MIX®
PROFESSIONAL AUDIO AND MUSIC PRODUCTION

Weezer | SSL Matrix | TECnology Hall of Fame

WWW.MIXONLINE.COM | SEPTEMBER 2008

RECORDING THE SHOW
Big Rigs, Big Gigs

SOUND FOR 'SPORE'
Designing a Virtual Universe

SUPERCHARGE YOUR DAW
Hot New Software Upgrades

PORTABLE RECORDERS
Hi-Res Performance In Compact Packages

COLDPLAY LIVE

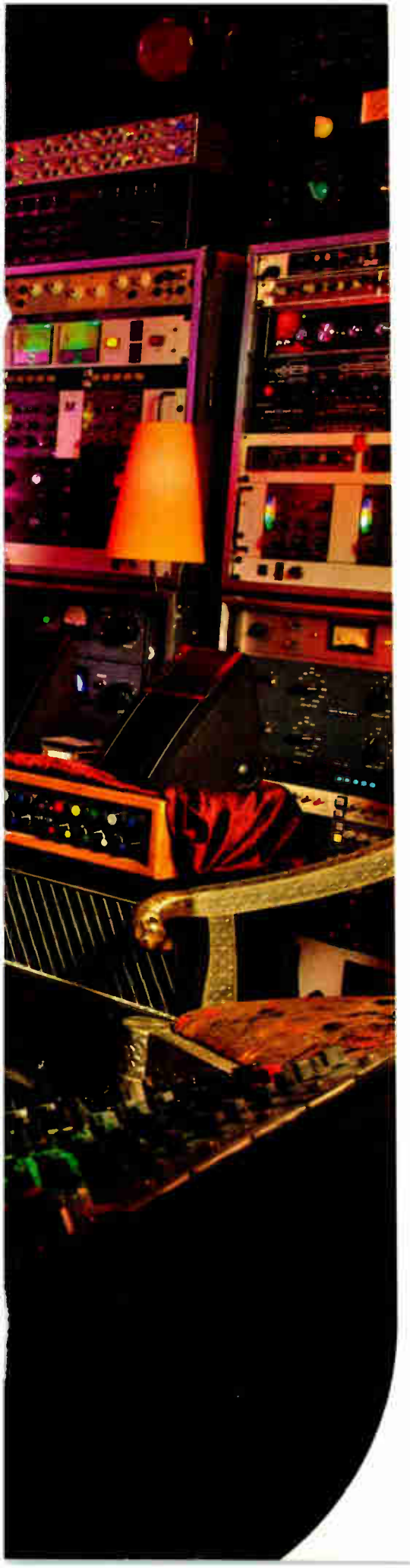
Germano Studios, New York City

#BXNEXJB **********CAR-RT LOT**R-005
#MX3258212# CONT REG MXD1
MARK GANDER 16620
BEAR AUDIO CONTRACTING P059
21000 WINFIELD RD
TOPANGA CA 90290-3636

A PENTON MEDIA PUBLICATION

World Radio History

World Radio History



THE JACK JOSEPH PUIG COLLECTION

Waves brings you four precision-modeled plug-ins, based on rare pieces from the studio of iconic producer/engineer Jack Joseph Puig.

Including

- **PuigChild 670/660**
  Based on the Fairchild 670 compressor
- **PuigTec EQP-1A**
  Based on the Pultec EQP-1A equalizer
- **PuigTec MEQ-5**
  Based on the Pultec MEQ-5 equalizer

The JJP Collection is available separately, and in **Waves Mercury**.

WAVES

www.waves.com

World Radio History

FREE RØDE M3 WITH ANY RØDE K2 PURCHASE

Buy a RØDE K2 this summer from an authorized and participating RØDE dealer and receive the world's most versatile all-round studio, live and location mic FREE!

For full terms and conditions visit www.rodemic.com/freem3

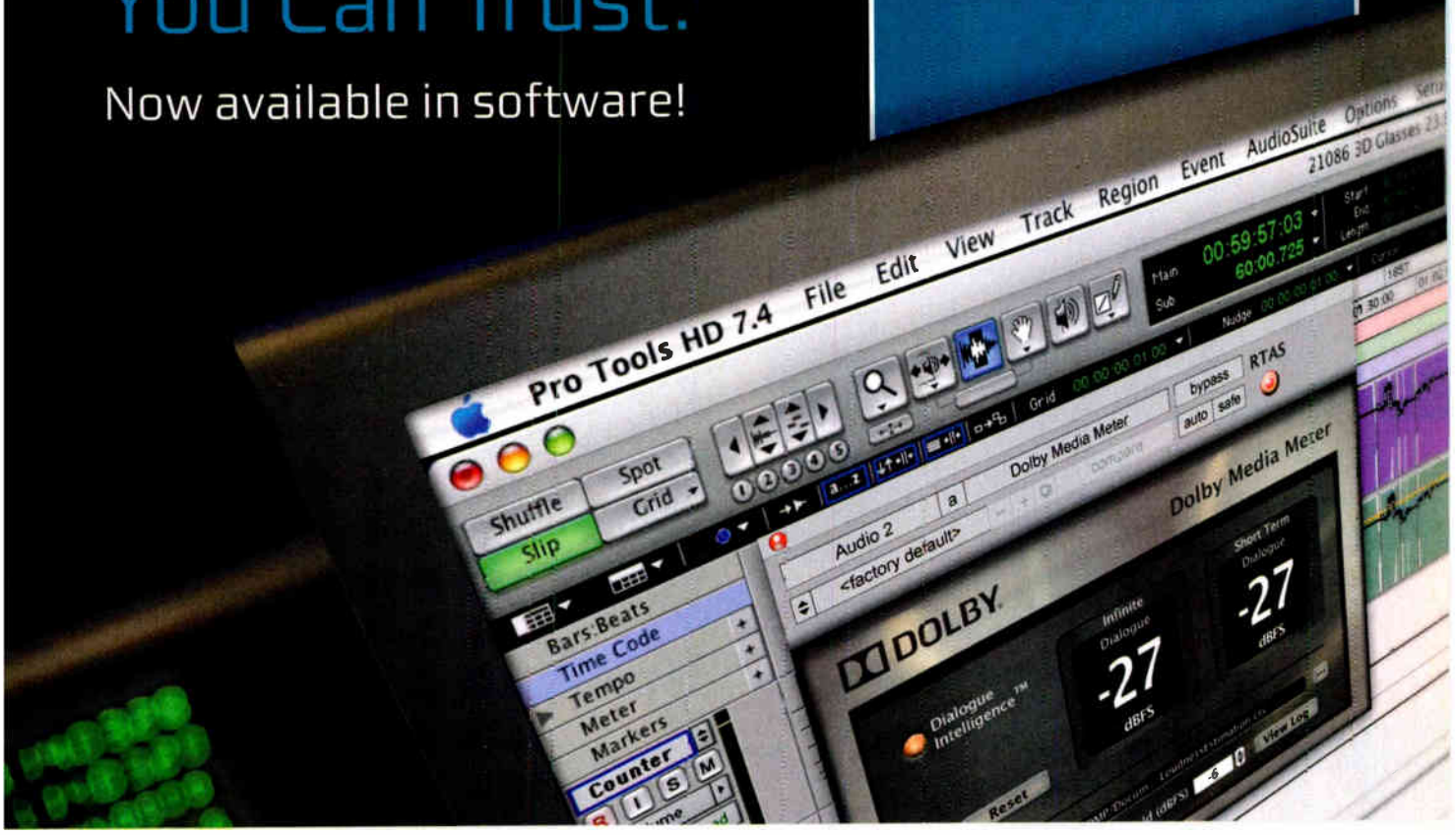
RØDE
MICROPHONES

World Radio History

Loudness Measurement You Can Trust.

Now available in software!

DOLBY



Dolby® Media Meter is powerful new software that accurately measures program loudness just as viewers subjectively experience it. Well suited to the needs of both broadcast and post-production facilities, it's an ideal tool for program-creation and quality-control applications, and perfect for optimizing broadcast, packaged media, VOD, and game media.

Dolby Media Meter can be easily integrated into Mac® and Windows® platforms for use at any point along the broadcast chain—providing a level of versatility previously unavailable. It's based upon technologies already proven in the award-winning DP600 Program Optimizer.

Use it as a stand-alone application or as a plug-in with audio workstations performing either real-time or file-based loudness measurement.

If you're looking for a software application for loudness measurement, Dolby Media Meter is the cost-effective choice at $795 (MSRP).

Visit us at the 2008 AES Convention, October 3–5, Moscone Center, San Francisco, booth 808.

Dolby Media Meter Features

- Dialogue Intelligence™ technology
- ITU-R BS.1770-1 algorithm
- Loudness measurement and logging

MAC/WINDOWS

- Stand-alone application for file-based measurement
- Digidesign® RTAS plug-in for real-time measurement
- Digidesign AudioSuite plug-in for file-based measurement

MAC OS®

- Minnetonka AudioTools™ AWE plug-in for file-based measurement

Find more information on Dolby Media Meter at **dolby.com/dmm**.

Dolby and the double-D symbol are registered trademarks of Dolby Laboratories. Dialogue Intelligence is a trademark of Dolby Laboratories. All other trademarks remain the property of their respective owners. © 2008 Dolby Laboratories, Inc. All rights reserved. S08/20196

World Radio History

THANK YOU!

$99 DAW Synth Upgrade Offer
Buy Rapture or Dimension Pro for $99 at select retailers in Sept-Oct when you own select DAWs*

Over 100 members of the international press voted Rapture the best software instrument in the world by awarding it the 2008 MIPA.

It's no surprise. Rapture's brilliant design and stunning sounds have made it a favorite among professional musicians who have found it a sure fire way to add something unique to their productions. Experience Rapture today, only $99 as part of the DAW Synth Upgrade Special* this September & October at select music retailers worldwide.

For more information visit www.cakewalk.com.

* $99 offer available at select retailers for owners of Cubase, FL Studio, GarageBand, Live, Logic, Digital Performer, Nuendo, or Pro Tools. Contact your local retailer or visit www.cakewalk.com/MISpecials for details.

Mac

cakewalk by Roland

INSTRUMENTS

World Radio History

Ten Good Reasons Why Lynx Aurora Converters are the Tools to add to your Pro Recording System.

Well, maybe 11.

As an owner of a professional recording system, you have made a significant investment to provide world-class audio production for you and your clients. The single most crucial factor is the quality of the converters you choose. In developing the Aurora 8 and Aurora 16 converters, we had your needs in mind. We would like to point out 10, 11, maybe more reasons why Lynx is a great choice for you.

Of course we can't give you all of these reasons in this ad. But, here is just one...

Reason #1 Aurora 16 offers 32 simultaneous channels - sixteen channels of analog I/O and sixteen channels of digital I/O at sample rates up to 192 kHz.

Okay, maybe one more...

Reason #6 The sound / audio quality - Rich, open, transparent. Let your ears give it a try.

So whether you are just starting out, adding channels or upgrading the system, you'll have good reason to try out Lynx Aurora converters.

lynx STUDIO TECHNOLOGY

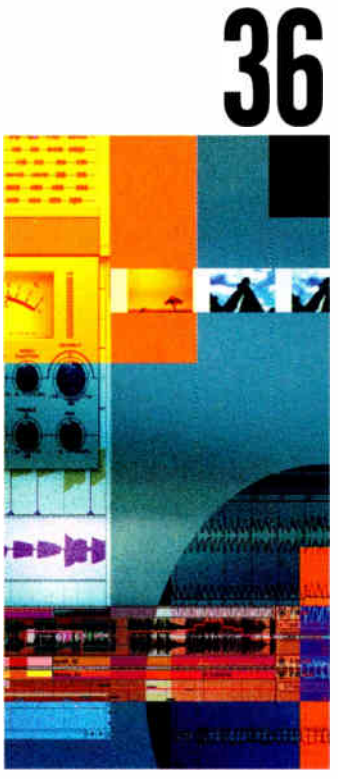
To see the entire list, please go to http://www.lynxstudio.com/10reasons.

