live lite 4

POWER FX

WAVELAB lite

SNM machine

Proteus X LE

Amplitude 16

Cubase • LE

* Estimated Street Price. E-MU 1616 Laptop Digital Audio System (with 112dB SNR converters) also available for \$399.99

CREATIVE PROFESSIONAL

Works with
Windows 2000 & XP

POWER FX
Hardware Accelerated
VST Effects

E-MU

© 2005 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.

www.emu.com

Toll-free
877-742-6084

parts or circuitry. When none of our dynamics problems responded to op amp swapping, I got out the 'scope and found a more fundamental problem that was power distribution-related. That's reason enough to start at the source and explore circuitry that's common to just about all op amp-based audio circuits.

POWER DISTRIBUTION

A power supply converts the AC line into DC, and a large-format console such as the SSL requires several power supplies—the exact number depends on frame size and online/back-up. Most console supplies are of the

"linear" variety, while computers and more modern gear have switch-mode supplies, the latter a topic for a future column. Either type is designed to run 24/7, even under less-than-optimum conditions, but that's no reason to ignore such a critical piece of gear.

Heat greatly reduces electronic component life, so if fans are an essential part of the design, confirm that they are still turning. And because fans make noise, the supplies are typically kept in a separate space, preferably with its own cool air connections: supply and exhaust.

As with any sophisticated piece of audio

—CONTINUED ON PAGE 153

Voltage Regulators

All op amp-based regulators, whether discrete or integrated (IC), can amplify AC and DC, so it is very important to address the potential for high-frequency noise and oscillation. Download the application notes for any IC-based regulator, and you will see a typical schematic along with the components that are essential for stable, quiet operation.

Regulators should have bypass capacitors on either side (input and output) to keep them from oscillating, and this is just what the bad channels were doing, so it is likely that after years of operation, the original caps were no longer doing their job. For this application, I would choose Panasonic's FC Series (or equivalent switch-mode-grade caps) because they are designed to tolerate high frequencies well and are rated for 105 degrees centigrade (long life under difficult conditions).

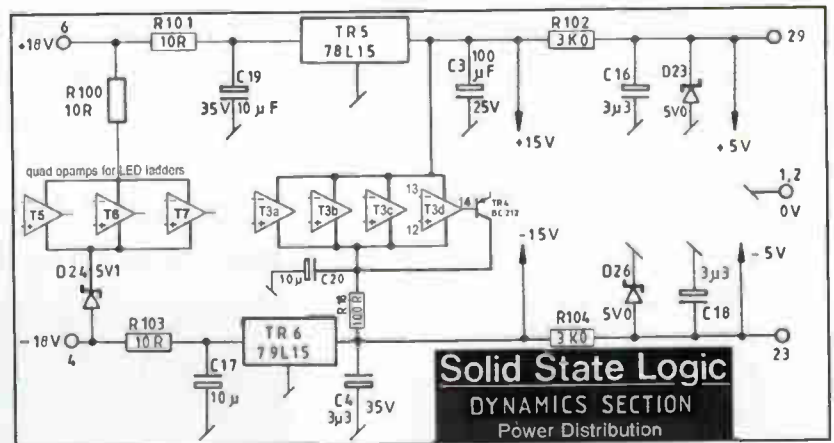


Figure 2: The local voltage regulation circuitry for the SSL dynamics module, "raw" power input is at left. Note that the three quad op amps (T5, T6 and T7) are fed before the local regulators by R100 (10 ohms) and D24 (a 5.1-volt zener diode). These ICs are used to drive the LED (gain reduction) ladders. Switching LED current on and off has noise-making potential. Powering them pre-regulator keeps the noise away from the audio signal path. Also note that capacitors C19, C3, C17 and C4 are on both sides (input and output) of each regulator.

T3, a quad op amp used in the expander circuit, is isolated (post-regulators) to keep expander/gate control signal noise out of the audio signal path. The 15-volt regulator (TR5) directly feeds T3's positive power input, while its negative input is fed by R18, a 100-ohm resistor in series with TR6. Downstream, series resistors R102 and R104 are clamped to 5 volts by zeners D23 and D26. These provide a 5-volt reference for the expand threshold pot and a section of T3 used for the gate.

—Eddie Ciletti

It's not just another limiter/compressor. It's like having a skilled assistant riding the faders!



Join the True Believers. Contact us at: www.innerTUBEaudio.com or (805) 688 - 8286.

Sweetwater Takes Command of PRO TOOLS

Digidesign's D-Control large-format work surface is the flagship of the ICON family.

Digidesign's ICON family, featuring the D-Control large-format work surface, changed the way Pro Tools users interact with their systems. And Sweetwater was there from the beginning, configuring and installing some of the first ICON systems in the world. Now D-Command, the newest member of the ICON family, brings the power of ICON to a medium-format console.

There's no better place to buy Digidesign's D-Control and D-Command than Sweetwater. Our Sales Engineers are Digidesign-certified Pro Tools users themselves, and have extensive experience with consoles of all types. Sweetwater understands the ins and outs of integrating Pro Tools and work surfaces into a studio, and we're uniquely qualified to design, configure, install, and test a Digidesign system specifically for your situation. No one knows Pro Tools and ICON like Sweetwater!



ICON INSTALLATIONS BY SWEETWATER



AUDIO RECORDING UNLIMITED
CHICAGO, ILLINOIS



ANOTHER COUNTRY
CHICAGO, ILLINOIS




SWEETWATER PRODUCTIONS
FORT WAYNE, INDIANA

Introducing D-Command, Digidesign's medium-format work surface for the ICON system.



The new D-Command work surface (shown with optional 16-channel fader pack) provides eight channel faders (expandable to 24), extensive metering, dedicated EQ and dynamics panels, monitor control, and much more!

 digidesign

From Pro Tools M-Powered systems to full-blown HD systems, Sweetwater can help you take control of your Pro Tools studio. Call us now!

Sweetwater[®]

music technology direct™

(800) 222-4700
www.sweetwater.com

PAT METHENY GROUP

REFINING THE LONG FORM IN
SMOOTH JAZZ

By Chris J. Walker

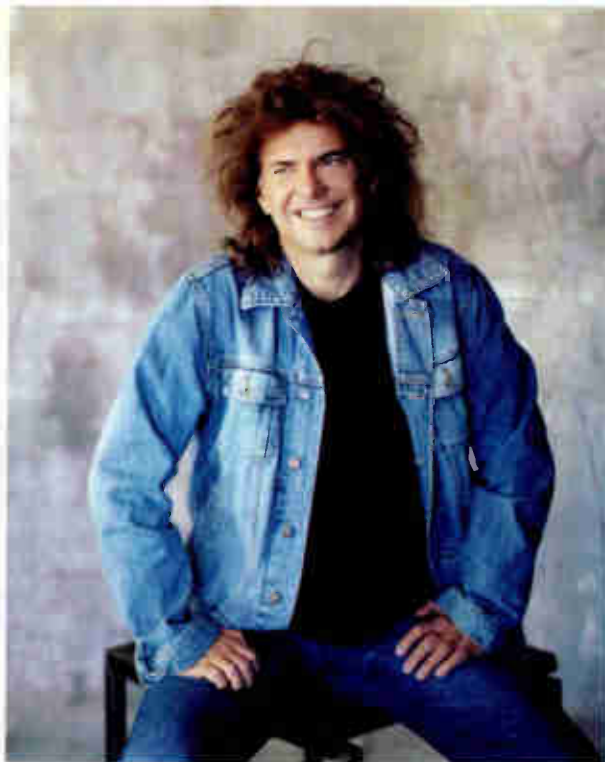
It's not too likely that guitarist Pat Metheny and his group, who intelligently intermix elements of jazz, world music and pop rock into many of their compositions, will have a hit single from their latest CD, *The Way Up*. It's filled with variations and improvisations around one central theme and totals nearly 70 minutes. Without a doubt, smooth jazz programmers will be pulling out a lot of hair trying to extract radio-friendly tracks from it.

First and foremost, the recording is a serious work and requires several listens to fully discern the multiple compositional layers and levels of musician interaction. Yet it also embodies the sorts of appealing textures and rhythms generally associated with Metheny's most commercial material. The guitarist says the album is a natural by-product of the band's ongoing evolution.

In the early years of the Pat Metheny Group, the music was predicated on "using the guitar in a textural and orchestral way, as well as the lead voice," Metheny says. "Along the way, an electronic aspect of the band emerged. Later on, our use of percussion balanced it out, and finally we added voices. We always tried to do things that went someplace else compositionally through long forms, intros, interludes or tags. If you look at the band's history from that perspective, it would be inevitable that we would be leading up to something like *The Way Up*. A single piece that lasts for the entire length of a CD had been on my list for 10 or 12 years now, and had been working its way to the top. It felt like this particular lineup, especially with the addition of drummer Antonio Sánchez, was the one. We finally

had all the pieces in place to kick everything up, not just a notch, but two or three."

The composing and recording of *The Way Up* took well over a year. Metheny and longtime keyboardist and co-leader Lyle Mays spent six weeks just creating the framework for the piece and sketching in some of the details. Afterward, with about 15 minutes of music still left to write, the bandleader had hoped for a week to rehearse before starting the initial tracking. Instead, he got wrapped up in a worldwide trio tour

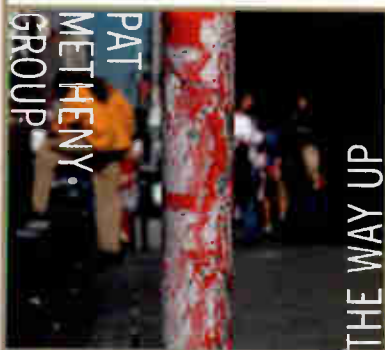


with Sanchez and bassist Christian McBride. During those gigs' breaks, he worked on *The Way Up* with fellow PMG bandmembers: bassist and co-leader Steve Rodby, trumpeter/vocalist Cuong Vu and new addition harmonica player Gregoire Maret. Bassist Richard Bona, who was on the previous PMG CD, contributed some vocal and percussion touches, as did percussionist Dave Samuels.

"Normally, we gear up for a recording period and stay in it; I don't do anything else," Metheny says. "I think we were so excited about the band and its development that we wanted to get right in there [after touring]. Unfortunately, I had already planned my post-Group activities with the trio, so I kind of got caught and had to juggle the two. But in fact, it was a good way to do it." When everyone was able to get together for sessions at Right Track Studios in Manhattan, the days were long, concentrated and very focused. Through the years, Metheny, Rodby and Mays have formulated a well-organized method of working: Metheny and Mays do most of the composing, with Mays focusing extensively on the orchestrated parts and the bassist oversees all of the band's parts, while also organizing the session's recordings and being mindful of continuity.

Rob Eaton, who Metheny feels is the fourth spoke of the PMG creative circle, handled the disc's engineering duties. A musician in his own right (he's a member of noted Grateful Dead tribute band Dark Star Orchestra), Eaton has worked on most of Metheny's albums since 1983. "All of Pat's records are a challenge," the engineer says from Tennessee, while on tour with DSO, "just in the sense of the music. There's so much thought that goes into it that my job as engineer and mixer becomes extremely important.

—CONTINUED ON PAGE 137



COLLECTIVE SOUL

GEORGIA HITMAKERS MOVE
IN NEW DIRECTIONS

By Elianne Halbersberg

If it's true that the music business runs in cycles, then Georgia-based Collective Soul are proof. The band was formed 12 years ago by vocalist/keyboardist/guitarist/songwriter/producer Ed Roland and his brother/guitarist, Dean Roland. Their first major-label album, *Hints, Allegations, and Things Left Unsaid*, was a re-release of their independent 1993 debut. And now, 19 chart singles, seven Number One hits and millions of album sales later, Collective Soul is once again an independent band.

The Roland brothers, percussionist Shane Evans, guitarist Joel Kosche and bassist/percussionist Will Turpin have released their latest CD, *Youth*, on their own El Music Group label. In April, they also put out an eight-song acoustic set, *From the Ground Up*, and com-



From left: Joel Kosche, Dean Roland, Ed Roland, Will Turpin and Shane Evans

ing in the fall will be a two-CD live set called *Home With the Atlanta Youth Symphony* and a box set featuring the live CDs and accompanying DVD of the April 23 and 24, 2005, performances with the Youth Symphony at the Woodruff Arts Center in Atlanta, plus a bonus *Making of* DVD.



The idea for *From the Ground Up* came somewhat spontaneously. "It was spur of the moment," says Ed Roland. "We had a couple of days off from the road and wanted to demo new songs. We also had demos of songs that didn't make it on *Youth*. Joel and I were doing a lot of acoustical promotional work, but we had never experimented with acoustic music because we're not an acoustic band. So I called the guys in to try to capture the spirit again—no more than two takes on a song—and it was that simple. The album

—CONTINUED ON PAGE 138

JASON MILES

A KEYBOARD ACE'S TRIBUTE TO
ANOTHER MILES—DAVIS

By Gary Eskow

Though still hardly a household name, Jason Miles keeps turning out records that gain praise from his peers and the public. This year, Miles received a Grammy nomination in the Best Pop Performance category for the song "Chasing Shadows" on his 2004 Telarc release, *Coast to Coast*. Four years earlier, Sting won a Grammy for Best Pop Male Vocal for his performance on the track "She Walks This Earth," which Miles produced as part of a recording made in tribute to the Brazilian composer Ivan Lins called *A Love Affair: The Music of Ivan Lins*. In 2003, the album Miles produced for Gato Barbieri, *The Shadow of the Cat*, received *Billboard's* Latin/Jazz Album of the Year Award and was nominated for a Grammy. And his most recent CD, *Miles to*



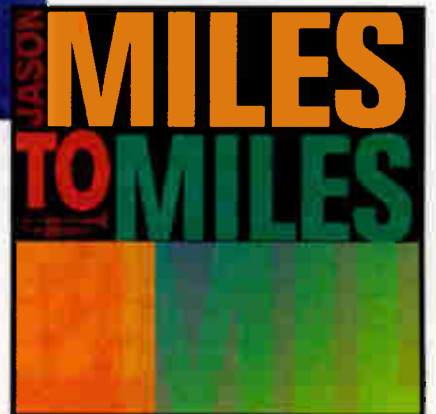
Miles, released on Narada Records in January 2005, is drawing accolades. This work gave Miles a chance to revisit one of his early idols and employers, the legendary Miles Davis.

In the mid-1980s, Miles was one of the premier synthesizer programmers and players on the session scene in New York. The

Brooklyn native grew up in the 1960s playing keyboards in rock bands before heading off to Indiana State University, which he left in 1973 with two plums: a degree in English and his wife, Kathy, who remains one of his great inspirations.

His lifelong passion for jazz and an appreciation for the growing synthesizer revolution led Miles to a club called The Joint In the Woods one night in 1974 to check out the band

—CONTINUED ON PAGE 139



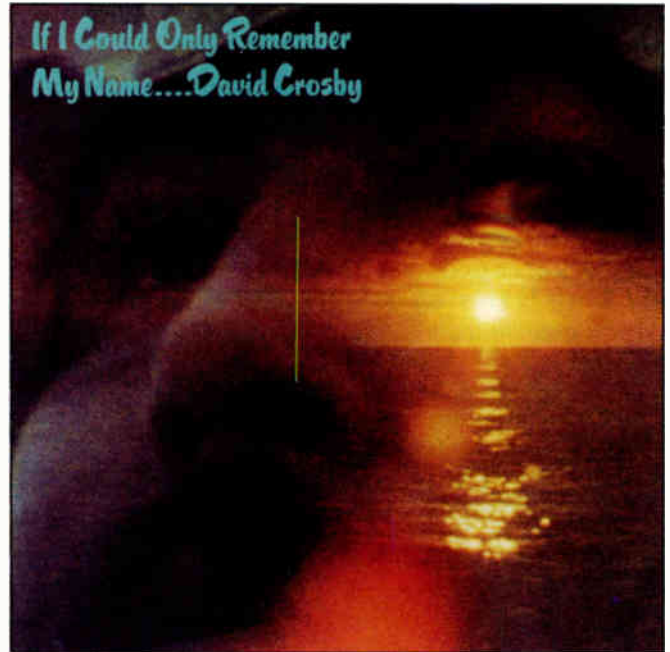
DAVID CROSBY'S "LAUGHING"

By Blair Jackson

At the dawn of the 1970s, David Crosby was on top of the rock world. Originally part of the Los Angeles folk scene in the early '60s, he first rose to prominence as an integral member of The Byrds in their first couple of years, then hit the serious Big Time in 1969 as part of the harmony-heavy folk-rock supergroup Crosby, Stills & Nash. Crosby was the author of the chestnuts "Guinnevere" and "Long Time Gone," and co-writer of "Wooden Ships." By the time Woodstock rolled around in August of '69, Neil Young had joined forces with CSN and they spent several months recording the classic album *Déjà Vu* at the newly built Wally Heider Recording in San Francisco. That disc, released in 1970, included the typically idiosyncratic Crosby tunes "Almost Cut My Hair" and the title track.

Almost from the moment it was built, Heider's San Francisco facility became *the* place for Bay Area rock bands to record: Besides the CSNY sessions (which reportedly sprawled more than some 800 hours), Jefferson Airplane cut *Volunteers* there in 1969, the Grateful Dead made *American Beauty* in 1970, and Creedence Clearwater Revival, Santana, Brewer & Shipley and Seals & Crofts all tracked there. The Bay Area had been a close-knit music community since the heyday of the first wave of psychedelic bands. That translated to the San Francisco studio scene in that musicians were always helping out on each other's albums: The Dead's Jerry Garcia played pedal steel on *Déjà Vu* and *Volunteers*, and steel, electric and banjo on Airplane member Paul Kantner's 1970 sci-fi rock epic *Blows Against the Empire*, which also featured David Freiberg of Quicksilver Messenger Service and both Crosby and Graham Nash, among others. In fact, Kantner and Crosby were the driving forces behind a loose amalgamation of stoney Northern California rockers who came to be dubbed the Planet Earth Rock and Roll Orchestra (PERRO), who fantasized they would make albums together whenever enough of them were in town and not on tour with their main bands. And actually, there are widely circulated bootlegs of various combinations of S.F.'s finest players jamming and working on songs at Heider's in '70 and '71.

A track here and a track there on different albums from the period show some of the inspired magic that took place at these sessions. But one album in particular—Crosby's 1971 solo debut, *If I Could Only Remember My Name*—shows the full flowering of those collaborations. Helping Crosby out were some of the best artists from the local music scene, including Garcia, Phil Lesh, Mickey Hart and Bill Kreutzmann from the Dead; Grace Slick, Paul Kantner, Jorma Kaukonen and Jack Casady from Jefferson Airplane; Gregg Rolie and Michael Shrieve from Santana; Freiberg from Quicksilver; Nash and Young; and, up from L.A., former paramour Joni Mitchell. This month's "Classic Tracks," "Laughing" is the album's shining jewel: a brilliant and beautifully recorded song featuring Crosby with



Garcia, Lesh and Kreutzmann, and in a brief cameo, Mitchell.

At the time, Crosby was living on a boat docked across the bay in Sausalito and still nursing a heart broken by the death of his beloved girlfriend, Christine Hinton, in an automobile accident in Marin County in 1969—she was his Guinnevere, and later he would dedicate *If I Could Only Remember My Name* to her. "I was in a pretty emotional state," Crosby told writer Steve Silberman in 1995, "trying to stay so deeply in the music that the other thing—Christine—wouldn't drive me under. I needed to work all the time, so I would write constantly, and when I wasn't writing, I was recording, and when I wasn't recording, I would try to get some place to play. It was all I had to hang on to, so I was pretty prolific."

When Crosby was ready to start recording his solo debut, he enlisted a young Heider engineer named Stephen Barncard to helm the sessions. Barncard had assisted engineer Bill Halverson on *Déjà Vu*, but didn't really connect with Crosby then. In the interim, however, Barncard had recorded and mixed the Dead's *American Beauty*, and it was allegedly on Garcia's recommendation that Crosby asked to work with Barncard. In fact, when the Crosby sessions began in September 1970, Barncard was spending his days mixing *American Beauty* on Studio C's DeMedio console with Garcia and Lesh, then tracking Crosby in the same room at night.

"At first it was pretty quiet," Barncard remembers. "There wasn't a lot of people hanging out. It was largely [assistant] Ellen [Burke] and myself. David would sit in a chair with an acoustic guitar and play. What was chaotic about it is I had to switch into double-session mode. When I was mixing the Grateful Dead in the daytime, we'd start around 10 and go all day. I'd take a break, cook dinner—probably on a hot plate I had there. We'd have stewed prunes or some vegetarian goulash or something out of a can, and then by 7 o'clock, I'd have everything ready, and at 7:15, David would come in beaming from ear to ear. It was so much more leisurely than *Déjà Vu* had been, which was a real pressure-cooker, but also incred-

"Slammin'!"