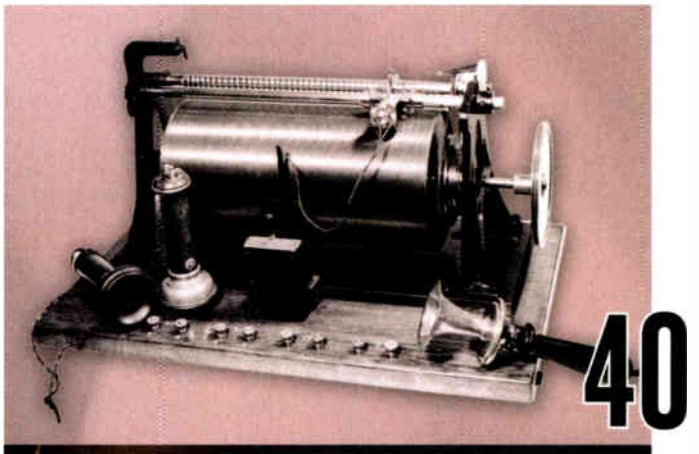
© Lynx Studio Technology Inc. All rights reserved.

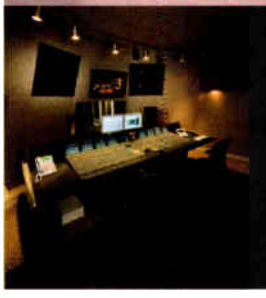
World Radio History

CONTENTS

MIX SEPTEMBER 2008, VOLUME 32, NUMBER 10







ON THE COVER

Troy Germano opened a new world-class recording facility in New York City this year. The artist-centered Germano Studios is equipped with an SSL Duality and Pro Tools HD3 Accel, and features plug-in reissues and prized analog gear. **Photo:** Robert Wright. **Inset:** Steve Jennings.

features

30
Recording the Gig

As studio owners and engineers continue to reel from the effects of plunging record sales and budget recording technology, location-recording pros find themselves competing against laptop-based recording systems. So the big-time remote companies are gearing up smaller trucks and high-end portable rigs, as well as offering expanded post-production services. Times change, but the "big rigs" still handle plenty of big jobs.

36
DAW Upgrades

Digital audio workstations are at the heart of audio production, but platform designs are ever-changing. *Mix* surveys this year's software upgrades.

40
TECnology Hall of Fame

The Mix Foundation, sponsor of the TEC Awards, inducts 15 more essential audio innovations into the TECnology Hall of Fame in 2008. Honorees include Neumann's CMV3 Bottle mic and the UREI 1176 compressor.

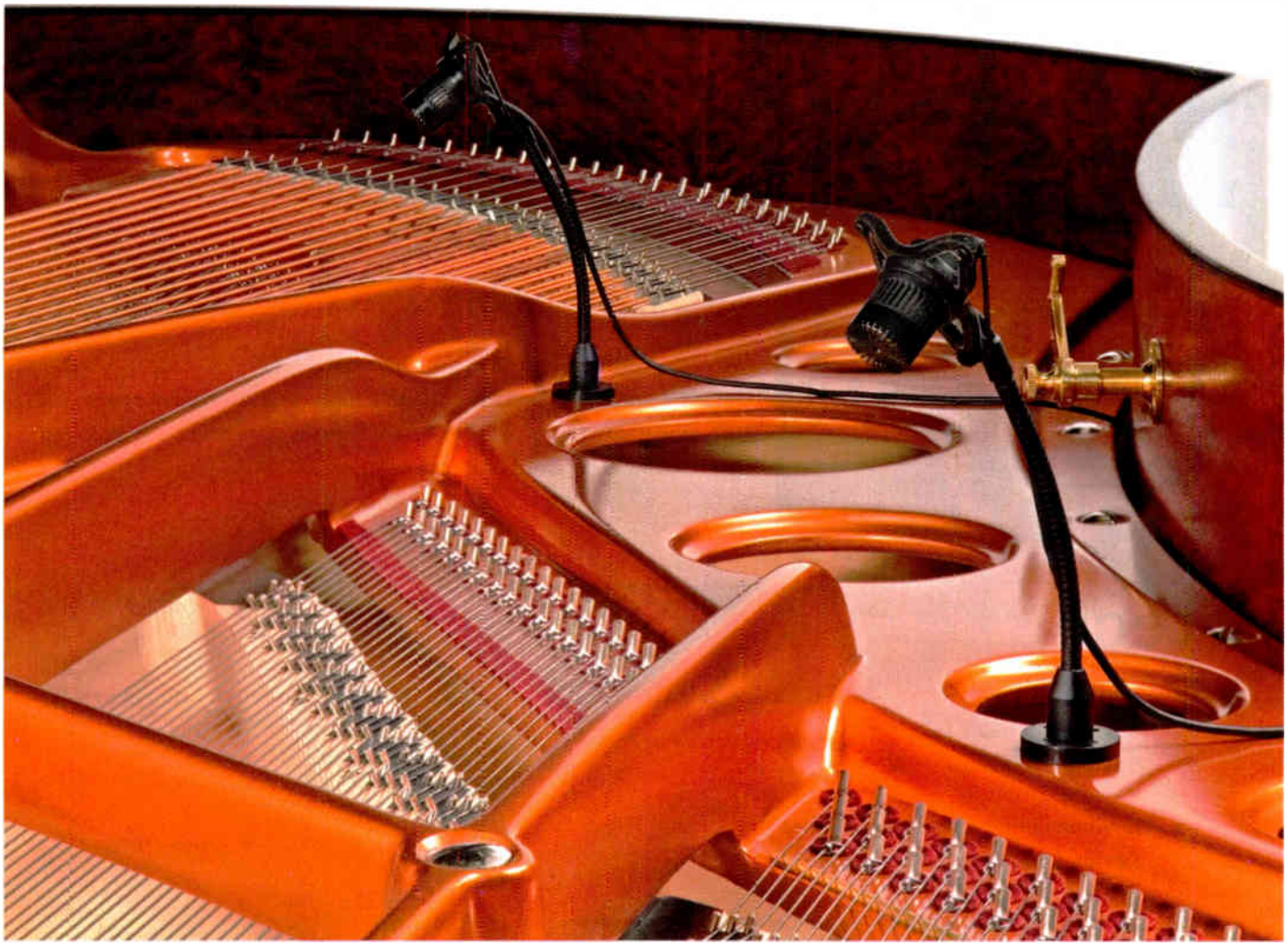
46
Portable Digital Recorders

Everywhere you look, technology is shrinking. Our buyer's guide to compact digital recorders reveals a wealth of field-recording options that are smaller, better-sounding, more reliable and more versatile than ever before.

(Volume 32, Number 10) is ©2008 by Penton Media Inc., 9800 Metcalf Ave., Overland Park, KS 66212. Mix (ISSN 0164-9957) s published monthly with an extra issue in January. One-year (13 issues) subscription is $35. Canada is $40. All other international is $50. POSTMASTER: Send address changes to Mix, PO Box 15605, North Hollywood, CA 91615. Periodicals Postage Paid at Shawnee Mission, KS and at additional mailing offices.This publication may not be reproduced or quoted in whole or in part by printed or electronic means without written permission of the publishers. Printed in the USA. Canadian GST #129597951; Canadian Post Publications Mail agreement No. 40612608. Canada return address: BleuChip International, P.O. Box 25542, London, ON N6C 6B2.

World Radio History

THE PERFECT MATCH



www.dpamicrophones.com

The DPA 3521 stereo kit - the perfect partner for your instruments, includes two DPA 4021 compact cardioid microphones matched within +/- 1 dB on frequency response, sensitivity and self noise. Supplied in a robust carrying case with XY/ORTF holder, shock mount, goose-neck mounts and magnet bases, the DPA 3521 is designed for low profile mounting inside of pianos.

It's also the perfect kit for use on choirs, string sections, acoustic ensembles and drums as well as for use as a spot mic on virtually any instrument.

DPA 3521

The microphones for sound professionals with uncompromising demands for audio accuracy.

DPA MICROPHONES

DPA Microphones, Inc. 2432 North Main St. Longmont, CO 80501 info-usa@dpamicrophones.com 1-866-DPA-MICS

World Radio History

music

51 **Weezer** by Bryan Reesman
54 **Walter Becker** by Mr. Bonzai
56 **Art Tatum "Re-Performance"** by Blair Jackson
58 **Classic Tracks: Dobie Gray's "Drift Away"** by Dan Daley

live

61 **On Tour: Sheryl Crow** by Gaby Alter
64 **Soundcheck: Includes Cyndi Lauper and Mastodon tours, road-worthy gear, Live Event Solutions production company**
66 **All Access: Coldplay** by Steve Jennings

tech

76 **New Products**
80 **Review:** SSL Matrix Analog Console
86 **Review:** Equator Audio Research Q15 Coaxial Monitors
90 **Review:** Lexicon PCM96 Effects Processor
94 **Review:** Drawmer A2D2 DMS-3 and M-Clock Plus
98 **Tech's Files:** Solving Thermal Problems in Tube Gear by Eddie Ciletti

sfp

69 **Game Sound for the World of "Spore"** by Blair Jackson
74 **Composer Colin O'Malley** by Gary Eskow

departments

10 **from the editor**
14 **talkback**
18 **current**
22 **sessions**
105 **marketplace**
112 **classifieds**
120 **Q&A: Troy Germano**

World Radio History

Thirsty for Tone?

100% tube, 100% solid-state, and everything in-between

UNIVERSAL AUDIO

The new 710 Twin-Finity Microphone Preamplifier & Instrument D.I.
Phase-aligned blending of tube and solid state transimpedance circuits.
Satisfy your thirst for tone. **www.twin-finity.com**

©2008 Universal Audio, Inc. All rights reserved. Universal Audio, the Universal Audio logo, "Twin-Finity" and "710 Twin-Finity" are trademarks or registered trademarks of Universal Audio, Inc.

World Radio History

Lay of the Land

You've probably noticed that *Mix* looks different this month. Welcome to the new design.

We think you'll agree that the new look is fresher, bolder, more focused and easier to read. Certainly, we've made some major cosmetic changes, but the presentation reaches beyond typeface and graphics—the core of the redesign is about delivering meaningful content.

In the past few years, changes in media distribution have changed the ways people seek and receive information. Readers are no longer looking to monthly magazines for their news when it's readily available up to the minute via the Internet. Print has taken on a new role: to provide context and analysis, an expert voice.

Consequently, one of the biggest challenges the *Mix* staff faced in approaching a new design was to find creative ways to present more information in fewer pages without sacrificing the in-depth coverage that our readers rely on. At the same time, we evaluated the ways we present content across the board, both in print and online:

Mix is no longer just a magazine; it's an information resource in ways that it couldn't have been five years ago. For example, mixonline.com provides enhanced content and new media, such as acoustician Bob Hodas' one-hour Webcast to 2,000 viewers, which was designed to supplement a room-tuning print feature. We're also excited about events such as Mix Nashville, where 1,200 attendees spent two days learning direct, from pro to pro, reader to reader. Our content is evolving to reflect the new ways people in our industry receive information on a monthly, weekly and daily basis, whether that's communicated in our application features and technology guides in print, or via nightly tradeshow dispatches on the Website.

Mix has—and always will be—about all aspects of professional production, from music to post to live sound. We continue to cover those areas as we reach into new markets, from worship sound to mobile apps. But technology is only one part of the equation. Since our first issue, *Mix* has focused on the creative applications of that technology and bringing the studio community to the forefront.