Anthony Roberts, *Monsters - Tower of Power*



SEE US AT
NAMM
BOOTH #1210

"WE WANTED TO COMMEND YOU ON YOUR NEW I-5 MICROPHONE. IT PROVED BE THE CREW'S FAVORITE FOR THE YOUNG SCIENTIST MUSIC CHALLENGE, CONSTANTLY ADAPTING TO ANYTHING WE COULD THROW AT IT. WE USED IT IN A VARIETY OF SITUATIONS - RECORDING VOCALS, OVERHEAD MIKING OF DRUMS, TO REINFORCING THE THEREMIN AMPLIFIER. WE FOUND THAT IT PROVIDED US WITH A VERY CLEAN SOUND IN EVERY SITUATION DESPITE THE DIFFICULTY OF RECORDING IN A VERY NOISY ENVIRONMENT. OVERALL, THE I-5 IS AN EXCELLENT ALL PURPOSE MICROPHONE THAT WE'LL BE USING IN FUTURE PROJECTS."
WILLIAM WHITE, PROJECT COORDINATOR - THE DISCOVERY CHANNEL

"I have dreamed of this day—I can now retire the last of my DM57's. Now that I've been exposed to the future, why would I want to live in the past?"
Eugene "Gino" Mulochy, Lead Audio Engineer - *Mohegan Sun*

"This mic is slammin'! And if you're tired of having the cap of your snare mic being blown into pieces from a heavy steel hit—you'll love the i-5!"
Anthony Roberts, *Monsters - Tower of Power*

"On guitar amps the i-5 compared to the 52, was less hyped in the high end, but had a fuller overall tone...I'm really digging using the i-5 and will be buying the rest of my mics. I can't say it that tells you anything."
Larry Green, *Track-Op Magazine*

"The i-5 is very impressive as a bass mic. It handles the SPL's and captures the body of the notes while still maintaining the warmth of the low end. It's a great new tool!"
Deanne Prudden, *FOH - Tom Waits*

"With the i-5 on my snare drum, there's just no going back. I've just started using it on guitar with very good results there too. The i-5, it's my new little weapon."
Neil Citron, Head Engineer - *The Mothership*

"The i-5 is truly a multi-purpose microphone. It sounds great on a wide variety of sources, but it particularly shines on snare drums and toms...Sounds like a winner in my book."
Mark Parsons, Modern Drummer

"The i-5 is more than an impressive upgrade to my usual snare and guitar cab mic—it's a big leap forward."
Ed Tree, Studio Engineer - *The Spencer Davis Group*

"Who needs a condenser when you can get this sound out of a dynamic. Audix has again come up with a winning microphone."
John Gataki, *Pro Audio Review*

"The best thing to happen to snare drum since Charlie Watts!"
Paul Hagar, *FOH - American Hi-Fi*

"It's in the studio with R.O.D. and live! The i-5 on guitar cabs. Great punch in the upper mids and perfect for heavy guitars that need that special drive. Also fantastic on snare - it can sure handle some serious SPL's!"
Steve Wyrick, Producer/Engineer/Mixer - *R.O.D.*
Charlie Daniels, *After*

"So how does it sound? In a word, impressive...and on snare drum, it roared hard. Overall, there's a clarity and openness to this mic that you don't hear from a lot of dynamics..."
Phil O'Keefe, *EQ Magazine*

"On the road I use it with The Dead and Phil Lesh and Friends. At home, I use it at the Phoenix Theatre in Petaluma with every act imaginable. From the top to the bottom, the i-5 sets a new standard!"
Joe Dutton, *Monsters - Phil Lesh and Friends, The Dead*

"Audix really delivers with the i-5. Performing well in about every application in which I tried it, the i-5 does justice to snare drums both on stage and in the studio."
Kevin Stasiga, *Electronic Musician*

"During our recent tour, I was very pleased with the results using the i-5 on guitar cabs. The sound was smooth and clear with great presence in the mix. The i-5 is rugged and solid. It qualifies as THE all-purpose dynamic workhorse in any mic collection."
Gary Hartung, *FOH - Crosby, Stills & Nash*

"The i-5 is an awesome utility mic—it is much tougher and sounds better than the 'old faithful' I am now able to replace."
Dave Rat, *Rat Sound*

"I've used the same mic on snare drum for recording and live sound applications for 30 years. I've tried other mics from time to time but always returned to the old favorite. Recently, I tried the Audix i-5. No matter what style of music, the i-5 sounds great and now has become my new choice for snare drum."
Tom Edwards, Engineer - *Lenny Kravitz*

"qualifies as THE all-purpose dynamic workhorse in any mic collection."

Gary Hartung, *FOH - Crosby, Stills & Nash*

AUDIX
PERFORMANCE IS EVERYTHING

FOR A DEALER NEAR YOU CALL: 800-966-8261

TEL: 503-682-6933 FAX: 503-682-7114 www.audixusa.com

Audix Corporation, PO Box 4010, Wilsonville, OR 97070

In Canada, C-Tec, Tel 604-942-1001, Fax 604-942-1010

©Audix Corp 2005 All rights reserved. Audix and the Audix logo are trademarks of Audix Corporation.

ible—those guys were amazing; really larger than life in a lot of ways.”

Studio C, which Barncard once described as “ground zero for so many great records,” was simply equipped by today’s standards. The custom console, designed and built by Heider associate Frank DeMedio, had 24 channels, eight buses and Gotham faders that went up and down in 2dB steps. DeMedio favored plug-in line amps made by United Audio and passive Universal Audio EQs on the way to the line amps. “It was really an incredibly well-built and simple thing,” Barncard says of the console. The monitor speakers in the small control room were

Altec 604s. For outboard gear, “We had four 1176s in every room, two LA-2As, two Pultecs in portable cases that got moved around from room to room, this crappy-sounding Altec graphic [EQ] and some totally useless Lang equalizers,” he says. “And that was about it. We also had a Univibe for guitarists and also a Countryman phaser, which I used horribly on Van Morrison’s ‘Wild Night.’” Barncard describes the echo chamber at Heider’s as “probably the best chamber I’ve used anywhere, anytime. It was magic. That’s what you hear on Garcia’s pedal steel on ‘Laughing.’ What I would do is print the echo on guitars and some other instruments. I took a

lot of risks—sometimes because I just wanted to and sometimes because I was young and didn’t know any better.”

The studio had one of the first Ampex MM1000 16-tracks ever built, but Barncard preferred the 3M 16-track. “Everything I ever recorded on 3M [Scotch] tape is still playable today and sounds great. Every piece of Ampex tape I used in the ‘70s turned into glue and stops the tape.”

The songs on *If I Could Only Remember My Name* were a combination of personal tunes Crosby had written during the years and numbers that developed during jams in the studio. “Laughing” dates back at least to early 1968: Crosby cut an acoustic guitar and voice

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



Engineer Stephen Barncard (l) and David Crosby

demo version at Hollywood Sound Recorders in March of that year for Elektra producer Paul Rothchild. In September 1969, when he was still shopping for a solo deal, Crosby cut a second solo version at Heider’s studio in Hollywood. Later, he tried unsuccessfully to entice his CSNY partners to record the song on *Déjà Vu*. Perhaps the song was waiting for the right musicians and the perfect setting to come along.

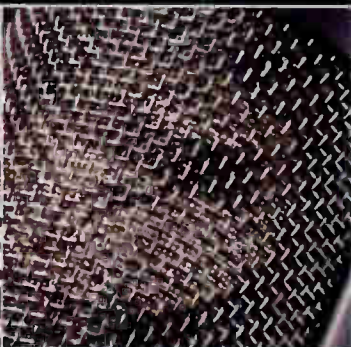
Though the master tape box for “Laughing” is dated “11/3/70,” Barncard suspects that the tune’s basic track was actually cut in September ‘70 and that the later date is when it was completed. Whatever the case, that initial tracking session comprised Crosby and Garcia playing electric guitar (probably a hollow-body Gretsch and a Gibson SG, respectively), Lesh on his original Alembic bass and Kreuzmann on drums. “I’m sure they ran though it at least three or four times [before cutting it],” Barncard says. “It wasn’t one of those spontaneous tunes; it’s one they had to work on to get it right because it has a few tricky changes in it. Garcia played very little on the basic track—just tiny little riffs because it called for that.”

Early on in his career, Barncard learned the value of “going in to record as soon as anyone was in the studio. You don’t want to

MIX guides

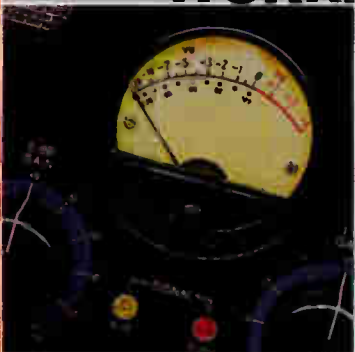
THE **ONLINE** PRO ENCYCLOPEDIA

LET US DO
ALL THE
WORK!



Find everything *Mix* has available
by product category in one spot—online

Now you can avoid scrolling through pages of *Mix* and online search results and have direct access to *Mix*'s archives for mics, monitors, consoles and more!

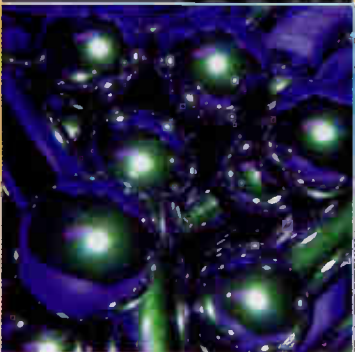


MORE
MIX
GUIDES
COMING
SOON!



For the Mix Guide to Microphones, visit
<http://mixguides.com/microphones>

For the Mix Guide to Studio Monitors, visit
<http://mixguides.com/studiomonitors>



Each Mix Guide includes

reviews, new product announcements, applications, features, tradeshow reports and more, all in one customized category section.

Exclusive sponsorships of
Mix Guide categories
are available — contact your
Mix ad manager today.



A PREMIER PUBLICATION

World Radio History

miss something because you're waiting for a downbeat. On this album, there were times when people were drifting in and out and sometimes they'd be kind of messing around and it would slowly turn into something interesting, so it was important to capture all that. Sometimes I had the luxury of actually going in and getting sounds, but other times, I had to wing it and just put up whatever [mic] was handy at the moment so I wouldn't miss it."

For miking, Barncard used a relatively straightforward scheme: "On drums, I probably only used four mics—[Shure] 57s on the kick and the snare and [Sony] C37Ps as overheads, which also picked up the hi-hat and toms. I sometimes used [Neumann] 67s as overheads, too." Garcia's and Crosby's guitars were captured by single 57s on each player's amp, but Lesh's beefy bass sound came from a combination of mics on two different amps—one large for more low end and a smaller one for the high-end part of his sound."

According to Barncard, when Crosby was really "on," he liked to work quickly, so he suspects that the gorgeous waterfall of harmony vocals created by Crosby for "Laughing" were done at the same session. "He has such a great ear and he would just go in and sing a part, double it, maybe triple it, then do

the next part and the next one," Barncard says admiringly. "I think you can put the vocals on that song next to the best stuff he did with Stills and Nash. It was amazing." Barncard kept each vocal stack on a separate track. By the time Mitchell's small but still important vocal contribution to the song's bridge was recorded late in the process, Barncard had run out of free tracks, so "I punched in Joni's double of 'In the sun...' on one of Phil's two bass tracks for the duration of her part and compensated the level during the mix."

It was two other overdubs that really helped define the song's character, however. The first was the clear, shimmering 12-string guitar part by Crosby on track 1. "On acoustic guitars, I liked to use an [AKG] C-60 with an omni capsule," Barncard relates. "Before I did David's record and before I did *American Beauty*, I had this artist named Chet Nichols who was an acoustic guitarist and singer/songwriter, much like Crosby in the sense that he used interesting tunings and 12-strings and that sort of thing; a troubadour type. I'd always wanted to record him, so when he came to San Francisco maybe six months into my stay at Wally Heider's, I was able to do some spec sessions with him and experiment a lot on mic techniques and with vocals; he was pretty much my guinea pig

for what would become David's solo album. It really gave me a lot of ideas to try. By the time I got to David's record, I was really tight with the room—Studio C was pretty much my domain at that point."

At the time I interviewed Barncard at his home studio in San Francisco, just steps away from Golden Gate Park, he was completing some surround mixes for a 5.1 version of the Crosby album, so he had a handy version of "Laughing" broken out to its 16 tracks and was able to play me, for instance, the glorious vocal stacks as a unit and to isolate Garcia's ethereal pedal steel track, which truly sounds like it was beamed down from another galaxy—it's so strange and different. It, too, was captured with a 57 on the amp, but then drenched in echo. "It was from outer space and it was probably the first take," Barncard says with a laugh. "It was absolutely beautiful."

A number of years later, Garcia himself noted that during that era when he was playing steel on a lot of albums, "The nicest thing I did during that period was on Crosby's solo album. I like what I did on that, generally speaking. I particularly like the pedal steel on 'Laughing.' That was some of the prettiest and most successful of what I was trying to get at at that time."



studio furniture



Innovation in workspace ergonomics.

It's a wonderful feeling to have multi-screens and ample rack-space for configurations of computers, mixers, interface electronics, and more - in one sleek, functional, and personal wrap-around workstation. Aura260 is made of durable powder-coated MDF supported by powder-coated steel leg assemblies.

AURA260

Aura260 features casters, loads of legroom, and a convenient accessory drawer.

A comfortable padded armrest bolsters a high-tech laminated desk surface which is haloed by a 260° aura.



Model: Aura260-LR

The Aura260 - designed to make your creative work seem effortless.

ARGOSY® www.ArgosyConsole.com

For a free copy of our Studio Furnishings Guide
tel: 800.315.0878 or 573.348.3333 / info@argosyconsole.com

"There was such a great vibe around that song—really, *all* those sessions," Barncard adds. "David was in his element with these people, and when things were going well, as they did consistently on this album, he was the happiest, cheerleading-est, funniest, most charming, most beautiful cat in the world. It was a party! But also, we were done by 11, which was great for me because I had to be back the next morning to mix the Dead!"

As for the mixes on *If I Could Only Remember My Name*, "We were sort of mixing everything as we went along because David was always having playback parties," Barncard chuckles. "In fact at one point, he was bringing so many people by to hear stuff that I complained, and he almost fired me! But I started making up a master reel of the good stuff and that became sort of the rough, and every time we'd do a new mix, we'd put it on the rough reel. Then at some point, we just started making real mixes." Mixing was on the DeMedio board to a 3M 2-track at 30 ips. "I'd also put it on a cassette for David—he was one of the first artists to take a cassette home instead of a reel-to-reel [tape] because he lived on a boat and had this little Sony stereo cassette recorder he'd listen to."

Today, Barncard still views that Crosby album—and "Laughing" in particular—as among his greatest achievements. That's one reason he's had so much fun remixing it for surround all these years later: "I always felt 'Laughing' was the centerpiece of the album—one of the most important tunes and one of the most hi-fi tunes. If I only had one cut to do in surround, it would be that one. Everything about it is right: The vocals are right, the overdubs are right, the lyrics are right. It stirs the soul. Everything just fits together like a beautiful mosaic. It's so satisfying from the first note. That song is sacred." ■

PAT METHENY

FROM PAGE 130

To a certain degree, the music fails if I don't do my part well. This particular recording was one of the biggest challenges that I've had, especially trying to make it all work as one cohesive piece of music."

As one might expect, Metheny's group wasn't tracked all at once for the entire 68-minute duration of *The Way Up*. Instead, due to everyone's busy schedules—including Eaton's—segments were recorded every couple of months. Right Track is the preferred studio for the guitarist and Eaton: They've worked on the last five PMG CDs there. Besides the studio's prime location in Manhattan, "They

have a Neve Capricorn digital console, which we have become quite fond of, especially for mixing," Eaton says. "They're very hard to find these days, and we're not sure how much longer that one is actually going to be around because they stopped supporting it years ago. But for what we do, the sound and the power of the console—it's really a phenomenal machine. It's pretty warm and doesn't sound like a digital board; that's one of the things we really like about it."

Eaton emphasizes that it was important to record the group as a whole during their times together at Right Track rather than piecemeal. "You really can't get cohesive tracks without that [group interaction] happening," he comments. "It's part of the emotion of the music, even with Pat's solos that happened during the session. It was very much based around getting the group sound and them all playing off each other. It all ties together in a way that you can't create later."

"For this particular record, I used a variety of microphones, from ribbons to your basic cheap dynamic type," he continues. "Antonio is a joy to record and makes my job very easy. I had a pair of Schoeps CMC5s on the overheads for his cymbals. That's a big part of his sound and an important aspect of Pat's music—the ride cymbal. It's fairly unusual, but I used the Beyer M 160 for his snare drum, which gave me a lot of top end without pulling in much of the hi-hat. On the kick, I used a 47 FET. The tom-toms were a little trouble and I ended up going with an [AKG] 414A with a hypercardioid pattern. I also had an [AKG] 452 for the hi-hat and [Neumann] 47 tube above his head for ambience that I could blend in."

For Mays' acoustic piano, Eaton used a pair of Schoeps CMC5s up close and Neumann U47 tubes farther back for perspective. Rodby's bass was captured by TLM 170s on the neck and body, along with a DI for filtering the top end. Vu had a Coles ribbon mic and Metheny used a Neumann KMS 105 for acoustic guitar and a DI for electric. Bona's and Samuels' parts and a number of guitar layers were overdubbed at Metheny's home studio, which is based around Digital Performer and a Mac.

"We wanted plenty of textures as a prime element for the record," Metheny notes, "and that kind of thing takes an enormous amount of time. But with today's technology, I can play 50 guitars [in my home studio], not pay \$300 an hour or bother anyone with my personal neuroses," he says, laughing.

After many years of working on Sony digital multitracks, Eaton and Metheny have been recording to Pro Tools during the past few, though *The Way Up* marks only the sec-

SF-24
Phantom-Powered
Stereo Ribbon

TEC
2005 NOMINEE

TECH AWARD
NOMINEE

"For any speaker of scintillating sound, the SF-24 is a true find."
Mix

"Its low noise level and superbly ambience pickup was just perfect..."
Pro Audio Review

www.royerlabs.com
818.847.0121 - Burbank, CA.

ond full project the team has completed on the system. Neve 1081 pre/EQ modules went directly into Pro Tools, bypassing the console altogether, and every step of the way, the duo was conscious of keeping the signal chain as clean as possible.

When it comes to mixing, Metheny is happy to let Eaton handle that often laborious task. "It's a certain kind of skill most musicians don't have," the guitarist says. "Basically, we all want to hear our instrument louder than anyone else's. You really need an objective arbiter, and we're so lucky to have Rob. He knows us like nobody else, sonically."

Eaton is quick to point out that he isn't a

jazz engineer and has worked with a variety of artists, including Eric Clapton, Marillion and Ricky Martin. He credits his long association with PMG to his understanding of all music types and to being a musician himself.

Among the tools he used for mixing *The Way Up* were a Lexicon 960 digital reverb, Eventide GTR4000 multi-effects processors, and some of the self-contained filters, EQ and effects built into the Capricorn. "I'd take the music and mix it to a place where I'm comfortable," Eaton says. "Pat, usually on the back couch doing stuff on his computer, understands the process needed to get things to a certain place and would occasionally

throw out a comment. Once I'm happy, we'd mix the songs to the point where we felt pretty good about them. That's when we'd bring Lyle and Steve in. Then we have two fresh sets of ears that are very familiar with the music. They get to listen to it for the first time and take notes. Then we implement all those things into the mix and go from there. That's invaluable to us, because after 10 or 12 hours of mixing, sometimes you can miss some things."

Ultimately, Eaton, Rodby, Mays and Metheny are very happy with the finished project, especially because when they started out, they had no real way of knowing what they were creating until they put it together. Since then, the PMG has been refining the work nightly onstage. "It was a challenge to learn it, memorize it and be prepared to stand in front of a few thousand people and play it," Metheny says. "The first night, all of us were pretty shaky. It's sort of like learning a real hard John Coltrane tune—times 200. Yet it's been a lot of fun to really learn the piece now that it's all done and recorded. Believe it or not, it's continuing to evolve. We've done 40 gigs here in the U.S. and still have another 60 to do internationally. I'm expecting it to blossom right up to the end." ■

Variable tube transconductance is the ability of a tube to change the signal level flowing through it on command. Unlike most "all tube" compressors made today, the Glory Comp uses actual variable gain tubes for its dynamics processing... not Opto devices, FETs or Op amps. A closely matched pair of specially selected and spectacularly linear Groove Tubes handle the delicate task of changing the program level, modulating the gain in an especially smooth and natural fashion.

But the proof is in the listening. When your chance arrives, you'll witness the most invisible, diabolically flexible and inherently musical compressor available anywhere, at any price. Plus, you can actually afford a Glory Comp, since it costs about \$27,000 less than the most famous vintage example of variable tube transconductance technology...

...it's almost un-Fair!



COLLECTIVE SOUL

FROM PAGE 131

was done in two days. We went in and there it is. There's no orchestra or big drums, but it's not much different from something like 'How Do You Love' [from *Youth*], although it took more than two days to record that song because we kept it so open for the strings.