A redesign is a daunting task, but the best designers have a great sense of architecture, form and space, a solid understanding of editorial vision and more than a little diplomacy. Congratulations to our art team—senior art director Dmitry Panich and art director Kay Marshall. Their talent, passion and tireless efforts have been crucial to our redesign process and to the pages we produce daily. And the redesign is just the beginning; look for big changes to www.mixonline.com in the coming months.

We hope you'll enjoy the new look of *Mix* as much as we enjoyed developing it. But the most important element in this vibrant audio community is you, the reader. Drop us a line at mixeditorial@mixonline.com and tell us what you think.

We'll be listening.

Sarah Jones
Editor

MIX®

EDITORIAL DIRECTOR Tom Kenny tkenny@mixonline.com
EDITOR Sarah Jones sjones@mixonline.com
EXECUTIVE EDITOR George Petersen gpetersen@mixonline.com
SENIOR EDITOR Blair Jackson blair@blairjackson.com
TECHNICAL EDITOR Kevin Becka kbecka@earthlink.net
GROUP MANAGING EDITOR Sarah Benzuly sbenzuly@mixonline.com
COPY CHIEF Barbara Schultz bschultz@mixonline.com
ASSISTANT EDITOR Matt Gallagher mgallagher@mixonline.com
LOS ANGELES EDITOR Bud Scoppa bs7777@aol.com
NEW YORK EDITOR David Weiss david@dwords.com
NASHVILLE EDITOR Peter Cooper skylinemix@live.com
FILM SOUND EDITOR Larry Blake swelltone@aol.com
SOUND REINFORCEMENT EDITOR Steve La Cerra
CONSULTING EDITOR Paul D. Lehrman lehrman@pan.com
CONTRIBUTING EDITORS Michael Cooper Heather Johnson Eddie Ciletti Gary Eskow Barry Rudolph Bob Hodas

SENIOR ART DIRECTOR Dmitry Panich dmitry.panich@penton.com
ART DIRECTOR Kay Marshall kay.marshall@penton.com
ASSOCIATE ART DIRECTOR Lizabeth Heavern
PHOTOGRAPHY Steve Jennings
INFORMATIONAL GRAPHICS Chuck Dahmer

SENIOR VICE PRESIDENT Kim Paulsen kim.paulsen@penton.com
VICE PRESIDENT Jonathan Chalon jonathan.chalon@penton.com
GROUP PUBLISHER Joanne Zola joanne.zola@penton.com
ASSOCIATE PUBLISHER Erika Lopez erika.lopez@penton.com

DIRECTOR OF AUDIENCE AND BUSINESS DEVELOPMENT Dave Reik dave.reik@penton.com
ONLINE SALES DEVELOPMENT DIRECTOR Angie Gates angie.gates@penton.com
ONLINE PRODUCT DEVELOPMENT MANAGER Tami Needham tami.needham@penton.com

WEST/MIDWEST SALES MANAGER Erika Lopez erika.lopez@penton.com
EAST COAST/EUROPEAN SALES DIRECTOR Michele Kanatous michele.kanatous@penton.com
SENIOR MANAGER, LIVE & INTERACTIVE MEDIA Erin Hutton erin.hutton@penton.com

CLASSIFIEDS/SPECIALTY SALES MANAGER Kevin Blackford kevin.blackford@penton.com

MARKETING DIRECTOR Kirby Asplund kirby.asplund@penton.com
MARKETING COORDINATOR Tyler Reed tyler.reed@penton.com
SALES & EVENTS COORDINATOR Jennifer Smith jennifer.smith@penton.com

DIRECTOR, SPECIAL PROJECTS Hillel Resner hillel.resner@penton.com

VICE PRESIDENT, PRODUCTION Lisa Parks lisa.parks@penton.com
DIRECTOR, PRODUCTION OPERATIONS Curt Pordes curt.pordes@penton.com
PRODUCTION MANAGER Liz Turner liz.turner@penton.com
CLASSIFIED PRODUCTION COORDINATOR Linda Sargent linda.sargent@penton.com

VICE PRESIDENT, AUDIENCE MARKETING Jerry Okabe jerry.okabe@penton.com

OFFICE MANAGER Lara Duchnick lara.duchnick@penton.com

COPYRIGHT 2008
Penton Media Inc.
ALL RIGHTS RESERVED.

FOUNDED IN 1977
BY DAVID SCHWARTZ, PENNY RIKER AND BILL LASKI

Mix Magazine is affiliated with SPARS ARM

World Radio History

Royers On The Road With MATCHBOX TWENTY

"Live guitars sound amazing with R-121 Live mics on the cabinets, and they stand out well in the mix. Royers are warm, natural, present and uncolored - not at all harsh like several of the other mics we auditioned, and the band loves the natural sound they get in their in-ear monitors.

"I've used Royers on Aerosmith for a few years and currently on Matchbox Twenty and they've been among my most reliable microphones. These are amazing ribbons."

Jim Ebdon
FOH Engineer - Matchbox Twenty, Aerosmith, Annie Lennox

TEC 2008 NOMINEE

Royer Ribbons - Hears Like Your Ears

Handcrafted in Burbank, CA • www.royerlabs.com • 818.847.0121

Copyright Royer Labs 2008 Photo Ana Gibert

World Radio History

SCHOEPS
Mikrofone

The original Since 1948

Celebrating 60 years of designing and handcrafting superb quality condenser microphones

www.schoeps.de www.reddingaudio.com

Photo: Peter Hunt

WESTONE DEFENDEAR™ HEARING PROTECTION

Your hearing is under assault

Working high-decibel live events is like working in a combat zone. It can easily do permanent damage to your hearing.

Your defense? Westone's ES49—the custom-fit earpiece developed specifically for pro musicians and sound engineers. Effectively attenuate sound levels to your needs with a choice of 9, 15, or 25 dB filters. And, because they are made from an impression taken directly from your ear, they provide long-wearing comfort and consistent, repeatable protection show after show.

Don't wait 'til it's too late. The best defense against hearing loss is Westone. Contact your local hearing care professional and ask for Westone ES49s by name.

The Westone ES49 is available in a variety of custom colors

Westone
THE IN-EAR EXPERTS

WESTONE.COM/MUSIC

Penton Media

CHIEF EXECUTIVE OFFICER John French john.french@penton.com
CHIEF REVENUE OFFICER Darrell Denny darrell.denny@penton.com
GENERAL COUNSEL Elise Zealand elise.zealand@penton.com
EXECUTIVE VICE PRESIDENT/CFO Jean Clifton jean.clifton@penton.com

SR. VICE PRESIDENT, ADMINISTRATION Eric Jacobson eric.jacobson@penton.com
VICE PRESIDENT, HUMAN RESOURCES Kurt Nelson kurt.nelson@penton.com
CHIEF TECHNOLOGY OFFICER Cindi Reding cindi.reding@penton.com
VICE PRESIDENT, NEW MEDIA GROUP Prescott Shibles prescott.shibles@penton.com
VICE PRESIDENT, CORPORATE CONTROLLER Steve Martin steve.martin@penton.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 mix@pubservice.com, call toll-free 866/860-7087 or 818/487-2020, or write to P.O. Box 16886, N. Hollywood, CA 91606.

BACK ISSUES: Back issues are available for $10 each by calling 866/860-7087 or 818/487-2020.

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 Traci Mueller, traci.mueller@penton.com to purchase quality custom reprints or e-prints of articles appearing in this publication at 888/858-8851 (216/931-9623 outside the U.S. and Canada). Instant reprints and permissions may be purchased directly from our Website; look for the RSiCopyright tag appended to the end of each article.

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

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

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

MAILING LISTS: Penton Media Inc. 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 Penton Media Inc. subscriber services at 800/532-8190 or 740/382-3322.

CORPORATE OFFICE: Penton Media Inc., 249 West 17th St., New York, NY, www.penton.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 Penton 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.

World Radio History

EARS: Golden

SKIN: Rarely sees sunlight

JOKES: Risqué

ALBUM CREDITS: Too many to count

DAW: Pro Tools HD

PRO TOOLS | HD

RAISE YOUR LEVEL

dig.design.com/raiseyourlevel

© 2008 Avid Technology, Inc. All rights reserved. Avid, Digidesign, and Pro Tools HD 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. Product features, specifications, and system requirements are subject to change without notice.

World Radio History

'Cannon Re-Loaded' Revisited

Thank you for the fine story on the new tribute album to the great Cannonball Adderley (July 2008, "Recording Notes: Cannon Re-Loaded"). I particularly enjoyed Chris J. Walker's research into how this recording came together, even with the odds against it. It really shouldn't be a surprise to anyone that fine musicians can pull off great music in one take. We should all strive to be as competent, regardless of genre. Using engineers who have the experience to pick mics for individual musicians makes the musicians comfortable and really accelerates a project.

Francesco Bonifazi

Editor's note: On page 103, Cannonball Adderley was misidentified in the photo caption as George Duke. Mix regrets the error.

Radical Mixing Tales

In keeping with the theme of the August 2008 feature "Mixing Outside the Lines," we asked readers to tell us about their own radical mixing techniques.

I was recently mixing Bandera Blanca when, well into the final analog mix, the band reminded me that the intro of the song was supposed to sound like you were hearing it "in the studio" until the drums kick in. What does "in the studio" sound like to the average listener (headphone leakage, talkback mic, open mic chatter, etc.) and how does one fake it when the complicated mix is nearly finished?

I took a mult of my stereo mix, summed it to mono, got it unbalanced and down to about instrument level. I sent this into one of those little 9-volt powered guitar amps that are built into a cigarette box and worked its input level for minimal distortion. I placed this on the ledge of my studio's glass, miked it up with a pair of old Electro-Voice omnidirectional dynamics (a PL9 and a 635A) and clipped an old-school RCA BK-12A "lavalier" to the cigarette pack's cover. I took these three tracks and recorded them along with the mix.

Later, I panned the omni mics wide in stereo, delayed one by a few milliseconds, time-corrected the lavalier, added an LPF to it and put it up the middle. Add a little crossfade where the intro meets the song and—voilá—instant studio vibe! The amp/mic combo's lousy frequency response vaguely simulated both headphone leakage and a talkback mic, while the slap off the glass and room air from the omnis lent a lot of the realism.

Even though it was largely mono, the difference between the hard-panned, mismatched mics and the irregularity of the comb filtering off the glass lent it all some randomness and attitude that a plug-in would be hard pressed to keep up with. What fun!

Rob Tavaglione
Catalyst Recording
Charlotte, N.C.

I'm comfortable mixing "in the box," but occasionally I receive something that sounds really "digital"—the guitars are all recorded direct through some kind of pedal rig, the drums are from a sampler and everything is really thin and bright. When that happens, I push the mix through my Tube-Tech or ToneBuss summing amps, and I usually choose one to make everything sound more analog.

However, I recently had one project that just would not cooperate. I liked certain sounds better through one summing amp or the other, and some better in the box. So I used all three! I ran the bass and drums through the Tube-Tech, which really rounds out the samples and the bass. The bass also went through my ancient Altec compressor, which has only an on/off switch and a meter. All of the guitars went through the ToneBuss, which is pretty close to a '60s-era Neve console as it uses the same transformers. Everything else sounded fine in the box so I left it. I also ran the drum bus—minus cymbals—out into my cutting room and ran a stereo pair of BLUE Woodpecker mics to add more room, and everything turned out great.

Randy Adams
Adamsound

Starting out as a one-man sound company, I found that growth meant that you would eventually find yourself in a venue larger than your system could handle. I learned a lot of tricks to safely run my system at its peak without blowing it up.