"The Youth Symphony project came because I've known them for 10 years—the Atlanta Symphony has done a lot of tracks for us; I've incorporated a lot of orchestration into our records over the years. The timing was right and to have the Youth Symphony do it made sense because of *Youth*. We called them and everybody was excited. Then we decided to take it one step further. Fans have been asking for a live record and a live DVD because Collective Soul in concert is so different from Collective Soul on record. Because Atlanta is our home, proceeds will go to local charities."

Integral to capturing Collective Soul on disc are producer Dexter Green, who is also a guitarist and songwriting partner to Ed Roland, and engineer Shawn Grove. Both men worked on *Youth*; Green also helped arrange material for the symphony shows and is also producing the upcoming live CDs.

Producing Collective Soul, says Green, is surprisingly easy. "They have a lot of great equipment and great attitudes, and their ideas are a collective effort—no pun intended. We all get along so well. For the live record, I [worked] on the arrangements of 20 songs, 16 with a full orchestra. It's a huge challenge to produce. I'm working with several arrangers: Don Hart, David Davidson, Steve Maulden and John Paynter. It's an amazing team. To sync things up, Pierre Lamoureux is directing the footage for the DVD."

Grove first worked with Collective Soul on their 1999 album, *Dosage*. "It was done at Tree Sound [in Norcross, Ga.]," he says, "and I was the staff engineer there for four years, starting in 1998. We started working on *Youth* in 2003.

"Ed's done five records where he pretty much produced them himself, and he has in his head what everything should sound like, so we try to make it happen for them. Ed went through a few writing spells for *Youth*, so it was done in two or three chunks: the first batch over a three- or four-month period, then another batch when Dexter came in. Mixing *Youth* took a little over a week. I did a song a day."

Grove mixed at Tree Sound, Image Studio (Los Angeles) and Quad Studios (Nashville). When it comes to equipment, "I have to have [Universal Audio] 1176s," he says. "Ed likes the Vac Rac compressors and EQs and that's mainly Ed's [domain]. I use an SSL G-Plus board, Neve EQs and a Neve 33609 compressor on drums, and some API stuff. Ed's vocal chain is the 1176, the Vac Rac and a Focusrite 215 EQ.

"[For drum miking,] I used either an AKG D112 or D25 mic, [Shure] 57s on the top and bottom snare, AKG 451s on the hi-hat and ride, 414s for the tom and [Neumann TLM] 103s for overheads."

Green's requirements are "a lot of new Universal Audio pieces—6176 [tube preamp] for guitars and vocals, with the channel set-up, EQ and compressor. I'm a Logic user," he says. "Ed and I wrote these songs at his house on my laptop running Logic. Guitar amps are Vox AC 30, Doctor Z amps, Carr amps, Buddha and, of course, Sugarfuzz amps [which Kosche designs and Roland has sworn by for years]. My mics are Royer 121s and a [Neumann] M149, and I used a 57 on 'Under Heaven's Skies' [on *Youth*].

For guitars, we use everything Paul Reed Smith makes—they just rock. [We also use] a Rickenbacker, Fender Telecaster, Les Paul, SG, Gibson 345, and we get a lot of use out of Line 6 [software]. We use a Boomerang Phrase Looper, Sherman Filterbank and some M Audio keyboard controllers. Robert Keeley makes custom stomp boxes, and we used a

lot of his stuff for distortion and treble.

"Shawn is great because he's a musician and it's easy for us to communicate," comments Roland. "He's been around us enough to know that the English language is not used much in the studio. We have a great working relationship. He's not afraid because he knows, he speaks his mind and he's a great sounding board. We have an open discussion rule, and when he speaks, we all listen."

Despite Roland's expertise in the studio, he strongly believes in bringing in extra help for production. "I need someone there," he says. "It helps me. I want to focus on singing and writing. We had several false starts on *Youth*. My job as producer on that record was to make sure everyone had fun. A lot of the songs were written in the studio while others were being recorded.

"*Youth* had so many variables. We would record for four days and be off for two weeks. It was all over the place. Dexter came in January [2004] and we mixed half of it in April and half in July and August. There was a lot of downtime in-between. Dexter has helped me go in new directions without losing what people are used to hearing from Collective Soul over the last 10 years." ■

JASON MILES

FROM PAGE 131

Weather Report. "We'd just moved to Highland Lakes, New Jersey," says Miles, "and heard that Weather Report was going to be at this club we'd never heard of. We couldn't find it and were running out of gas when we stumbled across it. I couldn't believe how packed the place was until I found out it was a disco!"

When the club's regulars cleared out, a handful of fusion aficionados were all that remained as the band took the stage. "It was really cool," he recalls. "Wayne [Shorter] and Joe [Zawinul] and the band started playing and there was nobody there. After the set, I started up a conversation with the percussionist, Dom Um Romao, and he gave me his phone number. Dom Um brought me to sessions and introduced me to that scene."

In 1979, Miles hooked up with Marcus Miller, a connection that led to his work on a series of albums for Luther Vandross and, ultimately, Davis. "Marcus was putting together demos in New York for [Davis] *Tutu*, and he asked me to program synths for him. Marcus is an amazing musician. Of course, he's known for his unbelievable bass playing. He's not a technical keyboard player, but every note of the keyboard parts



VERNIL
ROGERS

IR class of 2004

EXPERIENCE >

AUDIO ENGINEER

Just a few artists Vernil has worked with:

Ronny Jordan
Cash Flow
Roz Ryan

Institute of Audio Research



800.544.2501

audioschool.com

64 University Place, New York City 10003

Licensed by NYS Education Department. High School diploma or GED required. Financial Aid if eligible.

on the albums I worked on with him came from him. I've even heard Richard Tee come in and lay down some mind-boggling parts and then seen Marcus deconstruct them in his own way. He's fantastic."

In the early '80s, most keyboard players were thrilled at the "realism" of synth patches, but Miles approached things a bit differently than most programmers. "I never was trying to get the perfect string patch. I felt that as a musician, I should be able to create textures that came from inside a particular piece of music." That approach caught Davis' ear, who appreciated the sounds that Miles had created for the Marcus Miller demos that ended up on *Tutu*.

"Miles [Davis] liked what we'd done, but there wasn't anything in the budget to cover sending me out to L.A. when they started recording," Miles says, "so Marcus rented an Emulator and some of the other stuff I'd created sounds on out there. I'd set my rig up on the East Coast while they were working in L.A., and we'd discuss things over the phone in real time."

After completing the L.A. sessions, more tracks were cut in New York at Clinton Studios, and that's where Miles met Davis: "I introduced myself, and he said, 'I like your name.' I told him that I would do whatever

was necessary to get the job done for him and saw that I had survived!

"Slowly but surely, Miles took me in, and after *Tutu*, we worked on two more albums together: *Music From Siesta* and *Amandla*. We became friends."

Tutu kicked Miles' career to another

I didn't produce this CD as a tribute record although it may seem that way at first glance. This music represents the influence that Miles [Davis] had on me.

—Jason Miles

level. The jingle scene was jumping, and he became a first-call programmer and player. The record industry was also beating a path to his door. By the time the ADAT revolution hit, Miles was producing out of a project studio in his upstate New York home. Then a

call from Jay Beckenstein led to a recording contract with Telarc Records.

"Jay told me he had a solo deal and wanted me to produce some material for his record," Miles recalls. "I was burned by the music business and didn't even know if I wanted to participate in the projects, but he wanted me to work up a new version of [Weather Report's] *Black Market*. It worked out well, and when Jay told me that he thought I should do an entire album of Weather Report tunes, I thought it was a good idea."

A series of demos Miles put together led to *Celebrating the Music of Weather Report*, his 2000 Telarc debut. By this time, he was recording all over the country on ADATs and bringing back the tapes to his project studio, where he and his longtime engineer Doug Oberkircher mixed on an Ensoniq PARIS hard disk recording system.

"Hard disk recording has helped me learn about engineering in a big way," he notes. Even though I had hung out with Al Schmitt, Ray Bardini, Frank Filipetti, Doug Oberkircher and some other great engineers, until I got my own system, I hadn't realized that I could track properly. Of course, I still use Doug or another engineer to mix my albums, but I'm very comfortable tracking most anything, except for drums."

If you're serious about a career in audio recording, you need to attend a school that is as committed to your success as you are:

The Conservatory of Recording Arts & Sciences


Conservatory students work with cutting-edge equipment in world-class studios. They study under seasoned instructors with industry experience who know what it takes to succeed. An internship is mandatory for graduation, and our students choose where they go to do it.


Conservatory graduates have earned hundreds of Gold and Platinum records and even Grammy awards. They record music with the world's top recording artists. If you're willing to put in the work, and if you meet our requirements, we can help you make your mark in the business too.

To find out more, call the Conservatory at 800-562-6383 today.

Learn Audio

Serious school. Serious students. Serious success.





Conservatory of Recording Arts & Sciences

2300 E. Broadway Rd. | Tempe, AZ 85282
1205 N. Fiesta Blvd. | Gilbert, AZ 85233

800-562-6383

www.audiorecordingschool.com/mix.html

Nationally Accredited by ACCSCT
Financial Aid available to those who qualify

In addition to his PARIS rig, which runs on a 733MHz G4, Miles also has a Digi 002R running on a laptop. This rig lets him import Pro Tools sessions from anywhere in the world, which he asks for as SDII files that he then imports into PARIS. Miles also has some favorite pieces of outboard gear that he and Oberkircher use to capture the warm, analog-sounding recordings for which they have become known. "I have a D.W. Fearn VTR stereo mic pre that's simply magical-sounding and a pretty nice collection of microphones.

"I love the Groove Tubes for lots of stuff, and I can't believe how good the Studio Projects mics sound, especially since they're so inexpensive. I like to record acoustic guitars with a combination of AKG 451s and 414s. I'll go from the Fearn into a Millennia Media opto tube compressor—a killer combination. I've also had a pair of KRK Expose 8s for about five years. I love those speakers; they're accurate and you can listen to them for a long time without suffering any ear fatigue.

"When we're ready to mix, we go out of PARIS into a Lucid Technology 9624 AD converter, then into my Alesis Masterlink at 96 kHz/24-bit. That's the path we always take, and I'm pleased with the warmth of the sound that we've gotten."

Miles adds that it may be time to move past some of the hardware that brought him stature and success. "What's going on with soft synths and samplers is fantastic," he says. "Don't get me wrong, there are some great hardware synths out there. My current favorite is the Nord Electro 2, and I also have a Generalmusic Promega 3 piano, which is very good, a Roland XV5080 and a Korg TRITON Extreme. They put a tube in the Extreme that helps a lot. I also rely on my Roland JP-880, which simulates an analog synthesizer really well and, of course, my trusty Minimoog, which I've had for 20 years. It still rocks the house. But you have to stay with the times, and my next move will be into a super-fast computer that can handle digital recording and lots of soft synths and samplers."

Davis got to use the full range of Miles' studio equipment on *Miles to Miles*, a project that looked to both his past and present. "I didn't produce this CD as a tribute record, although it may seem that way at first glance," Miles says. "This music represents the influence that Miles had on me, and I reflected that influence by writing musical stories of my experiences with him. All of the songs have a story behind them. For example, 'Ferrari' is a picture of my day at his house in Malibu [Calif.] back in 1989, a day that ended with him taking me for a ride up the Pacific Coast Highway in his Ferrari.

"When you think about Miles, you always

think of someone who was on the tip of creativity in music," he continues. "I wanted to be involved with cutting-edge musicians. I never thought about having a trumpet that would sound like Miles on this record—I just thought about who would play a given melody great. I also morphed live players with electronic textures to make a hybrid blend of acoustic and electric instruments. A song like 'Love Code,' for example, has real instruments, live drums and looped percussion.

"I always loved 'Flamenco Sketches' from *Kind of Blue*. The solos were so lyrical—they sounded like written melodies. It was a very impressionistic piece. Since this CD was a

series of impressions of the influences that I picked up from Miles, I decided to record 'Flamenco Sketches' in my own way, accenting the improvisations that he and John Coltrane created and morphing them into a melody for the song."

Miles' next project pairs him with an old friend, Nashville-based singer Suzy Bogguss. "We're going to produce a hybrid sound that fuses the sounds of New York and Nashville. We'll take Suzy's Nashville singing and song sensibility and combine it with the New York groove and vibe that I specialize in. I'm very excited about this project."

MIX
ONLINE
EXTRAS

TANNOY

Ellipse iDP. The Standard.

When you're serious about what you record and produce you choose your tools wisely. Everything that you put in the signal chain is there for a purpose.

Ellipse iDP represents the very best in nearfield reference monitors available.

Unparalleled precision, imaging and accuracy are the hallmarks of the legendary Tannoy Dual Concentric driver. Ellipse iDP adds response to 54kHz, a digital processing and system control through networking.

The result is the new standard in reference monitors. Ellipse iDP.

T: 519.745.1158 F: 519.745.2364 E: inquiries@tannoy.com W: tannoy.com

iDP TECHNOLOGY | **WIDEBAND** | **DUAL** CONCENTRIC

Ryan Adams & The Cardinals

Cold Roses
(Lost Highway)

After last year's detour into *Rock N Roll* territory, ambitious chameleon Ryan Adams revisits alt-country terrain; this time via his first "full band" collaboration since the *Whiskeytown* days. Though not one of these 18 tracks match *Stranger's Almanac's* brilliance, there are some fine moments: the rich harmonies and easy melodies of "Sweet Illusions," the layered vocals on "Meadowlake Street" that recall *Heartbreaker's* "Winding Wheel," the weepy "Now That You're Gone," and the abundantly hooky "Let It Ride" (featuring pianist/vocalist Rachael Yamagata) and "If I Am a Stranger." Bypass others derivative of Neil Young, Roy Orbison or The Dead and you end up with about one CD's worth of quality work.

Producers: Tom Schick, Ryan Adams. Engineers: Tom Schick, Tom Gloady. Studios: Loho Studios, New York City. Mastering: Fred Kevorkian.

—Heather Johnson



Weezer

Make Believe
(Geffen)

Mention Weezer to my 11-year-old daughter and she'll launch into a perky version of their latest hit, "Beverly Hills," with added commentary about the cool video for the song. Hard to believe the lovable, nerdy losers of Weezer have been churning out this kind of hard-edged rock fluff for 10 years, but Rivers Cuomo and Co. have latched onto something appealing with their hook-heavy anthems and self-deprecating love songs. Producer Rick Rubin gives the music a little more punch *and* sheen than usual, and besides the aforementioned tune, there are several catchy numbers that show both the group's angsty, sensitive side and a sardonic cynicism. There's nothing terribly original about any of it, but at least it feels real, and it does *rawk*.

Producer: Rick Rubin. Engineers: Chad Bamford, Jim Scott, Ryan Williams (Pro Tools). Mixing: Josh Abraham, Neal Avron, Rich Costey, Alan Moulder. Studios: Cello, Grandmaster, Henson. Mastering: Vlado Meller/Sony NY.

—Blair Jackson



Tsar

Band-Girls-Money
(TVT Records)

Tsar's TVT Records debut, *Band-Girls-Money*, is a study in ADD: The majority of the songs are less than three minutes long, and are infused with power-punk time signatures compliments of drummer Chuck Byler and bassist Derrick Forget, driving guitar riffs (thanks to Daniel Kern's deft playing) and Jeff Whalen's Ramones-like vocals. Although the beginning of each song bursts through your speakers as quickly as the last song ended, the album maintains a cohesive wholeness, with each member providing just enough oomph to not overpower his bandmates. If you like the pop leanings of Cheap Trick and the glam stylings of T-Rex and The Dolls, you're sure to enjoy bowing to Tsar—don't forget to go to www.tsar.net to download the first single for free.

Producer: David Katznelson. Recording by Mathias Schneeberger. Studios: Soundcastle Studio, Donner & Blitzen Studios. Mixing: Tony Hoffer at Sunset Sound. Mastering: Brian "Big Bass" Gardner at Bernie Grundman Mastering (Hollywood).

—Sarah Benzuly



Various Artists

Hearings/Believing: The Jack Nitzsche Story (1962-1979)
(Ace)

One of the more colorful and eccentric characters the music biz has produced, Jack Nitzsche (1937-2000) was an extraordinary producer, arranger, composer and musician; both brilliant and impossible to pigeon-hole. This retrospective doesn't tell the whole story but hits numerous highlights—from his instrumental classic "The Lonely Surfer" through tunes he cut with various pop icons such as Frankie Lane, Bobby Darin, the Righteous Brothers and Jackie DeShannon (his own "Needles and Pins"), and, even better, rock artists such as Marianne Faithfull, the James Gang, Mink DeVille and Graham Parker. Conspicuously missing, however, is Buffalo Springfield's "Expecting to Fly" or anything from Neil Young's eponymous debut album. However, closing with Nitzsche's haunting theme from "One Flew Over the Cuckoo's Nest" was a very cool touch.

Recorded at a whole mess of different studios by different people.

—Blair Jackson



Vitalic

OK Cowboy
(Citizen Records/
Play It Again
Sam)

Driving under the influence of Vitalic's first full-length album, *OK Cowboy*, is probably not a good idea, but it feels so good to do it. Pascal Arbez-Nicolas, aka Vitalic, has packed his debut album with 13 tracks of gas-pedal-punching beats. Vitalic gets back to the roots of techno. He clearly understands the direction of artists such as Ellen Allien and Chicks on Speed. But they take you on a trip down techno memory lane, while Vitalic takes you for a ride in his macho muscle car straight down the freeway, breaking speed limits and grinding gears along the way. Vitalic's musical muscle is in his synths—synths with raw power. The album also changes lanes occasionally with mellow, trippy, cruising tracks.

Producer: Vitalic. Recorded near Dijon, France. Reworked at ICP in Brussels, Belgium, with Shelle. Mastering: Nilesh.

—Lori Kennedy



Andrew Bird

Andrew Bird & The Mysterious Production of Eggs
(Righteous Babe Records)

Maybe the third time really is the charm. After the two attempts to track his fifth album didn't produce the right sound, Andrew Bird—a Chicago-based vocalist and multi-instrumentalist—took to his barn in Illinois for another try. And he came out with a work of art that stands with the best albums of the year. On each of the songs, Bird's powerful imagination is balanced by his calm voice, and punctuated by his ethereal whistle and well-constructed layers of instrumentation. Subtle and unique, his songs bring to mind such disparate artists as Wilco, Ani DiFranco, Rufus Wainwright and the late Jeff Buckley. Favorite songs include the catchy, dark "Measuring Cups," the off-kilter waltz "Banking on a Myth" and the image-rich "Skin Is, My."

Producer: Andrew Bird, David Boucher. Recorded by David Boucher, Dan Dietrich, Mark Greenberg, Mike Napolitano and Mark Nevers in various studios. Mastering: Jim DeMain at Yes Master.

—Breean Lingle



FOR OVER 30 YEARS LEXICON HAS BEEN IN WORLD-CLASS RECORDING STUDIOS...



ΩMEGA™ DESKTOP RECORDING STUDIO

...NOW YOUR HOME CAN BE ONE OF THEM.



More than 30 years ago, when Lexicon invented digital reverb, most recording studios were multi-million dollar rooms occupied only by famous rock stars and big record labels. And while Lexicon still lives in that rarified air of stardom with the world's most sought-after reverbs, now you can find us a lot closer to home.

Now Lexicon brings you the Omega Desktop Recording Studio, a completely integrated recording system with everything you need to transform your computer into a full-on professional 24-bit digital studio, all in one box. In addition to Steinberg Cubase LE® recording and production software, you'll get an 8-input, 4-Bus, 2-output USB I/O mixer with inserts, instrument input, MIDI I/O and complete metering and monitoring functions. Record up to 4 tracks at once from 8 audio sources, and mix up to 48 audio and 64 MIDI tracks almost anywhere... with the lush, exquisitely rich reverbs that made Lexicon famous in a VST version of Lexicon's Pantheon® reverb plug-in.

Pick up an Omega Studio at your Lexicon Pro dealer today, and discover for yourself why that famed "Lexicon Sound" has been on the majority of hit recordings since 1971. Who knows? Maybe the next one will be yours.

lexicon PRO

OMEGA DESKTOP RECORDING STUDIO™ INCLUDES:

- Steinberg® Cubase LE® — Multi-Track Recording Software
- Lexicon® Omega — 8 Input x 4 Bus x 2 Output USB I/O Mixer
- Lexicon® Pantheon™ — World Class VST Reverb Plug-In

COMPLETE RECORDING SOLUTION

CONTAINS ALL THE COMPONENTS NECESSARY TO TRANSFORM YOUR COMPUTER INTO A PROFESSIONAL 24-BIT RECORDING STUDIO.

The sweetest

Sweetwater and PreSonus have teamed up to bring you the most powerful and affordable professional computer recording system ever—complete with Sweetwater's Creation Station audio computer and up to three PreSonus FIREPOD FireWire interfaces for 24 simultaneous inputs/outputs with 24 professional quality microphone preamplifiers. Call your Sweetwater Sales Engineer today at 800-222-4700 and get the SWEETEST RECORDING RIG of all time!



presonus FIREPOD

The FIREPOD is the most affordable professional FireWire recording interface on the planet, with eight pedigree Class A PreSonus microphone preamplifiers, eight balanced outputs, MIDI/SPDIF I/O, and free Cubase LE 48-track audio production software. **Up to three FIREPOD's** can be daisy-chained to deliver 24 simultaneous microphone/line inputs for professional multi-track recording applications. The FIREPOD has been tested and approved by Sweetwater for use with the Sweetwater Creation Station line of computers so that you can be confident your recording system will work flawlessly and efficiently from day one!

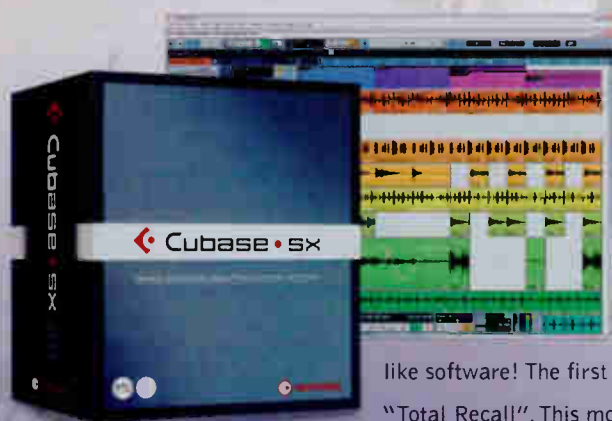


sweetwater CREATION STATION

When Sweetwater set out to build the perfect audio PC, we put our 25 years of experience with computer audio to work, and developed a series of machines that are unmatched in audio performance, reliability and value. Whether you're composing music in your home studio, recording your next live album on the road, or scoring to picture at a major post facility, there's a Creation Station for you. Starting at under \$1000, the Creation Station machines are whisper quiet and built to withstand the demands of professional audio production, through the use of components like Auralex acoustic treatment and Glyph hard drives. Available in tower, cube, and the rackmount configuration shown here, the Creation Station is sure to be the centerpiece of your PC studio for years to come.

recording rig.

steinberg CUBASE SX3



Upgrade your recording rig to the professional's choice for PC music production! Cubase SX3 takes music production to an entirely new level. SX3 adds more than 70 new features including Audio Warp high-quality real-time, Time Stretching and Pitch Shifting algorithm that automatically adopts a project's tempo. Also new in SX3 is External FX Plugins. This function allows for direct integration of external hardware effects processors into the VST audio mixer just

like software! The first step in the Steinberg/Yamaha collaboration is called Studio Connections "Total Recall". This modular editing system builds a powerful bridge between the virtual and physical studio. Opening a project can not only recall an entire studio setup within seconds but allow full graphic editing right inside Cubase SX3. Since 1991 the name Cubase has always been synonymous with innovation, and SX3 delivers on features that place creativity first.

audio-technica AT4040



A marriage of technical precision and artistic inspiration, the AT4040 microphone features an advanced large diaphragm, tensioned specifically to provide smooth, natural sonic characteristics. Designed as a multipurpose performer, this externally polarized true condenser microphone offers exceptionally low noise, wide dynamic range and high-SPL capability. Held to the highest standards of consistency and reliability, the AT4040 may be used with confidence in a wide variety of miking applications in today's modern digital studio.

novation XSTATION



XStation is the most unique MIDI controller available combining the industry's best feeling semi-weighted keyboard with after-touch,

the famous Novation KS 8-voice synth engine, 2 phantom powered mic preamps and instrument inputs, MIDI remote controller functionality, transport controls, a 6x2 multi-effects processor and more. The XStation can be powered conventionally, via its USB port and even batteries. Novation stands for innovative sound and music production tools.

Sweetwater
music technology direct™

800-222-4700

www.sweetwater.com
World Radio History

PreSonus
freedom to record.



L.A. GRAPEVINE

by Maureen Droney

Disneyland turns 50 on July 17, 2005, and the anniversary is generating buckets of press and a flood of nostalgia. A surprise hit among the commemorative items developed for the occasion is the Disney Records six-CD boxed set *50th Anniversary: A Musical History of Disneyland*. A compilation of the songs and sounds permanently embedded in the memories of millions, the musical journey starts at Main Street and travels through the "happiest places on

Soundworks, where Sheridan input them via EDI Convert by Cui Bono Soft into a MAGIX Sequoia editing system.

The project's mind-boggling parameters quickly become apparent when you realize that many of the music pieces play in loops of about a minute long, with approximately 60 tracks of those loops playing simultaneously on separate speakers throughout each attraction. With the goal of duplicating the sonic experience of the rides, well...

"For this project, we rebuilt the tracks from the ground up with the original narration, as if you were actually on the attraction," explains Thornton, who has worked on the annual Disney theme park albums and soundtrack restoration for such classics as *Snow White* and *Mary Poppins*. "We wanted an immersive experience, so we also recorded ambient sounds in the park: On *Pirates*, you can hear the boats going down the flume and the water lapping against the sides of the boats."

Thornton did much of the compiling and editing on his portable Sequoia system at home, bringing segments to Soundworks for cleaning, tweaking and mixing. "We used some great tools," says Sheridan. "Sequoia has the same kind of editing capabilities as Sonic Solutions, but it's 'object-based.' You can make sounds on the same track be individual objects that can be EQ'd and have reverb or plug-ins attached separately. It's also helpful that it sample rate—converts on the fly and accepts a variety of plug-ins. Algorithmix is one of the primary ones we used. They make a linear phase EQ, a broadband denoiser and reNOVator, an interpolation algorithm for getting rid of extraneous noises. It's so good it's scary!"

Much of the source material was mono; tools used to enhance the original tracks included a TC Electronic System 6000 and a Z-Systems z-K6 processor. "Through [U.S.

—CONTINUED ON PAGE 150

PHOTO: MAUREEN DRONEY



Producer Randy Thornton (left) and engineer Jeff Sheridan

earth": Adventure, Frontier, Fantasy and Tomorrowlands; themed attractions such as *Pirates of the Caribbean*, *The Haunted Mansion*, *It's a Small World*; and more.

The task of assembling the sonic portion of this elaborate production (which also includes vinyl and the 72-page coffee table tome, *The Sounds of Disneyland*) was helmed by compilation and restoration producer Randy Thornton. I visited with Thornton and engineer Jeff Sheridan, who mastered the project (and mixed much of it), at Sheridan's Soundworks Studio in North Hollywood.

Main source material came from the archives of Walt Disney Imagineering, the company in charge of design, engineering and production for Disney theme parks and attractions. After transfer at WDI from a plethora of formats to Sonic Solutions and Pro Tools, files were delivered to

NASHVILLE SKYLINE

by Rick Clark

Amidst all the record labels, publishers and studios that populate Nashville's Music Row, 615 Music is a highly successful anomaly that sets itself apart by creating and producing music that isn't dependent on hit radio and typical music biz dynamics. While others focus on landing cuts on the next country sensation's album, 615 creates music for many of the nation's high-profile network and cable shows.

615 Music's client roster includes CBS, Fox, A&E, History Channel, Animal Planet, ABC Sports, *Live With Regis & Kelly*, PBS, Oxygen, CMT, Columbia TriStar, Warner Bros., HBO, Lifetime, Disney/Buena Vista, TNN and the Family Channel. Along the way, they've picked up numerous Emmy, Addy, Clio and Mobius Awards. It's safe to say that if you regularly watch television, you have heard music that was generated by 615 Music.

Located at 1030 16th Ave. South, 615's headquarters houses a sizable main studio with a large tracking room with a 7-foot Kawai grand piano and four isolation booths (up to six isos via tielines). The control room, which has an elevated producer area, is large enough to comfortably hold a room full of producers and closet producers. Gear includes a Pro Tools MIX3 DAW; Mackie HUI; Apogee AD-8000; two 888/24 I/Os; plug-ins by Focusrite, Bomb Factory, Waves and Lexicon; DDS-4 tape backup; Otari MTR-90; Millennia HV-3D 8-channel mic preamp; and a wide assortment of outboard compressors and reverbs.

615 Music's mastering and sound design suite features a SADiE Artemis 24/96 digital disc editing/mastering system (Version 4.2) with PORTiA digital video recorder, Mackie console and HR824 monitors, and 615's huge collection of music and sound libraries. All rooms have lock-to-picture capabilities, tielines to both mastering rooms and tielines to both recording studios.

Most recently, 615 Music created and produced the music for NBC's *Today* show; the company's "Live for Today" theme was chosen from more than 100

NEW YORK METRO

by David Weiss

submitted, according to NBC officials. "NBC had a whole bunch of demos submitted and they pulled it down to their favorites," says 615 owner Randy Wachtler. "When NBC senior VP Frank Radice called to tell us our song had been chosen, we were elated. I've worked with Frank many times over the years, and he's one of the most creative network executives I've ever worked with. He's a musician in his own right and has a real instinctive feel for music.

"We watch the show every morning, so we were familiar with the personalities and the tempo of the show, and we tried to weave that personality into our music," Wachtler adds. "Live for Today" was written by Phil Vassar, Julie Vassar and Wachtler, and replaces the program's long-running "America's First Family" theme. Wachtler notes that the initial idea for the lyrical theme of "Live for Today" came from Frank Radice and Tom Tushea, an executive VP for *Today*. "It was their idea. They gave all the composers and production houses the title and said, 'We want something that is contemporary,

—CONTINUED ON PAGE 150

Love to shop? From Prada to preamps, New York City has always been a buyer's paradise. While engineering talent matters most in personal studios and major facilities alike, it's a fact that no one can record until they actually get their hands on some gear. As the first step in establishing the signal path, New York City's pro audio retailers and their operating style have an undeniable impact on the sound of music here.

While online purchasing is significant, it's arguably the same experience everywhere: If you study the pro audio retail atmosphere in the Big Apple, you can find the latest wrinkles in the art of selling gear to people live and in person. The new 19th Street home of Dale Pro Audio (www.daleproaudio.com) was built with the walk-in customer's desires keenly in mind, with four separate demo rooms built to mirror control room/mastering room environments, allowing customers to privately A/B gear in a close approximation of real-world conditions. "We wanted to be the best place in New York City for people to successfully learn about the equipment and make their

decisions," says Tim Finnegan, general manager at Dale Pro Audio. "We worked long and hard on designing them with John Storyk, so the rooms are designed and tuned to that end.

"One room is for speaker evaluation and high-end signal processing, one is for microphones and preamps—with a drum kit and guitar amp for real auditioning—another room is for small-format digital mixers and the Digidesign D-Command, and another dedicated to the Digidesign D-Control. By and large, when people come in and audition product with us, they appreciate the time spent and usually place their order with us. We are price-competitive, so price is usually not a factor."

Finnegan notes that overall



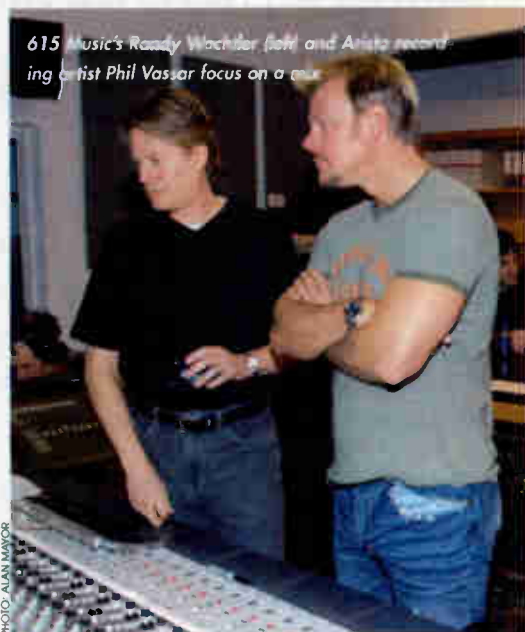
Dale Pro Audio's Digidesign ICON/D-Control room

prices of the technology he sells appear to be going down—good news for the consumer. "The products that are available have ended up costing less and less over the years because technology has allowed that to happen," he acknowledges. "It becomes a matter of who's using the products, their talents and how they make use of the technology to design their end product. We're always trying to—within the customer's budget—give people the best products to deliver *their* best product."

Much newer to the neighborhood is Guitar Center (www.guitarcenter.com), a national player with a new 30,000-square-foot flagship location on 14th Street. "There's a lot more activity in the audio industry here, which makes the competitive dynamic all the more intense," says GC manager Tim Miller. "A lot of the evolution now in retail is product-driven. The industry has become very software-driven, so even keyboard sales over the last couple of years have slipped because all these virtual software engines provide the same sound without having to provide a keyboard or rack module."

In a city where franchises in general are often the target of disdain by New Yorkers who prefer the old-world flavor of boutiques and family operations, Guitar Center—whose parent company is so big that they're traded on Nasdaq—waves the advantages of its large corporate structure

—CONTINUED ON PAGE 152



615 Music's Randy Wachtler (left) and artist Phil Vassar focus on a recording session.

PHOTO: ALAN MAYOR

CLEVELAND ROCKS HARDER ANTE UP AUDIO KEEPS LOCALS AT HOME

Sharing the same downtown Cleveland neighborhood as the Rock and Roll Hall of Fame seems like a perfectly logical place to open a new studio, especially for two native Clevelanders. One, producer/co-owner Michael Seifert, has rock-solid studio credentials; the other, co-owner Paul Shaia, has the all-important CPA/business background. Both committed to building a destination spot for national acts and developing the local and regional music/recording scenes.

Ante Up Audio (www.anteupaudio.com) opened its first room, Studio B, in October 2004. A refurbished 56-channel Neve 8128 paired with a Pro Tools MIX3 workstation, Studer A80, Genelec and Mackie monitors and ample outboard gear occupy the control room. Seifert and local designer Brad Way designed the live room and listening space to be built on floating floors, paying careful attention to acoustics and aesthetics. "We believe that the way rooms are built still matters," says Seifert. "They don't make a plug-in yet that replicates what drums sound like in a good room." The studio's newly opened Studio C, designed for "budget" tracking and film scoring, includes Pro Tools|HD, an Otari Status console and a selection of Neve and API preamps. "We like to mix the flavors," says Seifert, who recently finished composing (with Dave Padrucci), producing and engineering a new rock-themed score for Francis Ford Coppola's *The Outsiders*, to be re-released on DVD.

The forthcoming Studios A and D will also cater to tracking, mixing and post work, although the A room will become the largest of the four. The total build-out will occupy nearly 15,000 square feet.



Ante Up's first room, Studio B, and control room (inset), featuring a Neve board

To date, a family of seven local engineer/producers work exclusively at Ante Up, including Seifert's father, Bruce Seifert, who formerly owned Cleveland's long-standing Great Tracks Recording, guitarist/engineer Don Depew, Dave Bastian, Jim Hillenbrand, multi-instrumentalist Jimmy Weaver and Charles A. Martinez—most of whom did their time in major markets but have chosen, like Ante Up's owners, to stick close to home. "It's always ticked me off that a lot of people come out of Cleveland and then ditch it," says Seifert. "There's a lot of talent here, and it's more exciting for me to just stay put and dig in."

BEHIND THE GLASS

LEGEND IS UNHINGED WEST GETS "LIFTED"



From left: John Legend, Kanye West and engineer Craig Bauer

Following his opening performance at the Chicago Theatre for Alicia Keys' *Diary* tour, Mr. "Ordinary People"—solo sensation John Legend—dropped by Hinge Studios (Chicago) to add his vocal prowess to a track on hitmaker Kanye West's forthcoming CD, *Late Registration*, due out this summer. (Coincidentally, West, a Hinge regular, produced Legend's Columbia debut, *Get Lifted*.) Studio owner Craig Bauer manned the Euphonix CS2000 console and Pro Tools|HD3 rig. Other recent Hinge visitors include Bump J. (Atlantic), saxophonist Steve Cole (Narada) and gospel artist/producer Donald Lawrence.

THEY'RE HOT R.H.C.P. UNITE FOR NEW ALBUM



Red Hot Chili Peppers guitarist John Frusciante (left) and Mark Linett

Funk/rock heroes Red Hot Chili Peppers wrote 35 songs for their next Warner Bros. album and then hit a private studio in Laurel Canyon (L.A.) to record them with producer Rick Rubin and engineer Mark Linett. The group played live with everyone in the same room, and recording was to Studer A800 24-track on Quantegy GP9. Linett says, "Finding enough tape was particularly challenging, but we managed to round up about 100 reels!"

TRACK SHEET

MIDWEST

Brian Deck mixed V2 artist Josh Ritter's latest at Engine Studios (Chicago) and finished guitar/vocal overdubs for The Safes. Colin Studybaker tracked projects for locals Almost Rosario and Pet Lover, and mixed for groups Alla and Midstates.

NORTHWEST

Singer/songwriter Victoria George wrapped up her debut with producer/mixer Joey Muller. Tracks were engineered by Aaron Prellwitz at Tiny Telephone (San Francisco) and Muller mixed at The Visceroy (San Anselmo, CA)...Nettleingham Audio (Vancouver, WA) engineer Kevin Nettleingham mastered releases for Portland-area artists Evan Earwicker, Hal Wolverton, Sleeping Nations, Portland Taiko, Daniel Parker, Novum Chamber Singers With Michael Allen Harrison, Living Yoga, Ogden, Utah artists CART! and local artist Cory Siebe.

SOUTHERN CALIFORNIA

Artist/producer Tim Coffman and engineer Micajah Ryan mixed Coffman's latest at Rolltop Studio (San Diego)...Producer Jim Ervin and engineer Bryan Davis were at Hollywood Sound Recorders (Hollywood) mixing NYC hip hop artist Little Vic's debut single, "Into the Night," with guest vocals OD'd by Benny Mardones...So-Cal punk rockers Pennywise self-produced their eighth full-length, *The Fuse*, which was recorded at Stall #2 studio (Redondo Beach)...Co-producers Ryan Hewitt and blink-182's Mark Hoppus recorded the band Motion City Soundtrack's *Commit This to Memory* at Conway Recording (L.A.)...Ross Hogarth produced and mixed Stephen Bruton's *From the Five* (New West) at Mad Dog (Burbank) and Boogey Motel studios...Westlake (L.A.) welcomed Alanis Morissette to Studio D, where she worked on acoustic tracks for the 10th anniversary of *Jagged Little Pill* with producer Glen Ballard and engineer Bill Malina. Patti LaBelle locked out Studio B to track vocals for an upcoming release and a Tsunami benefit song with producer Sami McKinney and engineers Dan Naim and John Adams. Producer Mark Batson and engineer Aaron Fessel mixed songs for Dave Matthews Band's new album, *Stand Up*, in Studio E.

NORTHEAST

Neal Schon teamed with engineer John Ellis at Prism Sound Studios (Acton, MA) to mix a record for Soul Sirkus, which features Schon on guitar...The Discovery Channel returned to Dubway Studios (NYC) to track voice-overs with engineer Keith Rigling for *American Chopper* and *The Deadliest Catch*. The B-52's frontman Fred Schneider and Richard Barone produced tracks for Polydor UK artist Sophie Ellis-Bextor; Mike Presta engineered. Producer/keyboardist Jason Miles stopped in Bennett Studios (Englewood, NJ) to continue sessions with Suzy Bogguss; Brian Dozretz engineered. Dozretz then joined Bob Mould, who produced a remix for



DMX tracked his new album for Def Jam/Ruff Ryders at Salmine Studio (Mesa, AZ) with producers P. Killa, Swiss Beats and Grease, among others, and engineers Sammy D'Ambruso, John Bilberry and Justin Salter. From left: P. Killa, D'Ambruso, studio owner/manager Don Salter, DMX

Interpol...Producer Jason Corsaro visited the newly opened Barbershop Studios (Lake Hopatcong, NJ) to track drums for a new project. He told owners Mark Salamone and Scott Barber that it's the "best-sounding room he's ever heard."

SOUTHEAST

Track Boyz have been camped in Zac Recording's (Atlanta) Stonehenge room cooking up beats for Arista artist J-Kwon and newcomer SonNY (Virgin); Kelly "Dread" Liebelt engineered. OutKast's Big Boi produced a Carlos Santana track with Morgan Garcia at the board; Atlanta's Sleepy Brown added verses. Producer Rico Wade and engineer Phil Tan worked on a track for new rap artist Bubba Sparxxx, and engineer Liebelt recorded the Dekalb Drumline's rhythms for an upcoming Missy Elliott release...Jazze Pha produced tracks for Too Short and Ginuwine at Patchwerk Recording (Atlanta) with engineer Nico Solis at the board, and a song



Indie/pop trio Last Surprise tracked and mixed their new EP at SugarHill Studios (Houston) with senior staff engineer Steve Christensen. From left: Christensen, Scott Johnson, Aaron Denton and Ken Masley

for Playaz Circle with engineer Leslie Brathwaite. Nelly came in to work with Pha on "Every Time" for the upcoming *Triple X* soundtrack. Producer Mannie Fresh worked on projects for Bone Crusher, Rich Boy, Smitty and The YoungBloodZ, who also teamed with producers Proverb and DJ Toomp. Warren G came in with Chingy to oversee the mix of "Lookin 4 You," which was engineered by Brathwaite...Allen Morgan of A&R Studios (Nashville) handled programming for Jerry D's "Sax in the Country" dance remix, engineered by Eric Bettingfield and later mixed songs for world music artist Thania Sanz. ■

Send your session news to hjohnson@primediabusiness.com. High-resolution photos encouraged!