One was to boost a low frequency (say, 50 or 63 Hz) that sounded good in the room and then pull down most of the other low frequencies. You still had a good thump, but were using less power. I also cut the lower range of each speaker component: 40 Hz down on the lows, cut at 160 to 200 Hz on the mid-frequencies and cut a little of the 800 to 1k Hz area on the horns. That helped keep from pushing each component too much. I would sacrifice the lows in the kick a little and cut more lows out of the vocals than I would normally do. All of this reduced my overall signal with little noticeable loss in sound quality.

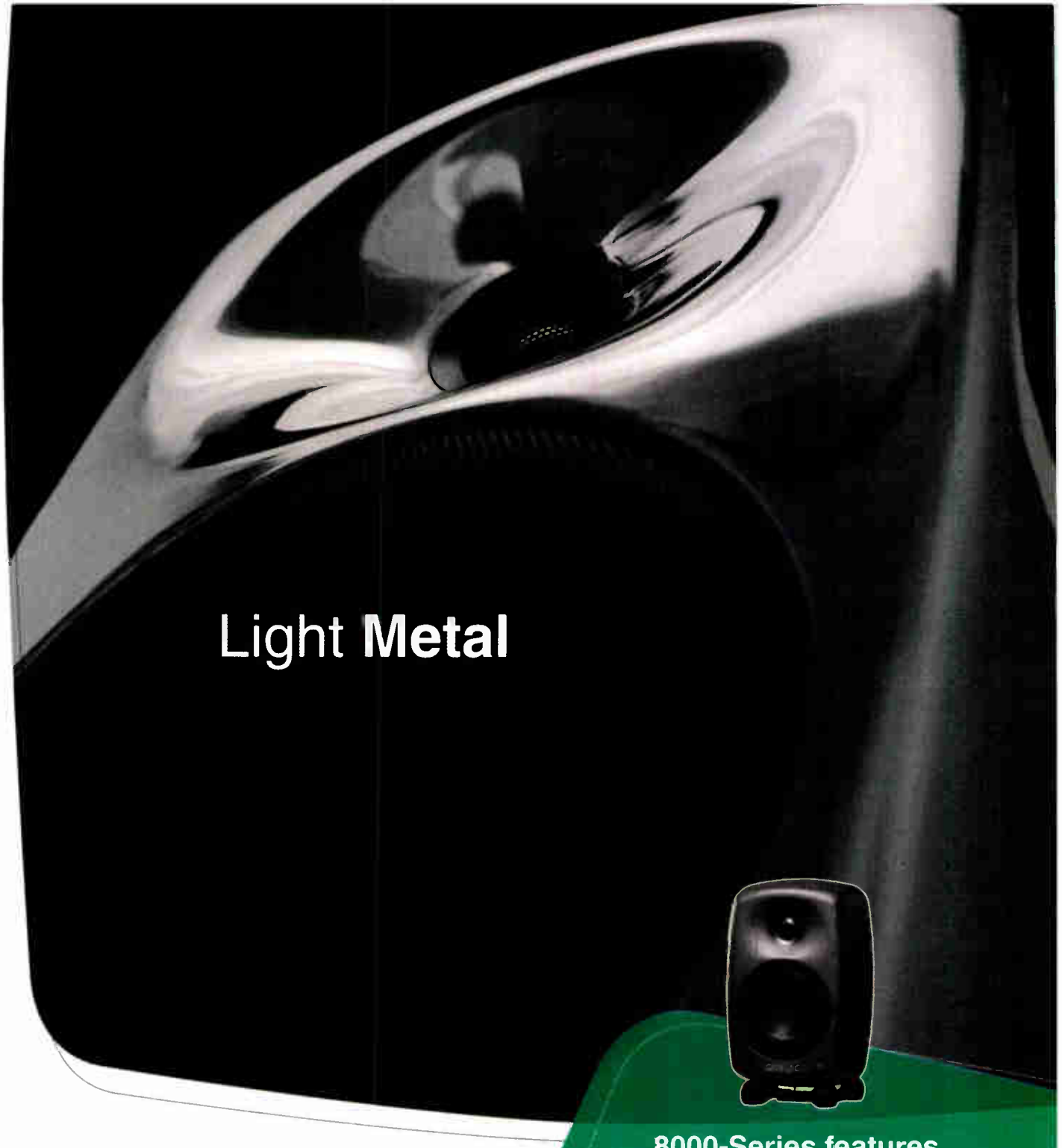
To keep from pushing my gains too much, I would route through a submaster and directly to the main out. This gave me more output with less gain at the input. With less gain, I was able to avoid clipping, even though I was running hotter than I liked. I was using a modified Seck studio board and ran the outputs at +10 on those occasions. The crossover had to be set carefully, as well. All of the amps would just bump the protect lights.

With the help of a little compression, I got away with this 10 or so times. Then I started buying bigger amps.

Ronald Smith

We're gearing up for our October issue and for the 125th AES Convention, which takes place October 2 to 5, 2008, at the Moscone Center in San Francisco. Tell us about your favorite San Francisco music memory. E-mail us at mixeditorial@mixonline.com.

World Radio History



No other tool in the professional recording chain has more stringent requirements than the audio monitor – it is the last piece in an often complicated chain of events. At Genelec our goal is to deliver these sound experiences to you as they are intended by the original performer. Genelec active monitoring technologies, including our die-cast aluminum enclosure, offer you an undistorted, dynamic and natural sound without adding or removing anything from the electronic signal. No matter how heavy your recording sessions are, discover the Genelec system that suits your needs at **www.genelecusa.com**

8000-Series features

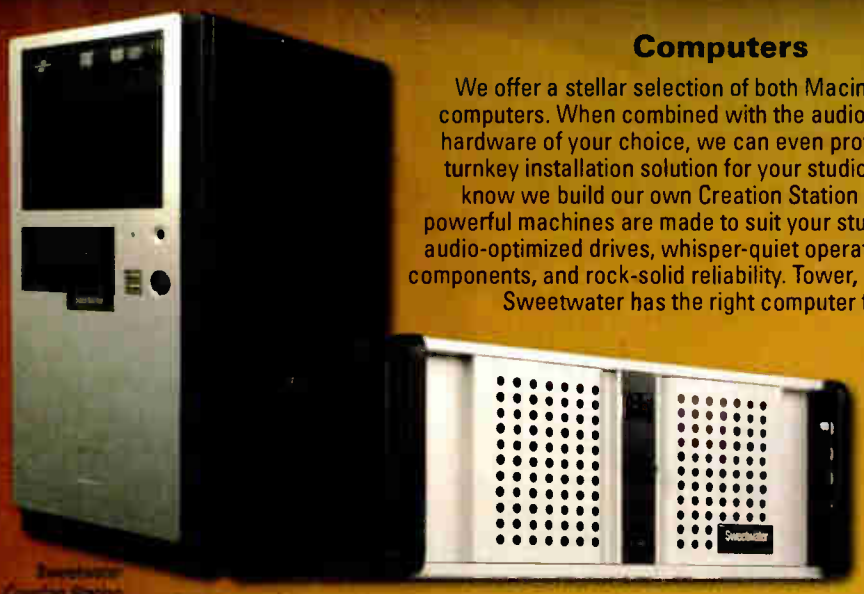
Active Crossovers
Dedicated Amplifiers for Each Driver
MDE™ - Minimum Diffraction Enclosure
DCW™ - Directivity Control Waveguide
Drive Unit Protection Circuitry
Room Response Controls
Iso-Pod™ - Isolation Positioner/Decoupler™
High Performance Reflex Port

GENELEC®

World Radio History

Computers

We offer a stellar selection of both Macintosh and PC computers. When combined with the audio software and hardware of your choice, we can even provide a custom turnkey installation solution for your studio. And did you know we build our own Creation Station PCs? These powerful machines are made to suit your studio needs, with audio-optimized drives, whisper-quiet operation, top-quality components, and rock-solid reliability. Tower, rack, or portable, Sweetwater has the right computer for you!



Apple Mac Pro

Toft Audio ATB-32

Mixers

The mixer is the nerve center of your operation, and we know you want the best possible unit for your money. Our knowledgeable Sales Engineers are here to help you find the one that's just right for you. We carry an incredible range of mixers from Allen & Heath, Mackie, Yamaha, and many, many more.

ALLEN & HEATH · MACKIE. · Toft Audio Designs · TASCAM · PEAVEY · YAMAHA · Soundcraft

Computer Audio Production

Digidesign ICON D-Control

We know how critical it is to get the best production from your studio. That's why we stock audio interfaces from MOTU, M-Audio, and PreSonus (among many others) as well as fully featured console-style control surfaces from several manufacturers, including Digidesign, Mackie, and Euphonix. Sweetwater's got the right hardware for your studio.

digidesign · MACKIE. · Euphonix · M-AUDIO · MOTU · PreSonus

Lexicon PCM96

Studio Processors

At Sweetwater, you'll find exactly what you need to create some of that elusive studio "magic," thanks to our incredible selection of processors. Our huge warehouse is stocked with great reverb, delay, and multi-effects units from Eventide, Yamaha, Lexicon, and TC Electronic, plus a host of others.

Eventide · tc electronic · Lexicon · dbx · YAMAHA

Avalon AD2022

Preamps

There's no more important item in your signal chain than a good preamp — and we have a huge selection of them. Whether you want to add "color" to your sound or seek pristine transparency, Sweetwater has the preamp that's just right for you, from great manufacturers such as Avalon, Focusrite, PreSonus, and Manley, just to name a few.

Solid State Logic · A Designs · VINTECH AUDIO · PreSonus · AVALON DESIGN · MANLEY · Focusrite

www.sweetwater.com

World Radio History

JBL LSR4328P Pak

Studio Monitors

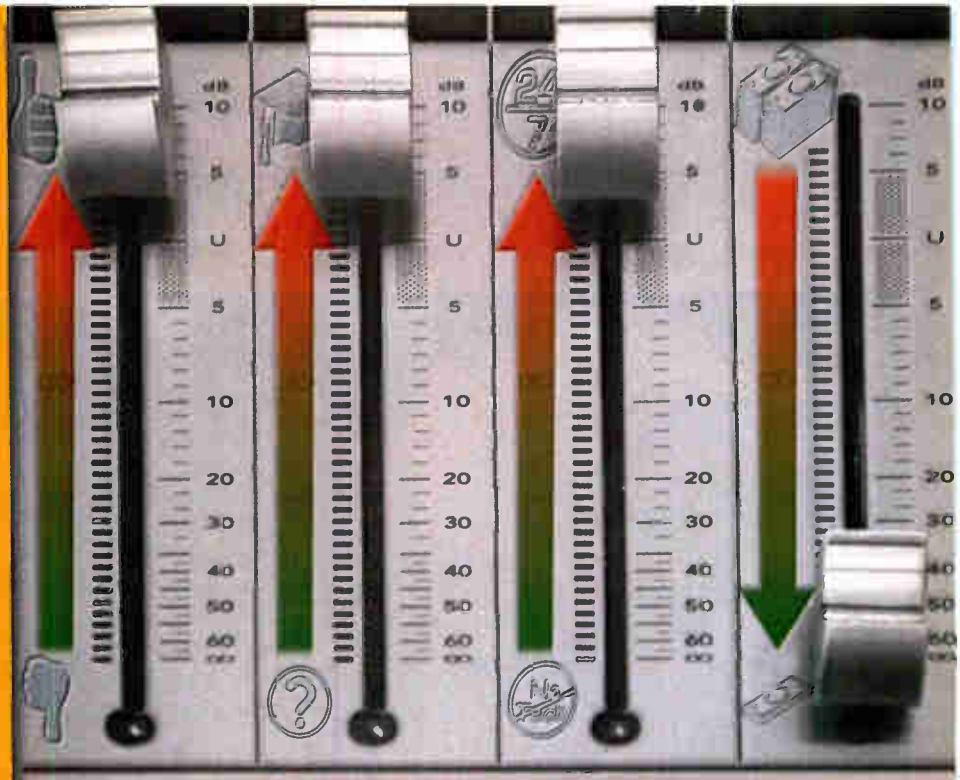
We offer a stellar selection of passive and active studio monitors with a range of wattages and speaker sizes, and we'll help you find the setup that suits your room best at a price that's right for you. With monitors from JBL, Genelec, ADAM, Event, Mackie, and Tannoy (among many others) to choose from, Sweetwater has you covered!