BEHIND THE GLASS

C&C STUDIOS UPDATE LOFTUS RECORDS FAT VOCALS



From left: studio owner Brad Ryan, Fat Joe and engineer Eamon Loftus

Fat Joe contributed his rap skills to R. Kelly's new release, *TP.3: Reloaded*, which features additional guests such as Snoop Dogg and Twista. Eamon Loftus engineered Fat Joe's contribution at C&C Studios near Washington, D.C. Joe's vocal chain was a Soundelux E47 into a Neve 1073 through a Universal Audio 1176 to Pro Tools|HD3.

THIRD DAY FLIES SOUTH QUINTET TRACKS ALBUM EIGHT

PHOTO: BR DANDY



From left: engineer Steve Bishir, producer Brown Bannister and Third Day bassist Tai Anderson

2005 Grammy/Dove Award winners Third Day worked on their eighth album in their native Atlanta, choosing to track at Southern Tracks Recording. For the follow-up to their Brendan O'Brien-mixed *Wire*, the band teamed with producer Brown Bannister and engineer Steve Bishir, who manned the studio's SSL G+ console and Pro Tools|HD.

distributor] TransAudio Group, we were able to demo the z-K6," continues Sheridan. "It was designed as a surround processor, but we used it to give the mono recordings a stereo feel. This processor worked really well. It just made the ambience much wider, giving us a kind of 'room' feel that helped smooth transitions."

Anticipating the 50th anniversary, Thornton began gathering material for the project as early as 2000; ultimately, he had almost eight hours' worth. "I didn't think I could get it approved," he recalls, "but I made a montage and played it for the staff. It evoked so many great personal memories for everyone that they said, 'Go ahead.'"

Thornton's dream is already a success: The initial limited-edition release of 5,000 sold out; 2,000 of them went within 12 hours after they were available on DisneyDirect.com. A second special edition is on the way, and the set will be available nationally in September.

"I wanted to re-create the incredible feeling of excitement that you got from Disneyland," says Thornton. "Everyone involved in this—Imaging, the writers, the designers, so many wonderful people—felt the same way; there was a no-holds-barred attitude. We're really proud of it."

It had been a while since I'd been to Record Plant (www.recordplant.com); hearing that the studios have been jumping lately with the likes of Kanye West, Avril Lavigne, Black Eyed Peas, Jennifer Lopez, Ringo Starr, Jerry Lee Lewis and Santana, I dropped in for a visit.

Since it opened 37 years ago, Record Plant has always managed to comfortably mingle a genre-crossing client base; doubtless it helps that what those clients often have in common is the fact that they're superstars. Engineer/programmer Tal Herzberg, who, on the day I visited was working in Studio 2 with producer (and A&M Records president) Ron Fair on the Pussycat Dolls, points out that the studio's current clientele merely mirrors current Top 40 and Star-format radio playlists, where various hip hop, rock and pop artists are all considered mainstream.

"A lot of the Top 40 stations will play the new Ashlee Simpson and Ashanti back to back with P.O.D., and it's okay," he says, shrugging. "What is mainstream now? It can be hip hop, R&B, rap, rock. Radio now is at the point where you have to fit between Dido and 50 Cent, no matter who you are."

The projects Herzberg and Fair work on tend to include lots of live playing, albeit combined with Pro Tools precision.

Case in point, he cites a recent collaboration in Record Plant's Studio 4: a ballad with Christina Aguilera on vocals and Herbie Hancock on acoustic piano, which he calls "amazing in its level of musicianship."

Regarding the live element of recording, Record Plant president Rose Mann-Cherney notes, "Something I'm very proud of is that even during the period when no one seemed to be doing live recording, we thought it was important to teach our staff how to do it. We'd bring bands in and have tutorials for them with experienced engineers so they could get practice."

That kind of training still pays off. For the 2004 to 2005 award period, five Record Plant staff engineers garnered Grammy® nominations. "A lot of people think that there's no place for the old guard of recording," Mann-Cherney continues. "At Record Plant, we strive to be the place where both classic and new technology and skills meet in the middle because they both need each other. I think we're successful at it."

As far as amenities go, the facility just added a workout room with treadmill, Universal gym and elliptical machine, as well as a high-end Avid video suite where clients can get video editing done while they work on their album. "Fitness is an important component of the profile of our clients, and we want to make it convenient for them," says Record Plant CEO Rick Stevens. "We also noticed clients today are dealing with a high demand for video content to accompany their projects. To accommodate that, we've put together a high-definition Avid editing suite. It's all part of constantly assessing what clients want and what will help them do their best work. Our goal is to provide the kind of creative and supportive environment that successful people want to be in." ■

Got L.A. stories? E-mail MaureenDroney@aol.com

NASHVILLE SKYLINE FROM PAGE 147

fresh and more of a song rather than a jingle, and we want it two-and-a-half minutes long, like a full-length song. Of course, they would want edits of that or cut-down versions of the same song, but that's the direction they gave everybody."

Phil Vassar sang the theme, and 615's Aaron Gant engineered and mixed. "We



L-R: engineer/producer David Thoener, engineer/programmer Tal Herzberg and Record Plant president Rose Mann-Cherney

did the whole thing on Pro Tools," Gant states. "It's all live. Nothing's sequenced, and we didn't use any vocal tuning or 'Beat Detect' anything. I did include some little guitar licks from the original demo."

Gant says that it's hard to watch TV without regularly spotting 615's music. "It's fun to go home and point out what we've done to my wife. I'll go, 'Hey, I did that!'" Gant says. "No one knows what we do. We're secret, but just watch TV and you'll hear it."

A few days after my visit with 615 Music, I find myself sitting in a golf cart writing this piece on my laptop at the Harpeth Hills course on an absolutely perfect day. A storm front blew through the night before and cleared out the air. In its place are beautifully dimensional clouds of many shades and a nice breeze keeping the air fresh and dry.

I don't get many chances to work like this, and for most of today, I've had too much fun to address this column's promised deadline. My rationale for taking my time—the 8th Annual Audio Masters golf tournament, which is put on by the Nashville AES Chapter.

My mates on the *Mix* magazine team this year were mastering wunderkind Andrew Mendelson of Georgetown Masters, super golf ace and publishing whiz Cliff Audretch of Windswept Music and esteemed producer, bassist and good-hearted raconteur Norbert Putnam. After sending my second shot skittering 30 feet off to the right, I realized I was along for comic relief.

The Audio Masters is the main funding source for the Nashville Engineer Relief Fund, which began eight years ago to help local engineers who have medical or other life crises. The AES' Nashville Chapter started the fund, but it now stands alone as its own nonprofit entity. Engineers may request funds and remain anonymous. The approvals are granted by a small committee,



REMIX HOTEL LOS ANGELES

THE NEW SAE INSTITUTE ON SUNSET • AUGUST 5–7

Remix magazine and partners present three FREE days of technology master classes, panels, demos and clinics about music production and performance for electronic- and urban-music producers, engineers, musicians and DJs. The Remix Hotel offers exposure to and training on the hottest products available for the production and performance markets.

remixhotel.com

which serves as the board of NERF. The tournament usually raises in the neighborhood of \$20,000 for engineers in Nashville—more than \$150,000 to date.

Nic of Time Communications head Nicole Cochran and *Pro Sound News* editor Frank Wells and engineer Bil VornDick deserve major kudos for their selfless work on this event, as well as a number of others with NAPRS and the Nashville AES chapter. It's rare to find an event that is so much fun and truly matters.

Cochran points out, "It is important to note that studios both new [Karian] and old [Ocean Way] sponsored holes, and that sponsors came from as far away as Las Vegas [Brad Lunde from LasVegasProAudio] to support this tournament. Organizations



A round for a good cause (from left): Norbert Putnam, Courtney White, Mix's Nashville editor Rick Clark, "Dr." Bil VornDick, Cliff Audretch, Andrew Mendelson, Robbie Clyne, Gene Eichelberger and "Nurse X"

like NAPRS and Nashville's new SPARS Chapter hosted holes, as well."

The winning team for the 8th Annual Audio Masters Cup was Euphonix, with second place going to Universal South and third to Carl Tatz Design. Audretch won the Longest Drive on the Fairway competition, Larry Garriss won Closest to the Hole and Longest Putt went to engineer/producer Gary Paczosa of the Blackbird team. ■

Rick Clark would like to thank MTSU's Courtney White, Taner Shores and Belmont's Scott Campbell for their help with this piece.

NEW YORK METRO FROM PAGE 147

for all five boroughs to see. "We have stores across the country, so when my New York City customers are looking for esoteric products, at the touch of a button I can find something exotic and get it here quickly," notes Blue Wilding, account manager for the store's GC Pro division. "That's one of the things we offer that's different. New

Yorkers have very little time to shop for products that they need to make a living with. I find that clients want everything, including their musical instruments, in one spot, but a lot of our competition doesn't have the fun stuff—the Les Paul Jr. that goes around their HD system. One-stop shopping is really where it's at."

A different spin on that philosophy awaits customers on Ninth Avenue who walk into B&H (www.bhphotovideo.com), one of the city's better known players. "It's New York City—there's always a lot of production going on," says Ray Nostrand, sales manager of B&H. "But the changes here are that desktop/computer audio have made it so that a lot of the established production studios are closing down. In the past, a lot of music retailers would be supplying a lot of the studio business, so in retailing, there's a shift from large studios running multiple rooms giving way to home or project studios."

Nostrand feels he benefits strongly from the fact that B&H, which began as a photo retailer 30-plus years ago, has multiple departments that deal expertly in media besides pro audio. "We are a nonlinear editing, video and photography store, so we have a diverse customer group and we are seeing a very large convergence of these mediums in the direction of what we call 'pro media,'" he explains. "It may not be that someone goes to work simply as a sound engineer anymore but a pro media engineer, because what makes studios work? It may be the ability to do more than one type of project.

"In our audio-for-video area, for example, we started to let customers know about how using higher-quality shotgun mics will come back to benefit them when they're editing. They got the message so well that they now buy a new camera and they're already up to the audio department upgrading the mic. Mainly through the Internet and chat forums, today's customer is very savvy. They have the ability to access this information and download it, and what they're looking for from you as the retailer is to integrate the gear so they can produce their project. They're looking for an integrated solution."



Ray Nastrand of B&H

At the completely opposite end of the spectrum from the big-bigger-biggest arms race above are retail options like Turntable Lab (www.turntablelab.com), a relatively tiny store on a quiet stretch of 7th Street in the East Village. While the store focuses on DJs, a tight but intriguing selection of new gear, like a Moogerfooger MURF pedal, M-Audio MIDI controllers and sub-\$200 microphones, is on display (and available online) for the personal studio producer. "It's really an abstract thing," says Peter Hahn, creative director of Turntable Lab, on how his store decides what to stock. "I think that's what makes our company successful. We are not stuck in one type of genre of music—although we used to be—or one way of making music. We draw input from as many sources as possible, synthesize the information and do research. There's also a lot of stuff out there—good and bad. We try to present a general, manageable view of what's out there rather than being all-inclusive.

"Our physical store is not as big as our competitors', but we make up for it by only carrying the best of what's available. When we consider adding a new piece to our selection, we do research to see how it compares to what's already in the market, both price and features-wise. So if it's a \$100 piece or a \$2,000 piece, you know that you are getting the best in that price range at our store. Also, everyone who works at our store, and most people in our office, are music producers themselves, so we get a lot of input from them. We also try to target 'classic' pieces, ones that have been championed by users for their usability and performance. We get this information from our customers and large base of producer/DJ affiliates."

Turntable Lab manages to carry over the low-key but cutting-edge attitude of its downtown physical home on its Website. It's a strong example of how retailers can keep their radar up on the streets to power global sales. "Our online store is definitely the main operation," Hahn says, "but the [East Village] store is an integral part of that. The physical store serves as our link to what's happening in New York City; it gauges trends, and provides a place where our customers can interact with the products and provide input." ■

Send your Metro news to david@dwords.com.

—FROM PAGE 128, IT'S MY PARTY

gear, the logic and audio circuits require an assortment of regulated voltages. The obvious benefits of voltage regulation are circuit protection from spikes and surges, and tolerance of brown-outs (when the line voltage falls below normal). Typical op amp-based audio circuits run on bipolar power—that's plus and minus—typically about 15 to 20 volts (30 to 40 volts total).

These two power "rails" are referenced to a common center point that is tied to and called "ground" (or Earth, if you live in the land of Greenwich time). Bipolar voltage regulation ensures that an op amp's no-signal output "lives" at the center of the voltage swing (a virtual zero volts) so that headroom is maximized and clipping is symmetrical. If the supplies become unbalanced, then the op amp's output is "offset," resulting in switches that will pop, along with pots and faders that sound scratchy even if they are clean.

LIFELINES

With a remote power supply location, the increased distance must now be considered. All cabling has a DC resistance and an AC impedance—both are variables that increase with current demand and temperature—plus the added complexity from console point-of-entry to the motherboard and from there to the modules. Together, the length and number of interconnections contribute to potential noise problems.

Regulation reduces noise—power supply hum and HF noise—and for many lesser consoles, the buck stops here. More sophisticated power supplies have remote sensing: They can "see" what's happening at the other end of the cable (a voltage drop, for example). Adding local regulation at each module or subassembly lowers power supply impedance—and with it high-frequency noise (including the potential for oscillation)—and improves amplifier isolation (cross-talk reduction). All of these must be pushed as far down into the noise floor as possible or risk the potential of being amplified by high-gain amplifiers such as a mic preamp. Individual channel noise (hum and hiss) may seem insignificant until 48 channels' worth are summed together.

Power requirements for large-format consoles tend to rely upon discrete regulation components. The regulated portion of a linear power supply is a zener diode (for voltage reference) and an op amp (discrete or integrated) driving one or more power transistors. For low-power applications, these parts have been integrated into standard transistor-sized

packages, such as the TO-3, TO-220 and TO-92 case styles as shown in Fig. 1. This brings us full-circle to the local regulation of the SSL subassemblies.

Each SSL I/O module is a large PCB populated with plug-in cards ("subassemblies" such as the dynamics module), each with their own local regulation; in this case, the 78Lxx and 79Lxx regulator series for the positive and negative rails, respectively. The "xx" denotes the regulation voltage. The 78L15 and 79L15 parts are 5-volt regulators; the "L" denotes a TO-92 package. (See "Voltage Regulators" sidebar on page 128.)

DIAGNOSIS

The SSL dynamics modules were behaving in odd ways, so comparative analysis is your friend. Starting with the schematic and a 'scope, there are test points at the very beginning of the sidechain where the AC signal is rectified into a DC control voltage. It was here that I noticed the problem: a high-frequency oscillation above the range of hearing that also showed up at the op amp power input pins. As best as I could determine, the oscillation was coming from the power rails and being amplified. (High-frequency oscillation tends to be a squirrely beast to trace, even down to where the 'scope probes are grounded.)

I then swapped the dynamics subassemblies to "good" I/O modules to prove that the problem followed the card (it did) and then suggested capacitor replacement around the local regulators. (See Fig. 2 and the sidebar for an explanation.) Once installed, the repaired channels sounded better than their better functioning neighbors. On a 48-input console, that translates into a desoldering party invite!

READING THE FINE PRINT

The ability to translate schematics into real diagnostic information comes with practice. The AC signal path through an op amp is relatively easy to follow. DC circuits are more of a challenge, but an oscilloscope can reveal so much more than the presence of HF oscillation. No dynamics processor's metering is as revealing as a 'scope. So if you're looking to understand DC circuits in general and sidechain circuits in particular, then get a 'scope and start probing. ■

Eddie would like to thank Todd Hokenstrum and Brooke Krieger for the SSL schematic scan and Julie Gardeski for sharing her knowledge of the SSL. Visit www.tangible-technology.com for more stuff.

—FROM PAGE 81, BRUCE SPRINGSTEEN

CD and DVD burners. Bruce takes a DVD with him almost daily to check the show. I spend extra time on the audience mics; you really need them to bring the board mix alive."

Monty Carlo's monitor desk is a Midas Heritage 3000, which he notes, seemed large at the outset, but has become—with 30 inputs in use—"just barely big enough." No in-ear monitors are used (Shure PSM700s are used by an offstage keyboard player who adds sweetening and by the video crew); instead, Carlo runs eight mixes through custom Audio Analyst monitors: eight single 15-inch wedges and two 360-VFX sidefills.

In contrast to the ever-changing FOH P.A., "I'm the same," says Carlo. "I've got two wedges for a center vocal mix. The sidefills are in stereo: guitar, delay effects and piano. The stereo makes it nice and full. The other six wedges are for stereo piano, stereo center guitar and pump organ."

Carlo's effects array was slim: two Yamaha SPX-990s and a TC Electronic D2 for "a few delays on vocals and guitars. I've never been big on compressors and gates," he notes. "I have four channels of compressors in a Drawmer DL441 for the vocal, but I don't do any compression for the stage, just for what the backline techs hear in their speakers. When Bruce switches from vocal to harmonica, the levels jump dramatically; I compress to keep an even level for them." Outboard EQ is also minimal. "Most of it is in the processors on the amp racks: BSS Minidrives for the crossovers and Klark Teknik DN3600 graphics across the mix buses."

Carlo, who's worked with Springsteen for 13 years, sports the calm demeanor characteristic to great monitor mixers: During soundcheck, Springsteen directs few words to him, which is, he acknowledges, "The way we like it. This is a fun tour. There's a lot of variety. The guitars have very different tonalities, and Bruce often change things up in the middle of a song. Since he's alone, that's easy to do, and it keeps things interesting."

"This tour is pretty luxurious in that sound takes priority over everything," Cooper concludes. "It's a wonderful set of problems. You will never, in an arena, get to the point of the quality acoustics we have in these smaller places. It's a fantastic opportunity."

The tour wrapped up in the U.S. in mid-May and is currently circling Europe. ■

Maureen Droney is Mix's L.A. editor.

Get Serious.



Logic[®] Pro 7. Serious tools

34 software instruments. 70 studio quality effects. Total editing power.

GET YOUR INSPIRATION INTO LOGIC WITH THIS SERIOUS USB/MIDI CONTROLLER.



ALESIS

Photon X25

Making music is all about control. The new Alesis Photon keyboard controllers give Logic users unprecedented control! And thanks to onboard USB, the Photon X25 can be connected directly to your computer — no MIDI interface required!

- Revolutionary "XYZ" infrared dome 3D controller
- 10 rotary encoders, 10 buttons
- Over 40 immediately accessible MIDI controls
- 20 editable, storable configurations
- LCD screen with dedicated encoder
- Template inserts for easy setup with your favorite soft synth

When musicians, engineers and producers want to get serious about computer recording, they turn to the company that has put together more computer-based recording systems than any other — Sweetwater. Our digital audio experts can help you design the perfect Logic system and we can even configure a turnkey system for you. Want to know more?

Call us today at (800) 222-4700.

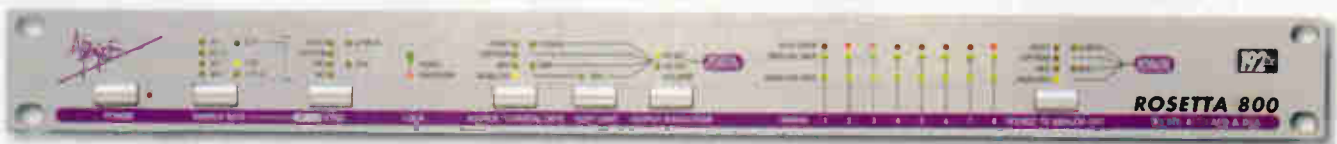
World Radio History



 Authorized Reseller

for creative professionals.
 ing flexibility. Synchronized video playback. Expandable DSP.

MAKE LOGIC SOUND AMAZING WITH THIS SERIOUS AUDIO INTERFACE.



Rosetta 800

Serious professionals have chosen the sound of Apogee converters for years. The Rosetta 800 faithfully captures your audio with warmth, punch and accuracy, and delivers that audio to Logic Pro 7 with a single firewire cable thanks to the optional X-FireWire card.



- 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 Intelliclock
- SoftLimit clip protection
- Industry-leading UV22HR word length reduction

CALL SWEETWATER TODAY!
 (800) 222-4700
 www.sweetwater.com

Sweetwater[®]
 music technology direct™

—FROM PAGE 30, *SPRING CLEANING*

one particular parameter: metal-to-metal contact area between connectors. But I ran out of space.