GENELEC® dynaudioacoustics
MACKIE. ALESIS TANNOY
EVENT JBL

Microphones

We've got an incredible selection of some of the best microphones available for studio and stage alike. You'll find condensers, dynamics, and ribbon models (plus Sweetwater-exclusive mic packages and a wide range of mic accessories) from manufacturers such as Shure, Neumann, Royer, Sennheiser, AKG, and many more!

SHURE AKG Blue audio-technica SENNHEISER RØDE Earthworks



THE RIGHT GEAR | KNOWLEDGEABLE STAFF! | FREE TECH SUPPORT | LOWEST POSSIBLE PRICES!

The Perfect mix

Great Gear
Great People
Great Prices
and More!

When You Call Sweetwater, We Work Hard to Deliver the Perfect Mix

It's more than just great gear at great prices. Count on our knowledgeable staff of passionate musicians and engineers to help you choose exactly the right instrument or the latest piece of technology. Then relax, knowing that we stand behind you with the best FREE tech support in the business, including SweetCare, Sweetwater's 24/7 online source for technical support, user tips, resources, and more.

1-800-222-4700

Sweetwater
Music Instruments & Pro Audio

World Radio History

CURRENT

compiled by Sarah Benzuly

The Force Is Strong With This One

The highly anticipated *Star Wars™: The Force Unleashed* (www.theforceunleashed.com) videogame will be available on September 16 for the Xbox 360 and PlayStation 3 systems. The LucasArts-developed next-generation game casts players as Darth Vader's "secret apprentices" and takes gamers deeper into the *Star Wars* galaxy; the action happens largely during an unexplored era that takes place between *Episodes III* and *IV*.

Continually on the cutting edge, LucasArts employed newly developed technologies to create a more realistic visual landscape: Digital Molecular Matter (by Pixelux Entertainment) lets developers work with the actual physical properties of matter so that glass shatters, plants bend and wood splinters as it would in the real world. Euphoria (by Natural Motion Ltd.) brings a more "human" quality to the characters, adapting their behavior on the fly and resulting in a different pay-off every time the game is launched.

"Sound design on a *Star Wars* game is always a big challenge because the bar has been set so high by Ben Burtt and John Williams on the films," says David Collins, the game's audio lead designer. "Also, *The Force Unleashed* is the biggest audio project in LucasArts' history to date. The biggest compliment we can get when a *Star Wars* game is released is when reviewers say, 'Yep, the sound comes straight from the films.' *The Force Unleashed* was a labor of love for the audio team, and we can't wait until consumers get to play it and hear it in September."

The game is the first internally developed title for next-gen consoles and represents the first in-game collaboration between LucasArts and Industrial Light & Magic (ILM), two companies now under the same roof at the new Letterman Digital Arts Center in San Francisco's Presidio complex.

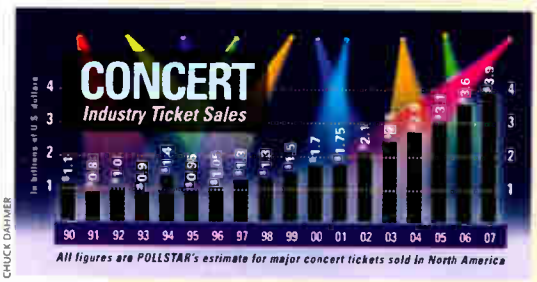
Ex'Pression Expansion

The new Alan Parsons Studio Two, named after engineer/producer/musician Alan Parsons, at Ex'pression College for Digital Arts is a Walters-Storyk-designed hybrid mastering and recording studio featuring a Speck line mixer, ATC SCM150ASM monitors, Digidesign C|24 control surface with Pro Tools HD3 and a wide variety of outboard goodies. The ribbon-cutting ceremony was held July 15 while Parsons was on-site to film an upcoming DVD about his work process, production and mixing techniques.

PHOTO: GEORGINA MCLAUGHLIN

CONCERT SALES STILL CLIMBING

In 2007, ticket sales accounted for $3.9 billion, with more than 30,000 shows reported to Pollstar in North America. Last year's top-selling tour, The Police, grossed $133.2 million. The average tour ticket price last year was $62.07, a $0.49 increase from 2006; in 1996, a ticket averaged about $26. Apparently, concert-goers are still willing to shell out big bucks to see their favorite artist—perhaps because that P.A. bass-end thump just isn't the same over an iPod.



CHUCK DAHMER

Teaching Kids Safe Sound

While most PSAs about protecting your hearing—especially through personal listening devices—have been directed at adults and teens, the American-Speech-Language-Hearing Association and Parents' Choice Foundation's "Listen to Your Buds" (www.listentoyourbuds.org) campaign shows kid-friendly musicians talking about safe listening. Five-time Parents' Choice Award–winner Justin Roberts will offer the first "Listen to Your Buds" concert in Chicago on November 19 at the Museum of Science and Industry. "I'm thrilled to have the opportunity to entertain and educate children with my music in a fun and lighthearted way," Roberts says. "It's an honor to be at the forefront of the ASHA and Parents' Choice coalition. I hope my fellow musicians will join me as we support this important initiative."

World Radio History

Ted Hall, 1960-2008

Ted Hall, award-winning mixer at POP Sound (Santa Monica, Calif.; www.popsound.com) passed away on July 26, 2008. A pioneer in mixing and mastering for DVD and Blu-ray, Hall joined POP in 1992 and was responsible for mixing some of the initial film releases on DVD and continued to advance the state of the art of the DVD until his passing. Some of the titles he worked on include the *Indiana Jones* trilogy, *Yellow Submarine*, *The Godfather* trilogy, *The Last Waltz*, *The Blues Brothers*, *Saturday Night Fever* and *U2: Rattle and Hum*.

His multichannel 5.1 music mixing for DVD included *U2: Live in Chicago*, *The Police*, *Madonna: Girly Show*, *Linkin Park: Reanimation*, *Santana: A Supernatural Evening*, *Eric Clapton: Unplugged*, *The Who: The Kids Are Alright*, *Cream* and *Tom Petty: Live at the Fillmore*; he received a Grammy Award for 5.1 music mixing on Alanis Morissette's *Jagged Little Pill*.

When not at his day-job, Hall toured as a guitarist with fusion band The Fents.

"Ted's legacy will live on within the heart and bones of POP," said Moksha Bruno, POP Sound executive director. "He was our mentor and our friend, and is dearly missed by all of us."

Hall is survived by his wife of 20 years, Tina, and their son, Chester. In lieu of flowers, donations be made in Hall's name to VH1's Save the Music Foundation, www.vh1savethemusic.com, or VH1 Save the Music Foundation, 1633 Broadway, 11th Floor, New York, NY 10019, attn: Ariel Usatin/in Memory of Ted Hall.

on the move

Rick Ash,
Widget Post
re-recording mixer

Main Responsibility: help tell the story using sound as an individual and accompanying element.

Previous Lives:
- 1995-2007, TODD-AO
- 1989-1995, Disney
- 1983-1989, TODD-AO
- 1976-1982, Shangri-La Studios

The last great album I listened to was... T Bone Burnett's *The True False Identity*.

The best thing about this industry is... being a passionate outlet for creativity and getting paid for it.

The one piece of advice I would give to an up-and-coming mixer is... follow your heart, only do films you're passionate about and believe in what you do.

Currently in my CD changer/iPod: Miles Davis' *Sketches of Spain*.

When I'm not in the office, you can find me... being quiet in my garden.

seen & heard

"I hope they don't take any of my stuff."

—Les Paul at the opening of "Les Paul's House of Sound" at Milwaukee's Discovery World, which is open until January 31, 2009.

Strum It Like It's Hot

Okay, we can see the attraction of the Video Games Live! Concert—where else can you hear an orchestra play sounds from *Pong* through a full-on P.A.? Taking the live game music concept to a whole new level, The Wiitles (pictured from left: Ryan Peoples, vocals; Nick Kneece, guitar; Steven Legrande, bass; and Ian Vargo, drums) play their instruments onstage using Nintendo Wii-motes, working exclusively in Max/MSP (one instance of Max/MSP running on a single Macbook). According to Peoples, the four Wii-motes each have their own subpatch. "The different subpatches work in different ways," he explains. "For the drum patch, each button on both the Wii-mote and its corresponding nunchuck triggers different drum samples (WAV files). The bass patch works the same way, except that the individual samples are made by synthesis from scratch. The guitar patch triggers WAV files, but is unique in that movement by the accelerometer allows the triggered sample to play, so the player must actually 'strum' the nunchuck for the sample to be triggered. The vocal patch is essentially an effects processor."

The buttons on the Wii-mote activate different effects (e.g., delay, octave, harmonizer and, for the song "Robot Love," a vocoder) in the vocal patch. "Each of these patches only receives information from an individual Wii-mote," he continues. "The only other equipment we use is a FireWire interface that takes the sound from the Macbook to the P.A. via a single mono out; we could do stereo if we wanted, but none of the P.A.s we have used so far have been stereo. All of the mixing is done in Max/MSP."

World Radio History

TEC Awards Sponsors Announced

The Mix Foundation for Excellence in Audio has announced an impressive lineup of sponsors for the 24th Annual TEC Awards, to be held in San Francisco on October 3. Heading up the list as Front of House Sponsors are founding sponsor *Mix* magazine; The Gibson Foundation, longtime sponsor of the Les Paul Award; and sustaining sponsor Harman Pro Group.

Joining as Platinum sponsors are American Music and Sound (Allen & Heath/Focusrite), GC Pro, Meyer Sounds Labs (Audio Production sponsor), RØDE Microphones, Sennheiser and Universal Audio (Video Production sponsor). Gold sponsors include Audio-Technica, Broadjam Inc. (Webcast sponsor), Digidesign, GANG (Interactive Entertainment Sound sponsor), Heil Sound Ltd., the Producers & Engineers Wing of the Recording Academy, Shure, Solid State Logic and TC Electronic. There are also Silver and Bronze sponsors; for a complete list of sponsors, go to www.mixfoundation.org/tec/08sponsors.html.

Remember, the last day to vote (for *Mix* subscribers) is August 31. Log on to www.voteTEC.org to cast your vote today! Tickets are available for purchase at www.mixfoundation.org or by calling 510/985-3214.

Genelec Turns 30

On June 14, Genelec celebrated 30 years of sustainable manufacturing, hosting hundreds of guests from around the world at its headquarters in Lisalmi, Finland, situated 200 miles south of the Arctic Circle. The festivities started at the Lisalmi Cultural Center, where there were speeches, dedications and entertainment; afterward, the party moved to Genelec's nearby factory, which sits on one of Finland's 200,000 lakes. Guests were given factory tours and enjoyed food and entertainment until the sun set at 11:30 p.m.

From left: Genelec CEO/founder Dr. Ilpo Martikainen, Volker Siegmann and Will Eggleston

Industry News

The **Stanton Group** (Hollywood, FL) added **Tim Dorwart** and **Mike Quandt** to its board of directors. In other board news, **NSCA** (Cedar Rapids, IA) appointed directors **Dave Ferlino** and **Michael Hester**...These companies added to their sales forces: **John Hart**, director of sales, digital console group at **Harman Pro North America** (Las Vegas); **Jon Bosaw**, EAW (Woodinville, WA) director of business and sales; **Sweetwater** (Fort Wayne, Ind.) added 15 sales engineers; and **Lothar Weimann**, **Meyer Sound Germany** regional sales manager...**Audio-Technica** (Stow, OH) welcomed audio solutions department specialist **Dan Pelletier**...New director of customer service and support at **Aviom** (West Chester, PA) is **Liz Marshall**...New distribution deals: **CAMCO** (Wenden, Germany) appointed **Right Way Audio** (China); and **Royer Labs** (Burbank, CA) selected **Audio Agent** (Seattle) for the metropolitan New York/Tri-State region and the entire Northeast.

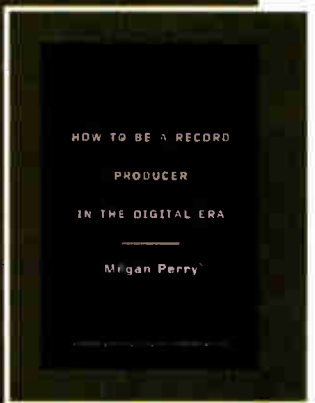
John Hart

Jon Bosaw

Lothar Weimann

Producing 101

Megan Perry, who has worked at NRG Recording Studios, has published *How to Be a Record Producer in the Digital Era* (Billboard Books, $18.95), which teaches up-and-coming and long-time producers how to navigate the maze of legal issues concerning setting up a studio, the digital business and more. Producer/label executive Ron Fair says in the foreword to the book, "Being in the record industry is like skydiving. Don't forget your parachute."

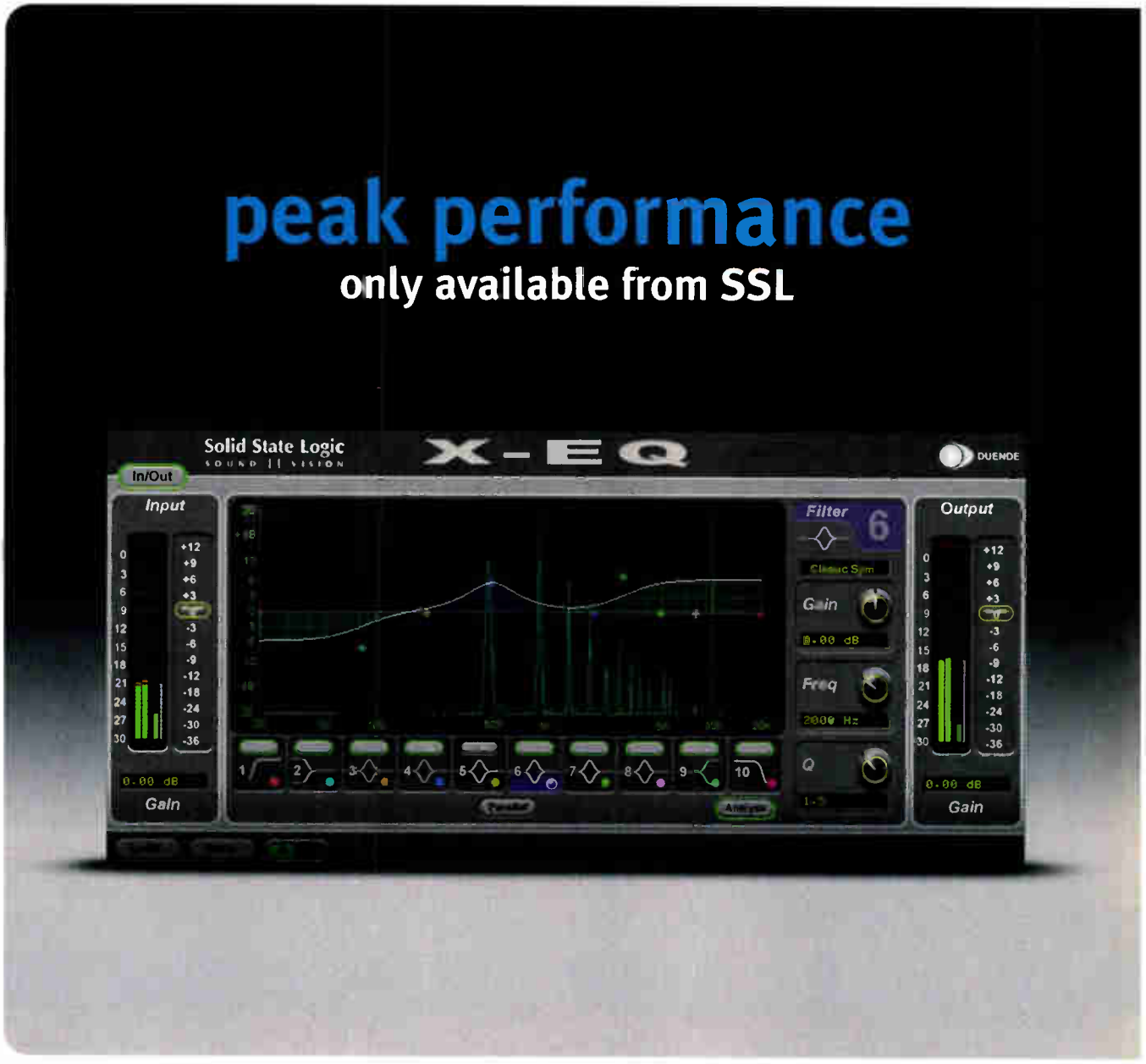


World Radio History

www.solid-state-logic.com

peak performance

only available from SSL



The SSL Duende collection.

They're like plug-ins, only better.

Exclusive to Duende, X-EQ is the essential EQ toolkit, combining a precise, transparent 10-band parametric EQ with an intuitive interface that let's you sculpt individual tracks to perfection, or skillfully craft full mixes.

See the full range of Duende audio tools at www.solid-state-logic.com

Duende. This is SSL.

Solid State Logic
SOUND | | VISION

Oxford +44 (0)1865 842300 New York +1 (1)212 315 1111 Los Angeles +1 (1)323 549 9090 Paris +33 (0)1 48 67 84 85 Milan +39 039 2328 094 Tokyo +81 (0)3 5474 1144

World Radio History

Semaphore Recording—Engineer/Owners Buy Time, Not Tape

Situated in Chicago's Ukrainian Village, Semaphore Recording is a comfortable, homey studio housed in a former church youth facility. In the wake of its church days, the building became a hardcore venue, and eventually transformed into the studio roughly eight years ago. The current business is the result of a merger between two previous studios, with its four on-site engineer/owners—Eric Block, Elliott Dicks, Jeremy Lemos and Sanford Parker—deciding to combine gear and work collectively.

Semaphore's engineers are active in and out of the studio. Dicks often mixes live sound for Shellac; Lemos does the same for both Sonic Youth and Iron and Wine. Parker records and tours with Relapse Records artist Minsk. Another partner, Scott Adamson, has moved to New York, but returns occasionally for sessions; recently, he spent six days working with Ted Leo & The Pharmacists on new material for Touch and Go records.

Upon acquiring the space, the engineers were fortunate that the building layout already fit the parameters of a studio, with a spacious control room in the rear and a larger live room next door. A hallway running the length of the building allows for iso rooms, a lounge and a kitchen. According to Lemos, "When we moved in, we signed a one-year lease and we had no idea if we'd be here one year or 10 years." Block continues the thought: "So we didn't want to spend $3,000 on a control-room window. All of the money that we had went into gear. But it turns out a lot of bands like the fact that there's no window."

Because the owners pooled their gear, few things had to be purchased. Among the big-ticket items was an '80s 36-channel Neotek Series IIIC console. Semaphore sports an Otari MTR-90 with 16- and 24-track headstacks, and Digidesign Pro Tools HD. There is also a ¼-inch Ampex ATR-102 2-track machine. Mics include RØDE Classic IIs, Coles 4038s, Norelco-branded AKG C12-As, Beyer M160s and M500s, and a range of dynamic models.

Semaphore started as an all-analog enterprise, but with the rising cost of tape and the time benefits of digital, many clients now prefer to use its Pro Tools HD system. "We still mix to the ATR-102 quite a bit," Block says, "especially when tracking in digital. In contrast, I'm doing this hip-hop/R&B record right now [Derek "Drop" Braxton producing Jessica Tonder], and we're bouncing back and forth between digital and the 2-inch, and putting beats from the MPC-1000 to tape."

From left, Jeremy Lemos, Elliott Dicks, Sanford Parker and Eric Block, the engineer/owners of Semaphore Recording

Lemos sums up the reasons for this change in medium: "I just felt like HD had finally gotten to the point where the sound of it didn't bum me out. And with tape being so expensive, getting the tape sound is not as worthwhile as being able to have the band spend another day or two in the studio."

—*Rich Wells*

project studio

Monument Sound

by Barbara Schultz

Engineer/producer Chris Andrews has moved his studio a few times in the past several years, and each time the facility has grown in size and capabilities. The first incarnation was a Pro Tools LE–based home studio called TBR Studio (The Basement Recording), where he did work that he describes as "slightly above demo quality" for musicians in his (then) base of Washington, D.C. In January '07, a job offer brought Andrews to Denver, where he set up a mixing studio in his rental home.

"I had something like $100,000 worth of gear sitting in the living room," Andrews says with a laugh. "But then I had to take a job just north of Colorado Springs, so I bought this killer house in Monument and moved the studio yet again."

Andrews current facility, Monument Sound (www.monumentsound.com), is in a 1,000-square-foot, purpose-designed space, acoustically treated with natural materials and Ready Acoustics panels. The studio includes four rooms: a 17x16 live room, 12x15 guitar room that he calls "the wood room," 6x7 vocal booth and a 13x18 control room. The new studio is equipped with Pro Tools HD3 Accel; a Digidesign Control|24; API, Trident and Vintech preamps; a range of high-end plug-ins; and analog outboard gear all tied to Apogee conversion.

"But the secret weapon is definitely API summing," Andrews says. "The 16-channel API DSM setup—I love it. I think the mix setup is really slick because it's a virtual, seamless patching system in Pro Tools. I can insert all of my analog gear without having to patch a single thing because it's all hard-wired into the converters. I then sum back into Pro Tools coming out of the API 7800 into a Benchmark ADC1 2-channel converter. It's really slick; you can set the levels as hot or as nice as you want and keep everything crystal-clear."

Sitting at an elevation of 7,400 feet, Andrews' new home and studio are situated between Denver and Colorado Springs, and he has now become plugged into the music scenes in both towns. "I'm producing a Denver band right now called 66 Rising," he says. "I've also gotten tracking and mixing projects from Colorado Springs where there's a lot of Christian music and surprisingly one of the biggest death-metal scenes I've seen in my life. [Laughs] But I also get the majority of my mixing projects from out of state. I hang out on some of the online recording forums—The Womb, DUC, The Pony—and network that way. For example, I'm working with a guy named Ashton Allen, a singer/songwriter who recently toured as a part of Barnes & Noble's 'Discover Great New Artists' program. He lives in Florida, but I just did a commercial spot for him, and I'm mixing a full-length album for an artist he produced named John Miller—really cool stuff!"

World Radio History

Gainen's Global Network

For his fourth solo CD, L.A.–based saxophonist/flutist/producer Maurice Gainen (www.mauricegainen.com) worked with musicians and engineers from all seven continents from within the comfort of his own project studio. Thanks to the Internet and file exchanges involving various storage media, the resulting album, *7 CONTINENTS*—Global Jams (Empyrean Records), features at least one song per continent—including Antarctica. "Ironically, that was the first one that came together," Gainen notes. He found his collaborators through mutual acquaintances or Internet research.