Compare the predominant means of connecting components in the various parts of the audio industry. At the top are XLR connectors. Wonderful things: They lock together positively and reassuringly, offer three well-insulated current paths and provide strain relief for all three conductors. Each pin is 20.7mm long (all of these measurements are from Switchcraft's Website, www.switchcraft.com; there are small variations among different types and manufacturers) and 2.4 mm in diameter, making for a surface area (length x diameter x π) of 156.1 mm² per pin, or 468.3 mm² total contact area.

Come down to the musical instrument and "prosumer" level. These are largely connected with ¼-inch plugs and jacks. These components lock pretty well, although they can usually be yanked apart given enough force, and only the most expensive provide sufficient strain relief that the cables can't be pulled out of the connectors should you trip over them. Wiring schemes vary, but in general, the insulation between conductors is only as good as the cable itself and often not that good: Shields are generally pinched around inner conductors, and when you're using balanced ¼-inch plugs, the terminals for the inner conductors are quite close together. The plastic inserts between the tip, ring and sleeve provide adequate insulation, but they can break if the plug gets abused. The ¼-inch plugs are 30.16mm long and 6.35 mm in diameter, so they have a maximum contact area of 602 mm². Take away the insulators, which take up maybe 25 percent of the total in a TRS configuration, and you still have more than 450 mm². Pretty similar to XLRs.

Go down to the "hi-fi" world and you're dealing with RCA phono plugs. Nasty things to work with, prone to oxidation problems because of the way the plug's shield wraps around the jack, and with little space to insulate the inner from the outer conductors, these beasts nevertheless work okay if they're really well-constructed. Otherwise, they short out, the hot lead deteriorates and they snap off. But in terms of surface area, they're not too bad: High-end versions of the plugs have a pin that's 15.9mm long and 3.18 mm in diameter, giving a contact area of 159 mm². The barrel is 6mm long, with an inner-facing diameter of 9.5 mm, providing 180 mm². So the total surface area is 339 mm², more or less, which is respectable.

But sales of all these connectors—if what I find myself buying at Radio Shack these

days is any indication—pale in comparison to the new king of audio: the ¼-inch miniature stereo phone plug. Once used only for Walkman headphones, these little suckers are everywhere now: CD players, iPods, MiniDisc recorders, "multimedia" speaker systems, airline seats, computer and sound-card inputs and outputs, and even some synthesizer and processing hardware. Every time I look around, I need another ¼-inch cable or ¼-inch-to-double-RCA adapter. I must own a dozen of the latter, but I keep

In sensory hearing loss
from age or exposure to
noise, the apparent
loudness does *not* shift with
thresholds. You just lose the
quiet tones.

—Dr. Chris Halpin

running out of them.

Of course, a lot of that has to do with their high failure rate. The cable is absurdly flimsy: The shields comprise microscopic copper threads interwoven with fabric, and a good yank invariably breaks the copper at some spot that you can't get to. The plugs are cheesy and plastic, and the conductors are way too close together. Should you happen to step on an end, you can just throw away the cable. Differing dimensional standards among manufacturers don't get terribly in the way when you have room to wriggle—as you do with ¼-inch and RCA plugs—but when the plugs and jacks don't quite line up with something this tiny, you get drop outs, buzzes and crosstalk. And contact area? Well, here's the math: Overall length is 14.29 mm and the diameter is 3.175 mm, for a total of 142.5 mm². Take off 20 percent for the insulators, and you have about 114 mm², a little less than one-quarter the area of an XLR. And that's for two channels, not one.

Doesn't that make you feel better?

LOSSY COMPRESSION= LOSSY COMPRESSION (STILL)

Every semester, I get a new crop of students who tell me how great Web audio sounds. They insist that this year's compression algorithms are way better than last year's, and at 392 kbps, they just can't tell the difference between an MP3 and a CD. And every semester, I go onto various sites and listen to

the latest uploads and don't change my mind. Web audio has without doubt reached the level of the analog cassette: good enough for your car and maybe to have on in the background, but I wouldn't want to listen to it on the big speakers at home for more than about 15 seconds at a time.

I recently put together a mix CD for a reunion party with 180 or so friends whom I hadn't seen in 30 years. I had a great time digging up '60s and '70s music from various sources that I thought would be meaningful to this crowd. There was stuff I had on CDs, which sounded terrific when the disc was well-mastered and horrible when it wasn't. There was stuff I only had on vinyl, so I fired up the old Technics turntable and digitized them, throwing in a little crackle filtering where needed and rolling off below 80 Hz to get rid of the rumble. But some of the music I wanted to include I didn't have on disc and so I resorted to searching it out on the Web. When laid side-by-side with the other formats, even the highest-bit-rate MP3 and AAC versions I found paled in comparison. Neil Young's "Cinnamon Girl" sounded far more anemic than spicy, while The Temptations' "Ball of Confusion" put me more in mind of something you'd whack around with a tennis racket.

It reminded me of a wonderful little test that engineer and educator John Monforte came up with when he was teaching at the University of Miami, which will show anyone, even with the innest of ears, what's wrong with compressed audio. I've been using it on my students, and afterward, they don't bother me about the subject again—until the next semester.

Here's how it works. Take a well-recorded CD, one with a good, wide frequency spectrum and plenty of dynamic range. Rip it onto your computer as a mono linear PCM .AIFF or .WAV file. Make a copy of that file and "flip the phase" or, more accurately, invert the polarity. Take the inverted copy and merge it with the original. What's the result? Nothing, of course.

Now take the original mono file and convert it into a lossless AAC file using your favorite audio editor. Save that and then convert it back to linear PCM. Invert the polarity and combine it with the original. You might see a couple of artifacts on the screen, but play the result and, again, you'll hear nothing as lossless really does mean lossless.

Now take the first mono PCM file and convert it to an MP3 at the highest rate and best quality your software will allow. Save the MP3 and then bring it back into your audio software so that it up-converts it to PCM. Again, invert the polarity of this file and merge it with the original. Now listen,

and you'll hear a fairly robust, if somewhat subdued and frequency-limited, rendition of the original. But remember that this is the *difference* between the two signals: This is what the compression process takes out of the audio file. Case closed. Thanks, John.

FLATTENING YOUR EARS?

And finally, about three years ago [March 2002], I did a column on my experience with tinnitus (it's still under control, thank you) and age-associated hearing loss, and I was contacted by a company called EarQ Technologies (not to be confused with the hearing-aid company called "EarQ"). The company was selling an audiological self-testing system that could be used to custom-tailor a room's frequency response to an individual's own threshold response curve so that the result would be, from the individual's perspective, "flat." The company's slogan was, "Fit your mix to your ears." The system had received a favorable review in *Mix* and other plaudits from the musical and scientific communities, but these write-ups were strictly about how the product made it easy for people to monitor their hearing loss without having to go to an audiological clinic. They didn't address the issue of whether it could fix one's mixes.

I don't want to beat a dead horse as the system is now out of production, but I do still get asked about it periodically. So I think it's worth sharing what I've been able to find out about the concept. According to Harvard Medical School audiologist Dr. Chris Halpin, who gave me my hearing test and is a former musician himself, the EarQ system can't work that way. "An elevated threshold for a tone does not imply abnormal loudness above the threshold for that frequency," he writes. "In sensory hearing loss from age or exposure to noise, the apparent loudness does *not* shift with thresholds. You just lose the quiet tones.

"The loudness grows abnormally fast from threshold back to normal perception so that a loud sound, like 90dB SPL, for someone with normal hearing is the same loudness for someone with a threshold loss of as much as 60 dB. This is known as the 'recruitment' phenomenon and also happens in other sensory systems.

"To adjust a room or mix EQ based on thresholds is not a valid concept in sensory hearing loss. Instead, you should be thinking that when it sounds good to you, it will sound good to the audience." But you already knew that. ■

While rummaging, Paul Lebrman also found an old box full of Mad magazines, so you may not be hearing from him for a while.

SPATIAL ONE

THE FUTURE OF NEAR-FIELD MONITORING

EXCLUSIVE PATENTED
DIFFUSE TWEETER
CREATES A LARGE
EVEN SWEET SPOT WITH
INCREDIBLE ACCURACY

The diffuse tweeter produces a 120 degree sound field that creates the correct stereo image even when you are off center. No more leaning over into the sweet spot. Everybody in front of the speakers hears the same image and relationship.

Matching Sub-Woofer Available



www.soundcontrolroom.com
ACOUSTIC DESIGN AND PRODUCTS

Represented in North America by
Steven Klein's Sound Control Room, Inc.

866-788-1238 Toll Free
Dealer and Rep Inquiries Invited

Las Vegas, Nevada

State-of-the-Art Recording Studio

Move In Ready!

Featuring:
Reception, Conference Room,
3 Production Studios,
On-Air Studio, Rehearsal Studio,
2 Additional Vocal Booths,
Green Room, Office,
Secondary Reception, Breakroom
and Bathroom with Shower.
Entire studio constructed
with double walls.

For Lease



- 4,107 SF
- Easy Access to I-15, I-215 & I-515
- Free Power!!!
- \$1.70 PSF FSG

Exclusively Marketed By:

NANCY STARKEY
nstarkey@LeeLasVegas.com

702.739.6222

Lee & Associates

No warranty or representation is made to the accuracy of the foregoing information. Terms of sale or lease and availability are subject to change or withdrawal without notice.

Lee & Associates - Nevada, Inc.
1100 Grier Drive
Las Vegas, NV 89119
Phone: 702.739.6222
Fax: 702.369.9012

ADVERTISER INDEX

ADVERTISER	WEBSITE	PAGE
Adam Audio USA	www.adam-audio.com	81
ADK	www.adkmic.com	26
AKG Acoustics	www.akgusa.com	53
Apex Electronics	www.apexelectronics.com	50
Apogee Electronics	www.apogeedigital.com	60
Applied Research & Technology	www.artproaudio.com	34
Argosy Console	www.argosyconsole.com	136
Audient/AXI	www.axidistribution.com	107
Audio Technica	www.audio-technica.com	49
Audix	www.audixusa.com	133
Auralex	www.auralex.com	79
Aviom	www.aviom.com	1
B&H Photo-Video	www.bhproaudio.com	97
B&H Photo-Video	www.bhproaudio.com	117
BBE Sound	www.bbesound.com	79
BBE Sound	www.bbesound.com	81
BBE Sound	www.bbesound.com	83
beyerdynamic	www.beyerdynamic.com	25
BIAS	www.bias-inc.com	113
BSW	www.bswusa.com	125
Cakewalk	www.cakewalk.com	59
Clarion Insurance	www.ClarionIns.com	110
Conservatory of Recording		
Arts & Sciences	www.cras.org	140
Digidesign (ICON)	www.digidesign.com	45
Digidesign (Venue)	www.digidesign.com	89
Disc Makers	www.discmakers.com	119
Dolby Labs Inc.	www.dolby.com	1FC
OPA Microphones	www.dpamicrophones.com	7
Drumcore	www.drumcore.com	83
Echo Digital Audio	www.echoaudio.com	1BC
Edirol	www.edirol.com	123
E-MU	www.e-mu.com	127
Euphonix	www.euphonix.com	63
Exp'ression Center for New Media	www.expression.edu	57
Fiberplex	www.fiberplex.com	5
Focusrite	www.ffiiquid.com	61
Full Compass	www.fullcompass.com	115
Full Sail	www.fullsail.com	105
Future Sonics	www.futuresonics.com	122
Grace Design	www.gracedesign.com	100
Groove Tubes	www.groovetubes.com	138
Guitar Center	www.gcpro.com	35
innerTUBE Audio	www.innerTUBEaudio.com	128
Institute of Audio Research	www.audioschool.com	139
JBL Professional	www.jblpro.com	73
L-Acoustics	www.l-acoustics.com	23
Lexicon	www.lexicon.com	143
Los Angeles Recording School	www.recordingcareer.com	109
Lynx Studio Technology	www.lynxstudio.com	69
Mackie (Onyx 80 Series)	www.mackie.com	2-3
Mackie (Mackie Control)	www.mackie.com	27
M-Audio	www.m-audio.com	15
Meyer Sound	www.meyersound.com	91
MOTU	www.motu.com	BC
MW Audio	www.mwaudio.com	44
Native Instruments (Kontakt 2)	www.ni-kontakt.com	99
Native Instruments (Reaktor 5)	www.ni-reaktor.com	101
Neutrik USA	www.neutrikusa.com	11
PrismSound	www.prismsound.com	54

ADVERTISER	WEBSITE	PAGE
Professional Audio Design	www.proaudiodesign.com	111
QSC Audio Products	www.qscaudio.com	67
Remix Hotel	www.remixhotel.com	151
Rimage Corporation	www.rimage.com	19
RØDE Microphones	www.rodemicrophones.com	4
Rolling Thunder Studios & Productions Ltd.	www.rollingthunderstudios.com	41
Rolls Corporation	www.rolls.com	134
Royer Labs	www.royerlabs.com	137
SAE Institute of Technology	www.sae.edu	121
Sennheiser	www.sennheiserusa.com	43
Shure	www.shure.com	55
SLS Loudspeakers	www.slsloudspeakers.com	12
Soundcraft	www.soundcraft.com	85
Steven Klein Sound Control Room	www.soundcontrolroom.com	157
Studer	www.studer.ch	51
Studio Network Solutions	www.studionetworksolutions.com	37
Sweetwater Sound	www.sweetwater.com	29
Sweetwater Sound	www.sweetwater.com	129
Sweetwater Sound/Presonus	www.sweetwater.com	144-145
Sweetwater Sound/Alesis/Apple/Apogee	www.sweetwater.com	154-155
Sweetwater Sound/MOTU	www.sweetwater.com	172-173
Sweetwater Sound/MOTU	www.sweetwater.com	174-175
Tannoy North America Inc.	www.tannoy.com	141
Tascam (US-2400)	www.tascam.com	75
Tascam (Giga Library)	www.tascam.com	87
TC Electronic	www.tcelectronic.com	9
The Barbershop Studios	www.thebarbershopstudios.com	36
Toft Audio Designs	www.toftaudiodesigns.com	52
Universal Audio	www.uaudio.com	13
Wave Machine Labs	www.drumagog.com	54
Waves Ltd.	www.waves.com	30
West LA Music	www.westlamusic.com	110
Wunder Audio	www.wunderaudio.com	12
Yamaha (PM5D)	www.yamaha.com	21
Yamaha/Nuendo	www.steinberg.net	31
Yamaha (PM10)	www.yamaha.com	65
Yamaha	www.yamaha.com	70-71

MARKETPLACE

AEA	www.ribbonmics.com	160
Bayview Pro Audio	www.bayviewproaudio.com	163
Cascade Microphones	www.cascademicrophones.com	163
Charter Oak	www.charteroakacousticdevices.com	161
Clearsonic	www.clearsonic.com	164
Coleman Audio	www.colemanaudio.com	161
Crane Song	www.cranesong.com	161
Crystal Clear Sound	www.crystalclearcds.com	164
D.W. Fearn	www.dwfearn.com	159
FibreDrive	www.fibredrive.com	162
Lonely Records	www.lonelyrecords.com	162
Josephson Engineering	www.josephson.com	159
Media Services	www.mediaomaha.com	164
NAPRS	www.naprs.org	160
New Song Media	www.newsongmedia.com	160
Odds on Recording	www.oddsonecording.com	163
Play-It Productions	www.play-itproductions.net	163
Progressive Music	www.progressivecds.com	161
Rainbo Records	www.rainborecords.com	164
Sonic Circus	www.soniccircus.com	162
Vancouver Film School	www.vfs.com	159

MIX ADVERTISER SALES REGIONS AND REPRESENTATIVES



Northwest/North Central

Greg Sutton
847/968-2390
gsutton@primediabusiness.com

Southwest

Albert Margolis
949/582-2753
amargolis@primediabusiness.com

East Coast/Europe

Michele Kanatous
718/832-0707
mkanatous@primediabusiness.com

Classifieds

Kevin Blackford (West Coast)
Jason Smith (East Coast)
800/544-5530 or 510/653-3307
micclass@primediabusiness.com

MARKETPLACE

Anyone who has heard it knows . . .

NEW

VT-7 Vacuum Tube Compression Amplifier



D.W. FEARN



610-793-2526

www.dwfearn.com

JOSEPHSON 22S

"Overall, the e22S is a winner."
George Petersen
(Editorial Director, Mix Magazine)



Josephson Engineering

www.josephson.com/831-420-0888



**SOUND DESIGN
FOR VISUAL MEDIA**

Reveal The Power

VFS: A proven education for everything
you see, hear, and experience in the
entertainment industry.

For detailed information and everything
you need to know call 1.800.461.4101
or visit vfs.com

VFS
VANCOUVER FILM SCHOOL
WHERE RESULTS MATTER.

CDs FAST!



**7 to 10 Day
Turnaround**



NEWSONG MEDIA

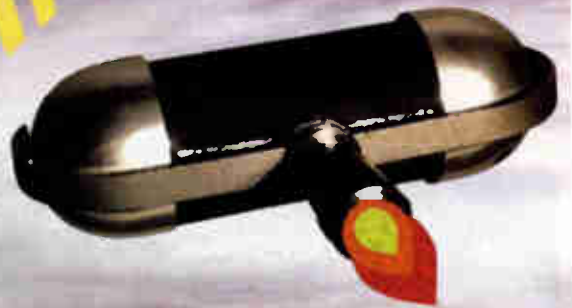
telephone number - 800-964-DISC

fax number 714-704-1733 + newsongmedia.com

* Limited time offer. Please call for details.

RIBBONMICS.COM PRESENTS:

IT CAME FROM AEA...



Scientists agree that Object R92 poses
no threat to Earth... OR DOES IT???

LANDING SOON AT A DEALER NEAR YOU!

RECORD IN NASHVILLE...

IT'S AS EASY AS

1 2 3

www.naprs.org



NAPRS
naprs.org

Electronic Musician®

**Stand out and get noticed in the MarketPlace
section of Electronic Musician.**

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!

Jason Smith, East Coast Sales (510) 985-3276

Kevin Blackford, West Coast Sales (510) 985-3259

Order Line: (800) 544-5530 or

Email: emclass@primediabusiness.com



When Buying a Microphone Ask Yourself Two Things
 How Does the Mic SOUND? and
 How Does the Sound Make You FEEL?

Clean and Simple Electronic Design.
 Gorgeous Sounding, Dependable and Consistent
 Vacuum Tube Condenser Microphones.

*we're not recreating the old classics,
 we're creating the classics of tomorrow.*

SALES, DISTRIBUTION & DEMO INFORMATION FOR EUROPE:
WWW.CHARTEROAKACOUSTICDEVICES.COM

GET IT FAST

There's a reason we've been here 27 YEARS!



Available: VISA & Master Card

Progressive Media & Music 2116 Southview Ave.
 Tampa, FL 33606

progressivecds.com

Toll Free: (800) 421-TAPE

"Fastest Turn-Around in the Known Universe!"

CD, DVD & Cassette
 Retail Ready Packages &
 State of the Art A/V Facilities
 Mastering · Editing · Authoring
 Award Winning Art Dept.
 The Best Customer Service

If you want to hear what's there, you need what's here.
 It's always analogue in the end !



TB4 MKII Talkback Monitor

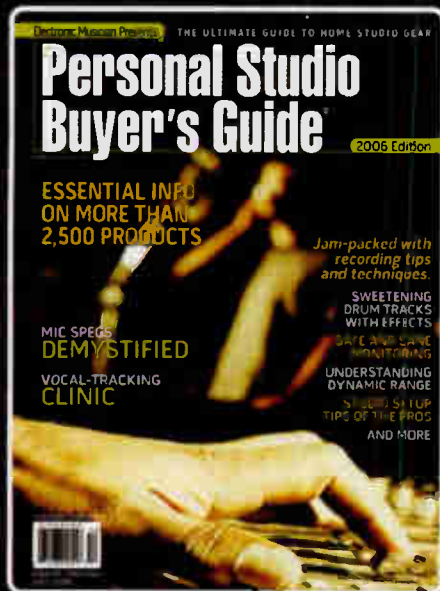
- Four stereo inputs
- Selectable balanced stereo cue
- Selectable engineer headphone
- Balanced inputs and outputs
- Passive stepped attenuator
- Tracks to .05db

Coleman Audio

(516) 334-7109
www.colemanaudio.com
coley@colemanaudio.com

- Two alternate speaker outputs
- Remote talkback microphone
- Remote talkback switching
- Talkback level control
- Handcrafted in the USA
- Built to last a lifetime

GET YOUR COPY OF THE ULTIMATE GUIDE TO HOME STUDIO GEAR



Find the *Personal Studio Buyer's Guide* on newsstands
 wherever *Electronic Musician* is sold, or call 800-245-2737.
www.emusician.com

putting music back into digital recording

WWW.CRANESONG.COM

715 398 3627

CRANE SONG LTD.



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



Fibredrive



*192 tracks of 24/48k; 96 tracks of 24/96k; 36 tracks of 24/192k with heavy edit density, on one drive with video

Mac and PC / Pro Tools, Nuendo, FCP, etc.