"I've been involved with world music over my career, so it came naturally for me," Gainen says. "It was a personal challenge, with the idea of trying to reach out to people." Gainen arranged, produced, recorded, mixed and mastered *7 CONTINENTS*. He wrote or co-wrote seven of the 11 tracks, plays sax and/or flute on each track, and worked on the project while continuing to serve his studio clientele. "I've been in the same location for 19 years," he says, "There's a steady flow of stuff, and everything else sort of fell into place."

Gainen relied on Pro Tools HD3 hardware and Apple Logic Pro Version 7.2 to work on files that were recorded abroad. The CD mainly comprises overdubs on tracks created in his L.A. studio. The production process varied, although typically, Gainen would send out contiguous audio files. "I always ask for a reference point at the very top," he says. "I prefer to be with people, but when you're not with them, some interesting things happen—they kind of take it their own way. It gives me a great attitude about what I'm doing for other people, and it's been more rewarding than I can tell you."

—Matt Gallagher

Maurice Gainen reached out to 38 musicians on seven continents to produce his new solo CD.

Track Sheet

Canadian singer/songwriter Ron Sexsmith celebrated the release of his album *Exit Strategy of the Soul* last month with performances on two coasts: one in Manhattan's Joe's Pub and one at L.A.'s Largo. The album, likewise, was made in a variety of locations. Produced by Martin Terefe, the release was recorded by a cast of several—Dyre Gromsen, Terefe, Jose-Raul Varonay, George Tandero, Iain Hill, Baeho Shin—in Egrem 101 (Havana, Cuba), Kensaltown Recording (London), Quad (NYC) and Little Big Room (Nashville)... **Electric Lady (NYC) studio manager Lee Foster informs us that in-demand rock producer/engineer Rich Costey (NIN, Rage Against the Machine, Weezer, Fiona Apple) has booked the studio's C room as his semi-private studio. The room will only be booked by other commercial clients when Costey is out of town, and it will take delivery of a Neve console. More details on the board and projects to come later in the year... Lots of jazz session work going on at Avatar Studios (NYC) this summer:** Anat Cohen self-produced in the studio's C room; James Farber engineered and Brian Montgomery assisted. In Studio A, the Paul Motian Trio 2000+Two worked with producer Stefan Winter, engineer Adrian von Ripka and assistant Rick Kwan. Tia Fuller also recorded in A with producer Al Pryor, engineer Todd Whitelock and assistant Kwan... **Alternative Nashville group Lambchop split production duties for their latest, *OH (ohio)*, between Mark Nevers and Roger Moutenot.** Moutenot recorded in House of David (assisted by Adan Bednarik) and mixed at Blackbird (assisted by Mark Petaccia). Nevers recorded and mixed at The Beech House. The album, which is being mastered by Jim Demain at Yes Master, comes out this October on Merge Records... **Sony Taiwan vocalist Joanna Wang co-produced her new album, *The Adult Storybook*, with Bing Wang in Mad Dog Studios (Burbank, CA).** Mad Dog staffer Eric Corne not only engineered the sessions, but also put together a session band including guitarist/violinist Freddy Koella, drummer Brian MacLeod, bassist Paul Bushnell and keyboardist Roger Joseph Manning Jr.. **Former Sepultura frontman Max Cavalera brought his band SoulFly to The Porch Studio (Orlando, FL) to record a new release with producer/engineer Tim Lau of LauD Productions.** Lau says the project was a real high point for him: "I've listened to heavy music my whole life," he says. "Having Max bring the band here to create this album was truly an honor."

PHOTO: TIA TEREFE

Ron Sexsmith in Egrem 101 Studios, Havana, Cuba

Send Sessions news to bschultz@mixonline.com.

Other projects Andrews has recently taken on include Wisconsin rockers Annex, Colorado indies Light Travels Faster and a Colorado Springs–based singer/songwriter called PolyJane. He's even had bands become houseguests in his 3,600-square-foot home—he didn't necessarily intend Monument Sound to become a residential facility, but he's glad to have plenty of room in the wide-open spaces of Monument, Colo. "This place sits on half an acre on Monument Hill," he says. "I have a view of Pike's Peak, there's a big open field in the backyard and you can hear howling coyotes almost every night.

"I'm hoping that with a dedicated professional attitude, I will start to build a larger clientele who likes the laid-back atmosphere where you can create and grow your music, hang in the mountains and have a very high-quality, professional product in the end." III

PHOTO: SHIKAI PHOTOGRAPHY

Chris Andrews in the control room of his Monument Sound studio

World Radio History

by David Weiss

West Side of New York, meet the *Dark Side of the Moon*—now, make beautiful music together. The album that resulted from this pairing is a sonically entrancing love child called *Jazz Side of the Moon*: just one more example of the lengths New York City recordists will go to create new listening experiences.

The story of this inventive SACD jazz reinterpretation of Pink Floyd's landmark 1973 album, originally engineered by Alan Parsons, starts with the audiophile philosophy of Chesky Records (www.chesky.com) and the specific recording techniques that it employs. "Unusual for a record company, Chesky is very concerned with how things sound," says Nicholas Prout, recording engineer for Chesky Records. "[Producer] David Chesky is the one who leads the charge on this: On every session, we usually try something new in an effort to make a better-sounding recording than the last one."

PHOTO: RICK ECKERLE

Saxophonist Seamus Blake in Saint Peter's Church

For Chesky and Prout, the experimental approach emanates from their rhythm with their recording facility. No, it's not a sealed space with floated floors; it's the historic Saint Peters Church on 20th Street between 8th and 9th Avenues—an Episcopal chapel consecrated in 1838 and boasting an eternally immaculate sound. "We have to build a recording studio each time we make a record," Prout explains. "This is an approach developed by the predecessors in my post, Bob Katz and Barry Wolifson, and it involves loading in on a Monday, recording two or three records if we can, and then we load out on Friday."

The week before the two-day *Jazz Side* sessions, Chesky and Prout brainstormed on a recording that would make the project the star as opposed to any particular artist. The band was assembled on just a few days' notice by Hammond B3 organist Sam Yahel, resulting in a lineup of top New York City players that included Yahel, Mike Moreno (electric and acoustic guitar), Ari Hoenig (drums) and Seamus Blake (tenor sax).

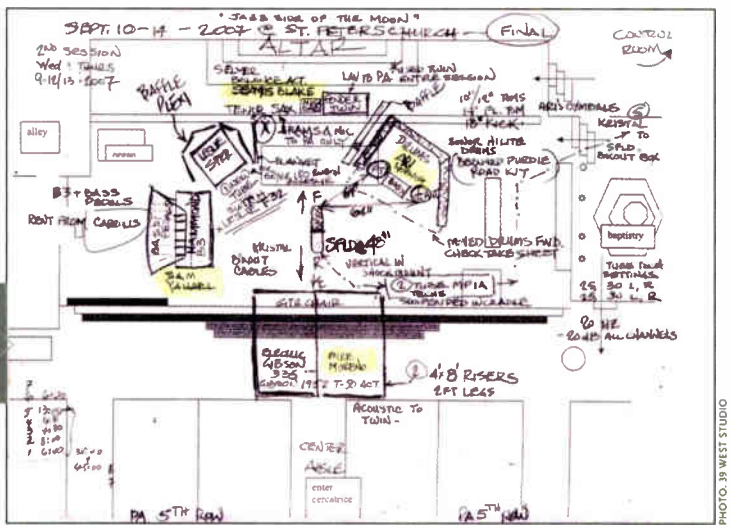
"If the musicians aren't into it, you're not going to get anything, but this group came through far more than we all expected," says Prout. "The fact that this record came together in just a few days is amazing. Maybe that's another reason why it came out well—there was no time to overthink it."

While the music itself shimmers with the spontaneity of top jazz musicians recasting timeless songs such as "Breathe," "Any Colour You Like," "Money" and "Us and Them," the recording methods reflect Chesky's years of experience working in the 19th-century space. Prout, aided by second engineer Rick Eckerle and assistants Edward Lee Priest, Matt DeSteno and Adam Minky, recorded the ensemble with a single stereo Soundfield Mark V microphone (plus a Beyer m160 to add bass punch to the Leslie), going into multiple Tube-Tech vacuum tube preamps. Connected with ultrahigh-performance custom Crystal Cable, the signal path next ran into a George Kaye custom vacuum tube mixer, then through Mytek Digital A/D converters for recording into two Tascam DV-RA1000s at 192kHz/24-bit and into a Genex GX8500 at 96kHz/24-bit for backup—that's it.

"The reason we record this way is because David worked for many years as an orchestrator, doing jingles and such," notes Prout. "When he'd hear the orchestras in the room it would sound right, but then he'd go into the control room and it would sound totally wrong—they'd have 20 mics on the orchestra, which causes a lot of phase-cancellation problems. So he decided when he started his own label, he wanted to just have a single-point microphone, and we've been working on that principle since then. It's pretty much the way that Louis Armstrong recorded in the 1920s, but with higher resolution."

When mixing to 2-track on the spot in this way, the positioning of the players, their instruments and a playback P.A. for managing reverb relative to the microphone becomes paramount. "We spent a lot of time moving the Leslie speaker around on the first day," Prout recalls. "You have to think about how the record will sound when it's done: The organ and drums were positioned hard-left and -right because they would be playing throughout, and the sax and guitar were positioned soft-left and -right."

With multiple takes of each song in hand, Prout took the files back to his well-tuned editing and mastering studio at Chesky's headquarters to assemble the record. Editing on Sonic Solutions and monitoring through Joseph Audio RM7 speakers with an REL Storm 3 subwoofer, Prout and Yahel crafted the record into one seamless new experience. All editing was done at 192kHz/24-bit, then converted to DSD at Airshow Mastering.



Stage plot of the recording setup

Send New York news to dovid@dwords.com.

World Radio History

Cutting Edge Audio & Video Group

Sales • Consulting • Training

888.487.1123

cuttingedge-sf.com

ICON

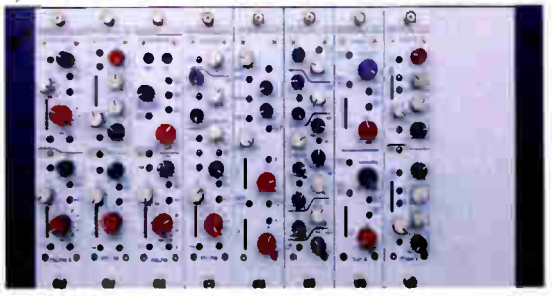
Discover the stylish and visually enhanced Digidesign D-Control™ ES at www.cuttingedge-sf.com

D-Control **ES**

Euphonix **MC Control**

ENTER TO WIN A FREE MC CONTROL!
Register at cuttingedge-sf.com

RUPERT NEVE DESIGNS



PORTICO 5015 MIC PRE/COMPRESSOR • NOW IN STOCK!

SENNHEISER

MKH8000 Series Microphones

OMNI

CARDIOID

SUPER-CARDIOID

CRANE SONG LTD

Crane Song Avocet Monitor Controller

Discrete Class A Studio Controller

"15 Years in San Francisco...now everywhere!"

Value Added Reseller

Professional Video

www.CuttingEdge-SF.com

digidesign

World Radio History

L.A. Grapevine

by Bud Scoppa

Skip's Place, the tracking/mixing facility launched in mid-2007 by high-profile engineer/mixer Skip Saylor, is nestled in the rustic Valley neighborhood known as Sherwood Forest. Sitting on a ranch-style property off a quiet, tree-lined street, and centered around a barn that has been converted into a spacious tracking/mix room, the compound represents the realization of Saylor's latter-day vision of an idyllic working environment. It feels like it's a world away from Hollywood, where for 26 years Saylor played the dual roles of studio owner and master mixer before deciding it was time to seek out greener pastures—literally.