Eliminate DAE/ASIO/PCI bus errors

5-year warranty

Fibre channel hard drive packages starting at \$1,998



www.fibredrive.com

toll free 1.877.537.2094

*based on ProTools applications

SONIC CIRCUS

Serious Studio Infrastructure



The most comprehensive selection of recording equipment in the world

Shop online and take advantage of frequent buyer benefits.



617.696.9360
www.soniccircus.com

ENTERTAINMENT TECHNOLOGY

eClassifieds

Reach more than 1.1 million web visitors!

The Entertainment eClassifieds are the user friendly, affordable way to connect buyers, sellers, job seeker and employers.



- Immediate response Sell your gear to an interested market
- Post items yourself, anytime with self-service tool
- Include a photo, audio or video file
- Power search capabilities

eClassifieds are your one-stop shop for reaching web visitors of: www.emusician.com • www.remixmag.com
www.svconline.com • www.metmagazine.com

Find what you need, sell what you don't!
www.mixonline.com/eMarketplace



BAYVIEW PRO AUDIO
 "America's #1 Online Professional Audio Dealer"
www.bayviewproaudio.com
 888.718.0300



\$1099⁰⁰ /1000 pcs
Complete Minijacket Package
 INCLUDES COLOR PRINTING
 ASK ABOUT OUR FREE BARCODE
 CDS • DVDs
 Graphics • Printing
 Mastering and More!
 TOLL FREE: 1-800-815-3444 or 212-695-6530
WWW.PLAY-ITPRODUCTIONS.NET
PLAY-IT PRODUCTIONS

In a fast-changing and challenging industry, millimeter anticipates the future. To advertise in millimeter classifieds contact your sales representative today!

Philip Boyok
 (800) 544-5530
mmclass@primediabusiness.com



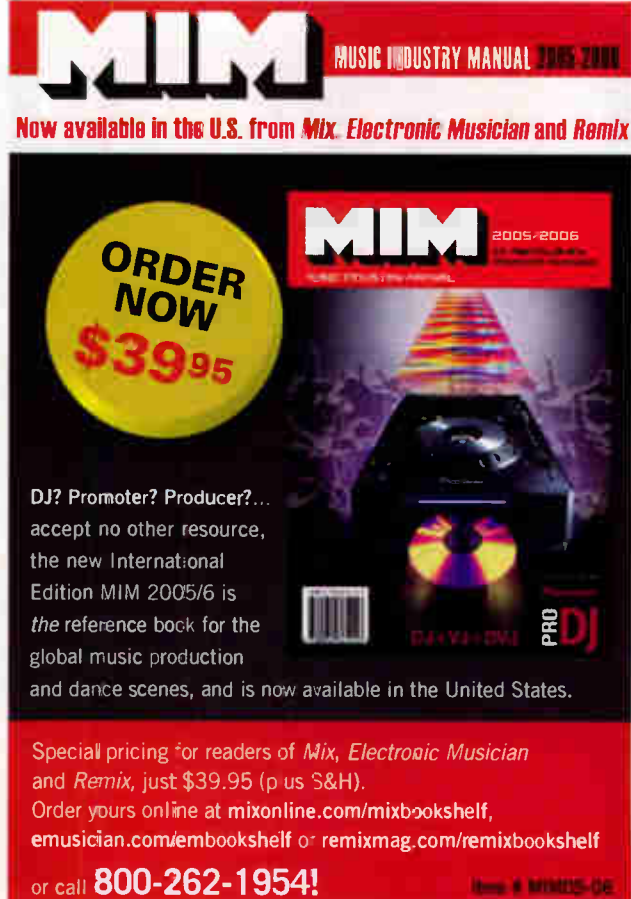
millimeter
 The Professional Resource for Production and Post



CASCADE MICROPHONES
 WWW.CASCADEMICROPHONES.COM



OUR PRICES ROCK!
 Buy 1,000 CDs or DVDs
 get 1,000 more for only **25¢**
1,000 CDs Replicated \$1,399
 1,000 more 25¢
 Includes CDs with artist photos, full-size insert, barcode, printed in jewel case with outer wrap.
1,000 DVDs Replicated \$1,799
 1,000 more 25¢
 Includes DVD with artist photos, full-size insert, barcode, printed in jewel case with outer wrap.
 Buy direct from the manufacturer and **SAVE!**
Odds ON
 cd & dvd manufacturing
 1-877-877-ODDS • www.odds-on.com
Order Toll-Free 877-ODDS ON 1
 VISA Master Card Limited Time Offer Expires 6/30/05 DISC AMERICAN EXPRESS



MIM MUSIC INDUSTRY MANUAL 2005-2006
 Now available in the U.S. from *Mix, Electronic Musician* and *Remix*
ORDER NOW \$39.95
MIM 2005-2006
 MUSIC INDUSTRY MANUAL
 DJ? Promoter? Producer?... accept no other resource, the new International Edition MIM 2005/6 is the reference book for the global music production and dance scenes, and is now available in the United States.
 Special pricing for readers of *Mix, Electronic Musician* and *Remix*, just \$39.95 (plus S&H).
 Order yours online at mixonline.com/mixbookshelf, emusician.com/embookshelf or remixmag.com/remixbookshelf
 or call **800-262-1954!**
 Item # MIM05-06



CLEARSONIC PANEL
SORBER
 Absorption Baffles
NEW! LID SYSTEM & AX12 Height Extenders
 Cost Effective
 Free Standing
 Portable
QUICK & EASY ISO!
www.clearsonic.com
 1.800.888.6360
CLEARSONIC
 manufacturing

On stage or in the studio

NOW MANUFACTURING DVD'S IN-HOUSE CALL FOR DETAILS

300 CD Package: \$775.00 Includes: 1-color booklet & 1-color CD label from print-ready film, jewelbox, shrinkwrap

1000 CD Package: \$1099.00 Includes: 4-color booklet & 2-color CD label from print-ready film, jewelbox, shrinkwrap

D.J. VINYL PROMO
100 12" VINYL \$799.00 Additional LP's: \$1.30 each
500 12" VINYL \$1,249.00 REORDER \$699.00
1000 12" VINYL \$1,779.00 REORDER - \$1199.00
 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!

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

CD • DVD • CD-ROM • SHAPED CD • CASSETTE • PACKAGING

NEED CDs?
 the choice is
CRYSTAL CLEAR
 DISC & TAPE
 Trusted experience for over 30 years.

SPECIALS!
 1000 CDs • \$999! (Complete! Retail Ready)
 1000 Promo CD Pack • \$599!
 1000 DVDs • \$1899! (Complete! Retail Ready)

BONUS! GET 20 T-SHIRTS ONLY \$99!
1-800-880-0073
www.crystalclearcds.com

MIX guides
 THE ONLINE PRO ENCYCLOPEDIA
<http://mixguides.com>

LET US DO ALL THE WORK! Each Mix Guide includes reviews, new product announcements, applications, features, tradeshow reports and more, all in one customized category section.

MORE MIX GUIDES COMING SOON!

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. Sharpen your music production skills on your time, anytime. Log on to learn more:

mixonline.com | emusician.com | remixmag.com

PRESENTED EXCLUSIVELY BY

Electronic Musician® MIX® REMIX®

YOUR FIRST IMPRESSION IS THE MOST IMPORTANT.
You already sound professional... now look professional!



\$1190
1,000 RETAIL READY CDs
 Package includes 3 color on disk print. 4 panel print with assembly, wrap and upc.

We at Media Services look forward to providing you with outstanding service and quality. You can trust us to take your CD/DVD project to the next level. Call us today on pricing for all standard and custom packages. We also offer great deals on promotional products such as posters and postcards.

MEDIA SERVICES
 CD AND DVD MANUFACTURING
(888) 891-9091
www.mediaomaha.com

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

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

ACOUSTIC
Design
Consulting
Products
www.soundcontrolroom.com
toll free 866-788-1238

Over 10,000 Studios Served
Total Sound Control
Auralex
acoustics
www.auralex.com
What About Your Room?

VIBRANT TECHNOLOGIES
DIFFUSER PANELS
WAVE-FORMS™ ACOUSTIC PANELS
800-449-0845
www.vibrantech.com

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

SILENT SOURCE
78 Nonotuck St., Northampton, MA 01062
Info: (413) 584-7944 Fax: (413) 584-2377
ORDER: 800-583-7174
Acoustics Fabric Panels •
Sound Barrier • Isolation Hangers
Tube Traps • Silence Wallcovering •
WhisperWedge • ProFoam • ClearSonic
• Hushfoam • R.P.G. Diffusers •
Sonex • Sound Quilt • More
www.silentsource.com
info@silentsource.com
QUALITY • PRICED RIGHT • INTEGRITY

ACOUSTICAL SOLUTIONS INC.
(888) 529-9220
www.acousticalsolutions.us
Sound Absorbers Barriers Diffusers and Isolation

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

RPG
RPG DIFFUSOR SYSTEMS, INC.
Absorption,
Diffusion and
Total Room
Solutions.
www.rpginc.com

WhisperRoom INC.
SOUND ISOLATION ENCLOSURES
Celebrating over 15 years of
reducing sound to a Whisper!
Recording, Broadcasting, Practicing
MDL 102126S
(8.5'X10.5')
19 Sizes and 2 Levels of Isolation Available
New! SoundWave Deflection System
(Change parallel walls to non-parallel)
Immediate Shipping!
www.whisperroom.com
PH: 423-585-5827 FX: 423-585-5831

www.mixonline.com

REALTRAPS®
MINI TRAPS — Affordable Acoustic Treatment
Rave Reviews From Top Pros

"Our control room at Le Crib Studios needed serious help. After installing MiniTraps the room sounds better than we believed possible, with clear, round bottom and vastly improved imaging. Fantastic product, great company."
—Nile Rodgers

"MiniTraps really made a difference in my studio. I previously had foam corner bass traps, but they really seemed to have no affect. It wasn't until I added the MiniTraps that my low end evened out."
—Charles Dye
(Ricky Martin, Jon Bon Jovi, Shakira, Lauryn Hill, Gloria Estefan)

Toll-Free: 866-732-5872 www.REALTRAPS.com

Batteries & Cable

Custom Wiring & Cables
When only the best will do!
www.EventHorizon-Srv.com
Event Horizon & Services 615-834-9515

AccuSound
PRO AUDIO
Silver Studio Pro Microphone,
Patch & Instrument Cables
World Class Cables at a Real World Price
Visit us online for more information shopping
www.ACCUSOUNDPROAUDIO.COM

Cases & Covers

UNDER COVER

Custom Covers and Bags
Speaker Cabinets / Consoles
Anything!
www.undercovernyc.com
917 237 1535
Get your gear Under Cover!

Subscribe to Electronic
Musician online at
www.emusician.com



SEMINARS ON DEMAND

YOUR TIME. ANYTIME. ONLINE.

Audio Production

Seminars On Demand

are an exciting new

medium for experiencing

new products,

applications and

techniques.

Sharpen your music

production skills on

your time, anytime.

Log on to learn more:

mixonline.com

emusician.com

remixmag.com

PRESENTED
EXCLUSIVELY

BY

MIX
REMIX

Electronic Musician

Employment



Be a part of the most exciting and innovating computer entertainment in North America, Sony Computer Entertainment America Inc., the marketer and distributor of the PlayStation®2 and PSP® entertainment systems. We are currently searching for a:

SENIOR SPEECH DESIGNER - TEAM LEADER San Diego, California



The Sports Sound Studio is responsible for creating high quality audio content for 1st party product development projects. The focus will be on dialogue. Knowledge of audio production, editing and mastering is required. This includes direct working knowledge in these areas: use of microphones, audio processing equipment, and recording devices. Additionally, the use of professional audio editing tools like (but not

limited to) ProTools, SoundForge, Bias Peak, Waves Plugins, sequencers, etc., is essential, along with the use of signal processing devices such as compressors, limiters, and equalizers. Successful candidate will have experience in directing talent and running voice-over recording sessions.

In addition to organizing the audio assets required by each project in a logical way to best facilitate implementation and final execution, the senior speech designer is expected to manage audio assets, and to use proprietary APIs to implement them into the game. This individual must possess the ability to work collaboratively with the other members of a game development team supporting our Sports groups. Position requires at least five years of experience in the game or movie/television audio industry.

We constantly evaluate and update our benefits program to ensure we are meeting the needs of our employees. We offer benefits including Comprehensive Medical, Dental, Vision, 401(k) with match of up to 4%, Annual Bonus Program, Paid Holidays and MORE! Qualified candidates please forward resume in confidence to:

Sony Computer Entertainment America
Attn: Human Resources, Sr. Speech Designer
E-mail to: george_rider@playstation.sony.com

PRINCIPALS ONLY PLEASE. EEO/AA

PSP, "PlayStation" and the "PS" Family logo are registered trademarks of Sony Computer Entertainment, Inc.

SONY

COMPUTER ENTERTAINMENT

If you built it...
let the world
know it!

Mix Studio Showcase found
monthly in Coast-To-Coast

(800)
544-5530



"This Job Rocks!"

— Mark Magdich, Sweetwater Sales Engineer



- Do you know professional audio, MIDI, guitars, keyboards, studio and live sound?
- Are you a music technology expert?
- Do you love talking about gear, technology, and music with other audio pros?
- Do you believe in providing stellar customer service?
- Do you want a job you can be proud of, working for a company you can believe in?

If you are a highly motivated music technology expert, Sweetwater wants to speak with you! We are growing fast, so we're seeking several Sales Engineers to fill new positions for our award-winning Sales Team.

Visit www.sweetwater.com/careers now for full details and online application. Contact Kristine Haas, Director of Human Resources, at 1-800-222-4700, ext. 1050.



Internship Available



The Entertainment Technology Show/LDI 2005, November 7-13, 2005 in Orlando, is now accepting applications for 2005 internship in lighting, sound, and projection. A per diem and shared housing will be provided in an Orlando hotel. Please send resume and cover letter to Anne Valentino, ETS/LDI 2005, 474 Sagamore Ave., Teaneck, NJ 07666, phone: (201) 530-9250, fax: (609) 784-7801, e-mail: amvalentino@optonline.net. Please submit applications no later than August 30.

Equipment Financing

A/V EQUIPMENT FINANCING

* \$100,000 Tax Write Off in 2005

* \$99 Payments For The First 6 Months

Specializing in Audio-Video

Visit Our Web Site

For Application & Qualifications

No Financials Required

New & Used Equipment

New Businesses

(With Clean Personal Credit)

LFCI www.lfci.net

Call: 800 626 LFCI

Equipment For Sale

Any Questions?

MERCENARY
BOSTON



"this is not a problem"

TEL (508) 543-0069

www.mercenary.com open 24 hrs

Bad Ass Music Stands



Built-On Everything!

bamstands.com
800/228-4668

VINTECH AUDIO
CLASS A MIC PREAMPS MADE WITH



NEVE™ 1272 COMPONENTS
www.vintech-audio.com
call toll free: 1-877-4-mic-pre

vintagekingaudio



new used vintage

www.vintageking.com
248.591.9276

VT-2 Vacuum Tube Mic Preamp
www.dwfearn.com



D.W. FEARN

ODYSSEY
PRO SOUND

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

ISPO!

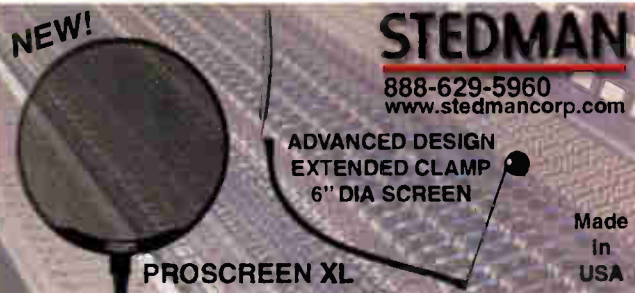
FOR WIRELESS!

www.visualsound.net

Quartet II Mercenary Edition



www.pendulumaudio.com



STEDMAN

888-629-5960
www.stedmancorp.com

ADVANCED DESIGN
EXTENDED CLAMP
6" DIA SCREEN

Made in USA

VOLUME discounts.



From microphones to turnkey studio systems, we have a huge stock of new, used and vintage equipment from over 100 manufacturers. Including pre-owned SSL consoles. All serviced and warranted by our technical experts. Call, fax or stop by. And hear why our deals are better.

Professional Audio Design Inc.

ALWAYS A SOUND DECISION

Tel: 781.982.2600 Fax: 781.982.2610
info@proaudiodesign.com www.proaudiodesign.com
Exclusive SSL Factory Authorized Reseller www.UsedSSL.com

less is definitely more...



Power 5 wireless microphone receivers from a single outlet!

Sound engineers have long complained about having too many bulky power supplies for their wireless receivers and not enough outlets to plug them into. The 1 SPOT® for Wireless solves the problem! Each 1 SPOT® takes up just *one outlet* on a power strip (as compared to three for a typical adapter). It can even power up to five receivers when used with the Visual Sound Multi-Plug 5 Cable. Compatible with all major brands including E/V, Shure, Sennheiser, AKG, Audio Technica, and Samson*.

Visual Sound
real tone for real people

4922 Port Royal Road B-11 • Spring Hill, Tennessee 37174 • 1-800-686-3317 • www.visualsound.net

*Brand names listed are trademarks of their respective companies and have no affiliation with Visual Sound.

EXCLUSIVE FACTORY AUTHORIZED RESELLER

www.UsedSSL.com

PROFESSIONAL AUDIO DESIGN, INC.
(781) 982-2600

THE MIC SHOP

TUBE MICROPHONES
BOUGHT/SOLD/SERVICED
Mic Power Supplies & Cables
Bill Bradley: (615) 595-1717
Fax: (615) 595-1718
www.micshop.com

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/

CONSOLES FOR SALE

SSL 9080 J, 80 Series Neve
60- & 72-channel Neve VRs
Flying Faders or GML
Contact Gary Belz
House of Blues Studios
(818) 990-1296

SONIC CIRCUS
A SOUND ALTERNATIVE
617.696.9360
soniccircus.com

SoundBroker

Linking buyers & sellers together
for all your studio needs

(702) 736-3003

www.SoundBroker.com

Check out Studio Showcase. From www.mixonline.com,
click on Studio Showcase beneath the "Connections" header.

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

YAMAHA

PM1D
DIGITAL AUDIO MIXING SYSTEM

YAMAHA PM1D
The most versatile and expandable console available.
Call Hi-Tech Audio for new and Certified Pre-Owned pricing on this and other digital consoles.

HI-TECH AUDIO HI-TECH AUDIO SYSTEMS, the world's largest live-sound console specialty company for over fifteen years.
Go to www.hi-techaudio.com or call (650) 742-9166.

mix well...



ATR 717.852.7700
SERVICES, INC. www.atrservice.com

Subscribe to
Mix online at
www.mixonline.com

STUDIO LIQUIDATION

SSL 4076 G/G+, loaded 72, great cond. \$95,000
Neve 3104 3 band, \$1500 ea.
Studer 827 24 tk, low hrs, \$7500 ea.
Sony 3348, \$3000
Audix 3 band eq/mic pre. \$950 ea.
Altec 436 comp. \$850 ea.
Dynacord, make offer.
Sony R7, M7, make offer
Lexicon 300 \$1500
323 855-4359
jippiejake@sbcglobal.net

Logos for various audio brands: ADAM, Axiom, OSA, VINTAGE AUDIO, CHRYSLER LIMITED, LAVERY ENGINEERING, etc.

ATLAS PRO AUDIO
HONESTY. ADVICE. ONLINE SHOPPING. OPEN LATE.
LOCAL CENTRAL FLORIDA DEMONSTRATIONS
PROFESSIONAL GEAR SALES AND CONSULTATION
www.atlasproaudio.com
TOLL FREE 1.866.235.0953

Subscribe to
Sound & Video
contractor
www.svconline.com

Furniture

www.ArgosyConsole.com
studio furniture
800.315.0878

AURA260
ARGOSY

THE ORIGINAL
RACKMOUNT YOUR G5 - www.iso-box.com

ORDER TOLL-FREE: 888.580.9188
Sound Construction & Supply Inc.

BAE REPRO 1272 PREAMPS with D.I.

\$1089 Single w/p.s. \$1759 Two channel

BAE REPRO 1073 \$2350 Single w/PS

Brent Averill
ENTERPRISES

14300 Hortense Street • Sherman Oaks, CA 91423
818 784•2046 FAX 818 784•0750
www.brentaverill.com

IT'S A GREAT TIME TO BUY USED GEAR!

Providing used gear sales service for over 14 years. We can help sell your used equipment, too!

- Soundcraft Ghost \$4K
- Sony DMX-R100 \$11K
- Ameck Recall \$14K
- Ameck Mozart \$26K
- Euphonix CS2000 \$30K

Those Cheerful Folks at H.T.I.C.S.
(610) 865-9151 • Fax (610) 758-9999
E-mail: HTICS@aol.com
www.hticsproaudio.com

Equipment Wanted

SoundBroker
Linking buyers & sellers together
for all your studio needs
(702) 736-3003
www.SoundBroker.com

OMNIRAX
STUDIO FURNITURE

CODA D8
with Sidecars

OMNIRAX 800.332.3393 418.332.3292
FAX 418.332.2607
www.omnirax.com

ur-design.com
studio furniture

maple

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
 814 46th. Ave. Suite AL, San Francisco, CA 94121
 Or visit us at www.audioinstitute.com

ARTI 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 pm3** MIX THEATER

888-543-ARTI • audiocareer.com

Subscribe to
REMIX
www.remixmag.com

Learn the Art of Recording

www.mediatechinstitute.com **1.866.498.1122**
 mediatech institute

Records Tapes CD Services

HEY LOOK! WE'RE ON THE WEB!

Toll Free:
 800-538-2336



All Formats!
 Best Prices!

www.tapes.com

www.yourmusiconcd.com

100 BULK CDRS \$59
 Includes cd, art, and digital
100 BASIC CDRS \$99
 Includes cd, art, and digital
300 FULL COLOR PACKAGE \$549
 Includes cd, art, and digital
100 FULL COLOR CDR PACKAGE \$199
 Includes cd, art, and digital
1000 FULL COLOR PACKAGE \$999
500 FULL COLOR PACKAGE \$824
 SWS DIGITAL INC ATLANTA 678-442-0933
 TOLL FREE 1-877-442-0933

Mixing Services

East Coast MIXING

Have your song mixed by a PROFESSIONAL.
 Vintage analog, state-of-the-art digital.
 All file formats accepted.
 Don't waste your time mastering a less-than-average mix!

Free consultation. Contact Joe Birardi ~ Chief Engineer, AES Member
 (732) 831-0355 www.EastCoastMastering.com

1,000 CDs

in full-color jackets for just

\$990!

Call for a FREE catalog and jacket sample at 1-800-468-9353
 Or visit our website at www.discmakers.com/remix

DISC MAKERS

Lonely RECORDS
 Get a FREE Catalog
 1.800.409.8513
www.lonelyrecords.com
 Retail Ready CD Packages **99¢**

ENTERTAINMENT TECHNOLOGY
eClassifieds

Reach more than 1.1 million web visitors! The Entertainment eClassifieds are the user friendly, affordable way to connect buyers, sellers, job seeker and employers.



www.mixonline.com/eMarketplace
 Buy/Sell Gear • Find/Post Jobs

Music Mastering

MASTERING

Guaranteed to give you that "Big Label" sound.

\$475 Complete Album Analog & Digital Mastering!


New York's Premiere Mastering Studio

Check Out Our Website...
www.musichousemastering.com

1-800-692-1210
 Located in NY, Serving the US... Since 1989

MUSIC EDUCATION TECHNOLOGY

THE DEFINITIVE TECHNOLOGY RESOURCE FOR MUSIC EDUCATORS

To place a classified ad in MET's NEW quarterly publication, please call our sales associates at:

800-544-5530

or email at:

metclass@primedlabusiness.com

1000 CDs OVERNIGHT
DeNoise
 1-866-DE-NOISE

1000 Store Ready CDs \$899

INCLUDES 100 FULL COLOR POSTERS

1000 Bulk CDs \$490 www.TrackmasterAV.com
 Toll Free: 888-374-8877

Your 1-stop shop for CD, AUDIO & VIDEO cassette projects!

WE BEAT ANY PRICE!

- Highest Quality
- Reliable Service
- CD's
- Cassettes
- Video
- Posters, etc.



NO BULL
TOTAL TAPE SERVICES
(888) 567-6835
www.totaltapeservices.com

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

PRICE *Quality* **SERVICE**

PRICE: It's important, but go too low and you may **REALLY** pay!

QUALITY: Compromise quality...kiss your future good-bye!

SERVICE: You want it?? We've got it! **20 YEARS** proves it!

CD • CD-ROM • DVD • DESIGN • PRINT • PACKAGING • & LOTS MORE

COMPLETE PRODUCTION & MANUFACTURING

1-800-365-8273

www.eastcomultimedia.com

For the best price in CD Replication . . .
 there is only one number you'll need!

1.888.891.9091

MEDIA WWW.MEDIAOMAHA.COM

Our CDs, DVDs & Cass's are
BETTER & CHEAPER!

(800) 421-8273

www.progressivecds.com

Progressive Media & Music

CD • DVD • CD-ROM • SHAPED CD • C. CASE TE • PACKAGING

CRYSTAL CLEAR
 DISC & TAPE
 Trusted experience for over 30 years.

1-800-880-0073
www.crystalclearcd.com



KLARITY
 MULTIMEDIA INC
888-387-8273

CDs, CDROM, Cassettes, Vinyl, Mini Discs, VHS

Our Customers have trusted us with their
 projects for over 15 Years! We care and work with
 you to create your project the way you want it.

Total Fulfillment, Graphic Design, Illustration
 Digital Mastering, Complete Packaging, Mailing Services
 Warehousing, Package Pricing, Custom Pricing
 Online Music Store, Free Barcode
 Quality Service • Personal Attention • Quality Products

www.Klarity.com www.KlarityMusic.com

Studios

STUDIO FOR SALE

Rochester, NY, est. 30 yrs. Business & bldg. for
 sale together or separately. Pricing avail. for
 various configurations. Owner
 will take back mortgage. Tour at
www.dynrec.com/forsale/
 Call Dave (585) 621-6270

Mix Magazine Subscriptions 1-800-532-8190

**You should care
 who makes your CD.
 WE DO.**

- the best customer service in the business*
- instant online quote
- inhouse mastering, design & multimedia
- quality finished CDs, DVDs & vinyl

**MUSIC
 MANUFACTURING
 SERVICES**

www.musicmanufacturing.com

US: 1-800-293-2075

Canada: 1-800-667-4237

New York • Toronto • Montreal • St. Johns

*Read our client survey results to find out more.



**REMIX
 HOTEL** SAN FRANCISCO

Sign up for the
REMIX HOTEL Newsletter
www.remixhotel.com

**BUILDER
 RECORDING
 STUDIOS**

AND ALL TYPES OF
 SOUND ROOMS
 25 YEARS
 EXPERIENCE
(805) 493-5794

Miscellaneous

SoundBroker

Linking buyers & sellers together for all your studio needs

(702) 736-3003
www.SoundBroker.com

The MOTU Power-on-Demand Studio

Digital Performer, the Traveler and a host of development partner products deliver on-demand processing and world-class sound.

The look.

Whether you've got a G4 PowerBook, G5 Power Mac or both, the Apple **30-inch Cinema Display** gives your MOTU power-on-demand studio the world class look your eyes want — and the look your clients respect. A 77% increase in screen real estate gives you the space you need to visualize your entire DP project. An eye-popping 2560x1600 pixel resolution lets you view 64 faders at one time in the Mixing Board!



The effects.

Cycling 74 *Pluggo 3.1* is an extraordinary, must-have collection of more than one hundred audio plug-ins that offer real-time interactive audio processing, modulation, and synthesis right inside DP. Delays, filters, pitch effects, distortion, granulation, spectral effects, modulators, multi-channel processing, synthesizers, audio routing, reverb, dynamics, visual display — the list is huge, and you'll have a blast exploring Pluggo's vast array of sounds and effects.



The piano.

Three incredible grand pianos, Bösendorfer®, Steinway®, and Yamaha®, in one Virtual Instrument for Digital Performer. **Synthogy *Key*** has been knocking the critics flat with its stunning realism and unsurpassed playing experience! It features more than 32 GB of premium piano samples and a custom engine built exclusively for the exacting demands of recreating the piano. Produced by piano sound design pioneer Joe Ierardi and DSP wiz George Taylor, you have to play it to believe it. Trust us, you will!



The help.

Of course, the tech support wizards at Sweetwater can help you with any operational issues you might encounter with your MDTU power-on-demand studio, but if you want complete peace of mind, the **AppleCare *Protection Plan*** is the perfect insurance policy. No matter what perils await your portable rig on the road or your studio setup at home, with AppleCare, your investment in your Apple gear is totally protected.



Waves on-demand processing.

The Waves **APA-44M** delivers on-demand Waves processing to your MOTU native desktop studio via standard Ethernet. Open your existing Waves plug-ins as usual in Digital Performer via the new Waves Netshell™. But now you can run up to 6 Waves IR-1 Convolution reverbs at 44.1kHz at once, and save your CPU power. Need more Waves processing? Just add another APA-44M with the snap of an RJ45 Ethernet cable. It's that simple. For extreme processing needs, connect up to 8 units to your network. The APA-44M is equally at home connected to a laptop, desktop or both. Just transfer your Waves authorized iLok. You can even share a stack of APA-44M's among several computers across the Waves Netshell network. The APA-44M ushers in a new era of state-of-the-art, distributed-network Waves processing for your MOTU power-on-demand studio.



The mix.

The new Grace Design **m902 Reference Headphone Amplifier** is the final word in high fidelity headphone amplification and is the new must-have tool for audio playback in your MOTU power-on-demand studio. Combining a full compliment 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.



Mastering & restoration.

The BIAS **Peak 4.1 Mastering and Restoration Edition** combines Peak 4.1 with SoundSoap Pro and SuperFreq. Imagine the world's most popular stereo audio editing, processing, and CD mastering program for the Mac, combined with unparalleled noise reduction and restoration technology — all at a jaw dropping low price. You get Peak 4.1 (including ImpulseVerb, Squeeze, VBox SE, Jam 6, SFX Machine LT, and more), SoundSoap Pro (combines four state of the art restoration and noise reduction tools in a single plug-in), and the SuperFreq suite of mastering EQs all in one great package. Launch Peak directly from DP4 for more editing and processing power. Run SoundSoap Pro within DP or in Peak as an AU plug-in. Enjoy the very best in sample editing, batch processing, file conversions, loop creation, sound design, restoration, and Redbook CD mastering on DS X!



The feel.

Looking for the ultimate compact keyboard controller for your MOTU studio? The Alesis **Proton™ MK2** delivers the revolutionary Alesis XYZ controller dome and ten 360-degree rotary knobs, giving you powerful hands-on MIDI control of your Digital Performer studio and software plug-ins. Advanced features include 24-Bit 44.1/48 kHz USB audio I/O with balanced stereo audio inputs and outputs, 25 key, velocity sensitive keyboard, full-size pitch and modulation wheels, and an LCD screen with dedicated encoder for fast and easy set-up.



Authorized Reseller

(800) 222-4700
www.sweetwater.com

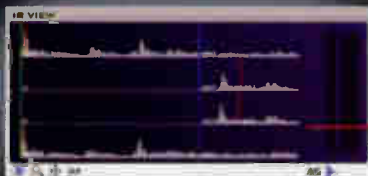


World Radio History

The MOTU Power-on-Demand Studio

Audio Ease **Altiverb V5™** Your first choice in convolution reverb

Altiverb broke new ground as the first ever convolution reverb plug-in, delivering stunningly realistic acoustic spaces to your MOTU desktop studio. Altiverb V5 continues to lead the way with cutting edge features. Altiverb V5's ever growing Impulse Response library provides the most diverse and highest quality acoustic samples on the market. Recent additions are shown below from the Altiverb Fall 2004 East Coast Tour. Version 5 delivers more seconds of reverb, more instances, and less CPU overhead than any other convolution reverb. And its new adjustable parameters are a snap to use! Altiverb takes full advantage of the Altivec™ processor in your PowerBook G4 or desktop Power Mac G4 or G5. THE must-have reverb for every MOTU studio.



Shift resonances and room modes while adjusting reverb times.

See a 15 minute demo movie at www.audioease.com



The new multi-channel waveform overview reveals crucial detail about gain levels and timing during the first tenth of a second of a reverb tail. The rotatable and zoomable 3D time/frequency plot reveals even more about damping, EQ and resonances.

- Highest quality samples on the market.
- Legendary concert halls and studios.
- Versatile damping and hires-EQ section.
- Click-and-drag 3D scene placement.
- 'Size' parameter shifts resonances and room modes
- Gains and delays to direct early-reflection and tail.
- Waterfall diagram shows time-frequency behavior in 3D.
- Surround up to 192 bits.
- Snapshot automation for mixing and post-production.

A rotating Virtual Reality movie helps you feel the presence of each space.

Snapshots let you automate complete preset changes.



Altiverb is the most efficient convolution reverb. Reduce CPU load even further with a relative settings.



Place the violins stage left, cellos stage right, and percussion in the back, all in stereo.



Use up to 100 bands of EQ, tailored for reverb tail adjustment, to fine-tune the sound.



Allaire studios — Sharon, NJ

Haydn Hall — Eisenstadt

Mechanics Hall — Worcester, MA

Forest Authority — Netherlands



www.allairstudios.com

Schubert Hall — Vienna

www.mechanicshall.org — Photo by Steve Rosenmal

Sound on Sound Studios — NYC
www.soundonsoundstudios.com

The control room.

The PreSonus **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 coloration, 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 30 segment LED is also supplied for flawless visual metering 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 to work in harmony to enhance the creative process and ease mixing and music production.



The faders.

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. Mackie 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** 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.

The desk.

When you're on the road and looking to record a full band, the Mackie **Onyx** series of mixers from Mackie is the perfect complement to your MOTU Traveler. Whisper quiet and built like a tank, Onyx mixers feature an all-new mic preamp design capable of handling virtually any microphone. With the optional Firewire card, you can connect an Onyx mixer to your laptop with a single Firewire cable and have all the extra mic preamps and line inputs you need to capture every drum mic, vocal mic, individual synth output and DI the band throws at you. Since Digital Performer works seamlessly with multiple Core Audio devices, configuring a Traveler/Onyx system is a snap.



The monitors.

The Mackie **HR Series Reference 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.



©2005 Sweetwater, Inc.



Authorized Reseller

(800) 222-4700
www.sweetwater.com



World Radio History



Waves IR1 Version 2 Reverb Plug-In

Thinking Outside the “Convolved” Box

Like a magician, the Waves IR1 Version 2 escapes traditional boundaries required for parameter control of convolution reverbs. In this month’s “Power Tools,” we look at ways to contort a plug-in that would amaze even Houdini. But first, we detail how to store and access the IR1’s massive impulse library from outside the Waves Plug-Ins folder.

REMOTE ACCESS

Contrary to Waves’ documentation, the Sampled Acoustics V. 2 impulse library does not need to be installed inside the Waves Plug-Ins folder to access its presets from within the IR1 plug-in. You can access content stored on virtually any internal or external drive (bootable or non-bootable) on a Mac. For the purposes of this article, I’ll refer to this drive as a “remote” drive.

Open the DVD containing the impulse library and drag and drop the contents contained in the DVD’s Sampled Acoustics V. 2 folder onto your remote drive. Then drag and drop the Devices and Contents folders (located in the DVD’s Virtual Acoustics folder) onto your remote drive.

Boot your DAW and instantiate IR1, click the Load button and choose Open Preset File from the menu. Navigate through the Mac directory to the desired folder (e.g., Devices) on your remote drive that contains the IR1 preset you want to open. Open the related .xps file (e.g., Virtual Acoustics—Devices.xps) from the folder so that it loads.

The .xps files in V. 2 point to related .WIR (Waves Impulse Response) files and contain information about the status of the IR1’s parameters. When you open an .xps file belonging to Sampled Acoustics V. 2, the related .WIR file automatically opens. If, on the other hand, you open an .xps file belonging to Virtual Acoustics (either in the Devices or Synthetic folder), then the IR1 will ask you to locate the first .WIR file (e.g., LX48L_x_A Plate.wir) in the relevant folder (e.g., LX48L). After you navigate to and choose that first .WIR file on your remote drive, IR1 will know where to find all of the .WIR files in that same folder and will produce the familiar cascading menus

of reverb categories and related presets when you click on the Load button.

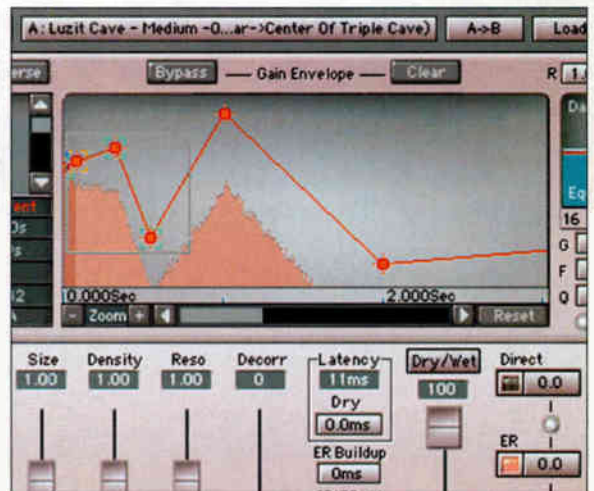
However, additional instantiations of IR1 won’t automatically see these preset menus; you’ll need to point each subsequent IR1 instantiation to the place where they reside in the same manner as you did with the first. And although IR1 can automatically find and reload the last recalled and saved impulse response file when you reboot your DAW, it won’t list the .WIR files in the .xps File Presets menu until you direct it there.

Also, you can only access presets belonging to one .xps file at any given time. For example, when you load the Virtual Acoustics—Synthetic.xps file, its presets will replace (in the Presets menu) those presets belonging to Virtual Acoustics—Devices.xps previously listed.

If you’ve already installed your IR1 content into your Waves Plug-Ins folder, then you can move it to another drive and access it using the same techniques detailed above.

THE ENVELOPE, PLEASE

IR1 wizards need not limit their parameter tweaks to RT60, pre-delay and other standard reverb parameters. Breakpoint-style reverb envelopes can be conjured up in a heartbeat by double-clicking at various points along the Gain Envelope’s orange line and dragging the resulting control points up, down or sideways to reshape the reverb’s amplitude along the timeline. You can even scale the amplitude or timeline placement of several control points simultaneously by mousing over a group of them to create a selection box and then dragging the group. (See graphic above.) An example of one of the many possibilities is to create an echoing reverb by redrawing the reverb amplitude so that it quickly and repeatedly fades in and out.



IR1’s Gain Envelope can be used to create reverbs with virtually any envelope shape. Here, the first three control points are selected as a group for simultaneous amplitude and timeline scaling.

BEYOND REVERB

Weird reverbs are not the IR1’s strangest trick, however. You can convolve a snippet of any audio—not just sampled acoustic spaces or digital reverbs—and use the resulting impulse response to process another track.

For example, how about processing a snare drum track with the impulse response of a vocal track? Begin by cutting a sustained vowel sound out of a vocal take and pasting it into a new track. Execute fades at head and tail, if desired, and export the new audio file as a .WAV file. Save the .WAV file to a custom folder placed inside the IR1 Impulses V. 2 folder (located in the Waves Plug-Ins folder). Choose Import Sweep Response From File in IR1 and navigate to and choose your newly created .WAV file. Your .WAV file will then be converted into a .WIR file. Press the IR1’s Save button, select Save to New File, name the preset file you’re about to create, navigate to your custom folder and save your new IR1 preset there.

Now you can process the snare drum track—or any other track—with your convolved vocal snippet. Just keep in mind that the impulse response will likely exhibit the same pitch as the sample from which it was derived, so make sure that it works with the song’s key in which you want to use it. ■

AUDIO FIRE™

FIREWIRE RECORDING

AUDIOFIRE12

- 12 +4dBu Inputs • 12 +4dBu Outputs • 24BIT 192kHz Sampling • MIDI INPUT/OUTPUT • Word Clock Sync



AUDIOFIRE8

- 2 Universal Inputs with mic preamps, meters, trim, and channel inserts • MIDI input/output • Headphone Output
- 6 +4dBu Inputs • 8 +4dBu Analog Outputs • S/PDIF input/output • Word Clock Sync

ECHO

DIGITAL AUDIO

ECHOAUDIO.COM

A day in your life

with
the
Traveler™

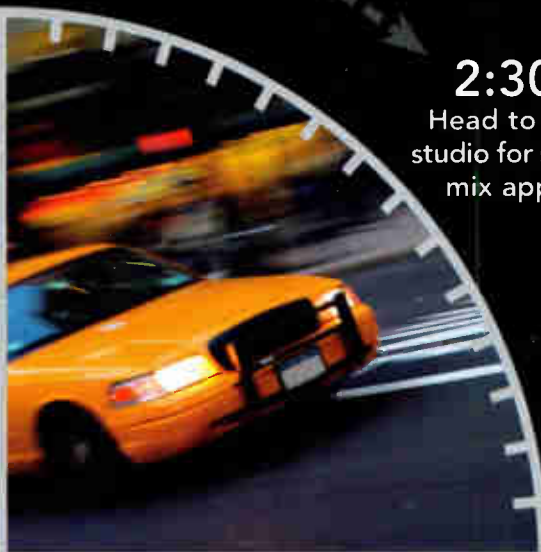
10:30am

Review last night's
tracking session
over coffee



2:30pm

Head to client's
studio for surround
mix approval



7:30pm

Record overdubs
back in the studio for
yet another project



4:30pm

On the way back,
capture some fresh
ideas, while they're hot



TRAVELER™
BUS-POWERED HIGH-DEFINITION FIREWIRE AUDIO INTERFACE



MOTU
motu.com