Three RVs, used as living quarters and chill-out lounges for clients, form a courtyard with the barn/studio, a lawn and a patio seating area under a canvas canopy; another canopy on the other side of the barn encloses a recreation area with a pool and ping-pong tables. This place has the airiest, most laid-back feel of any recording facility this side of Jim Guercio's old Caribou Ranch in the Colorado Rockies—it's certainly unlike any other recording setup I've visited in SoCal, including Saylor's prior studios, his two-room facility in Larchmont and the three-room Devonshire.

Between them, the two previous studios drew such high-profile clients as Aretha Franklin, Guns N' Roses, Foo Fighters, Manhattan Transfer, k.d. lang, Dr. Dre, Eminem and Snoop Dogg. During its first 14 months of operation, Saylor's new facility has hosted a comparably diverse clientele, including Jonny Lang; the Goo Goo Dolls; Tantric; Mack 10; Candlebox's Kevin Martin; producers Jay King, Israel Houghton and movie-music specialist Kevin Teasley; and mixers Toby Wright and Paul David Hager.

PHOTO: BUD SCOPPA

Standing: Producer Robin Diaz (left) and engineer Ian Blanch. Seated: Singer/songwriter Ashley Garland, studio owner/engineer Skip Saylor and co-owner/studio manager Lynn Carey Saylor.

I arrive at midday, and Saylor, with whom I worked in the '90s while doing A&R at Zoo, shows me around. "One of the things about being in Hollywood," he says, "was there was no place to hide, have a meeting, take a shower. I came up with the idea of making this place more like a movie set—the movie companies have it down. And it really works. Sessions here actually go faster because of the relaxed vibe."

Skip leads me into the control room, dominated by a 100-input SSL 4000G+, which he picked up in 2003. "We did a lot of work modifying this console, and it's now the best-sounding console I've ever owned," he says. "When something needs to be radically EQ'd, this is a great console for that."

Sitting at the far-left of the board and firing up Pro Tools HD5 on the Mac is Ian Blanch, Saylor's mixing partner for 12 years. The two are getting ready to start a session with producer Robin Diaz, who doubles as an in-demand drummer for hire (Chris Cornell, Hinder, 3 Doors Down). Their client is young writer/singer Ashley Garland. Diaz, who's also working on his own project here, is psyched to be working with "Batman and Robin," as Saylor laughingly refers to himself and Blanch. And he loves the atmosphere of the place.

"You come here and you immediately feel at home, surrounded by serenity," says Diaz. "You have a barbecue, drink some Tecate, go record and it's such a mellow way to work. And these guys know what they're doing, obviously. So why go anywhere else?"

On the back wall are racks of gear Saylor has accumulated during the past three decades, including Lexicon, AMS and EMT reverbs; Pultec, Neve, API and Massenburg EQs; UREI, Empirical Labs and dbx compressor/limiters; and Saylor's prized 27-frequency Bill Putnam graphic room EQs, which he uses as program EQs—as well as a Pro Control unit for premixing in Pro Tools. They mix to looming TAD mains, the requisite NS10s and a boombox.

Saylor and his wife, singer/songwriter and studio manager Lynn Carey Saylor, bought the 33,000-square-foot property in Northridge in 2003, moving from their home in Hancock Park into the ranch house that fronts the street. "It was really Lynn's idea," Saylor says. "She said, 'Let's get less house and more land.' When we moved in, it felt good to step out the back door and see a horse ranch, though we never intended to get horses.

"We bought the property with the intention of doing something at some point, and after I sold Larchmont in June of '06 and put the gear in storage, I went to New Zealand for two months to do a project," he continues. "Getting away cleared my head, and I had fun for the first time in ages. At that point, I realized I'm an engineer/mixer, not a businessman. When I got back, I decided to put this place together."

There was much work to be done at first, however, starting with the painstaking process of grading the property before defying logic by transforming a dilapidated barn into a functioning studio. "The process could've taken much longer," says Saylor, but with two critical key people in his corner—his handyman of 16 years, Jorge Montiel, preparing the property and Vincent van Haaff protégé Lyle Ireland overseeing the construction and sound design—the transformation took just under eight months.

As Saylor walks me back to my car, he gazes at his creation and says, "Y'know, I don't think I've ever been as content with who I am and what I'm doing as I am right now. Just look at this place—what else do you need?"

Send L.A. news to bs7777@aol.com.

World Radio History

World Radio History

NASHVILLE Skyline

by Peter Cooper

When Gary Belz opened East Iris Recording Studios in the country music capital of the world, the first big hit album mixed at the place in the late 1990s was the Barenaked Ladies' multi-Platinum *Stunt*. That album served sonic notice that East Iris was, as studio manager Mike Paragone puts it, "not your typical Nashville studio."

Since that time, there have been country clients including Vince Gill, LeAnn Rimes, Alan Jackson and Faith Hill, but the roster of non-country clients has been as or more impressive: Avril Lavigne, John Mayall, Bob Seger, Trey Anastasio, Rush and other luminaries have used East Iris, which is located in the Berry Hill section of Nashville, far from the bustle of studio-heavy Music Row. In July, East Iris played host to Yusuf Islam, the singer/songwriter who gained fame in the 1970s under the name Cat Stevens.

PHOTOS: COURTESY EAST IRIS

Clockwise, from left: Yusuf Islam (aka Cat Stevens), Mike Paragone, Bobby Shin and Heather Sturm during sessions for Islam's latest album

"There was a creative flow to the whole session," says East Iris assistant engineer Heather Sturm. "Yusuf was very in the moment with the music and very experimental. It was a free-flowing sort of session, and not at all Nashville in terms of, 'Let's crank out 10 tunes in three hours.'"

East Iris isn't that kind of place. Belz—who once co-owned Ocean Way on Music Row, and who owns the Kiva family of studios with locales in Los Angeles and Memphis—believes the vibe of a studio is as important as the gear. At East Iris, recording artists can lounge amidst Asian-inspired accouterments before and after recording on an 80-channel SSL 9000J console in Studio A.

"When I began renovating the Peabody Hotel in Memphis back in 1981, it had a real residential feel compared to what most hotels felt like," Belz said. "I wanted to do an interpretation for Memphis of the Four Seasons or the Ritz. I carried that forward at Ocean Way in Nashville, and now I've carried that forward at East Iris. If you come here, you'll see a vibed-out studio. It's more comfortable to people than what they get in most other studios. Art, to me, is an important thing. I try to create a place where people want to be. Some studios want to try to be vanilla, for some reason."

Islam recorded most of his latest album in Los Angeles at Belz's House of Blues studio in Encino, Calif. But he wanted to record strings, horns and backing vocals in Nashville, and he enlisted contributions from the studio-savvy Nashville Strings, as well as harmony vocalists Holly Williams, Michelle Branch, Gunnar Nelson and (former Hollie) Terry Sylvester. The musicians convened in East Iris' Studio A, with Bobby Shin engineering, Sturm assisting and David Davidson arranging and leading the strings.

East Iris' extensive microphone selection was well-used for the sessions. Shin and Sturm used Coles 4038 ribbon mics on violins, AKG C 12s on violas, a Neumann U47 on the cello and various microphones for sounds in the room. For horns, U47s were used for trombone and tuba, and the C 12 recorded the E-flat horn. For vocals, Sturm says she and Shin used a C 12 and a U47 and ran the signal through a combination of API and Neve preamps.

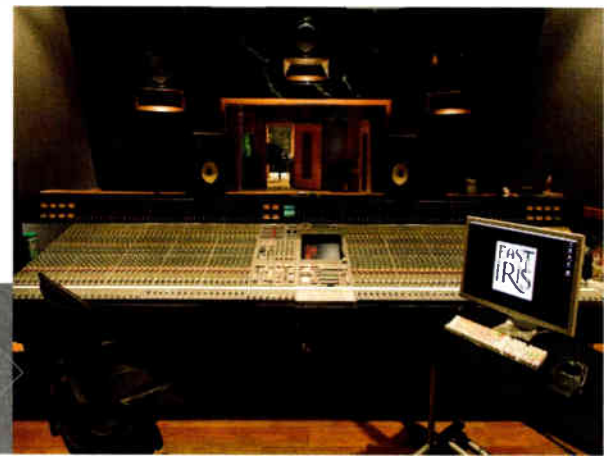
"Yusuf was there the whole time and he had most of the hand in producing," Sturm says. "He was enjoying it, for sure."

Part of East Iris' appeal for a reclusive artist such as Islam is the ability to work and relax outside of any spotlight. Music Row remains a place to see and be seen, but Berry Hill is less traveled and East Iris is its own island. Belz owns the property adjacent to East Iris and the property across the street (where he's building what he calls "a Pro Tools super-suite") and clients are assured some buffer from any prying eyes.

"Clients are looking for privacy when they're trying to be creative," Paragone says. "When you're here, there aren't any spaces that you're going to walk into that are open to the public. And the courtyard is around the corner and in the back, so you can get outside and have fresh air and enjoy that without being seen. You can even park a tour bus in the driveway and it won't be seen from the street."

East Iris has in-house engineers and technicians, two SSL consoles (Studio B has a 40-channel 4000E), Pro Tools HD4 Accel and HD2, and a bevy of outboard units, but Paragone says many of his clients are more impressed by the feel of the place than anything else.

"The robustness of the boards, the sound quality, is fantastic," he says. "These are great desks. But, in reality, all of the equipment is just a pathway to getting your end result, which is great sounds and great mixes through great performances. Take out one piece of that puzzle and it will yield a lesser result, but the studio is just a venue. And the compliment I always get is, 'It's comfortable here.'"



The SSL 9000J–equipped control room of East Iris Studio A

Send Nashville news to skylinemix@live.com.

World Radio History

IN = OUT™
SIGNAL TRANSPARENCY

Now we bring our exclusive In=Out™ pure signal transfer technology to your studio

Let us hook you up

Introducing the planet waves Modular Snake System

Step 1:

CHOOSE YOUR **Core**

Available Lengths:
- 5 ft w/ DB25 Connectors
- 10 ft w/ DB25 Connectors
- 25 ft w/ DB25 Connectors

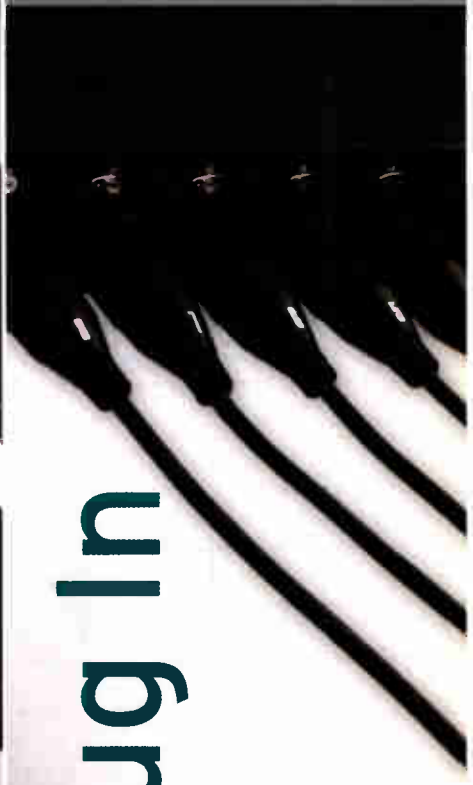
Step 2:

CHOOSE YOUR **Breakout**

- XLR Male
- XLR Female
- TRS
- AES/EBU

Step 3:

Plug In



Planet Waves cables are the choice of tone masters like Robben Ford, Joe Satriani, Warren Haynes, Peter Frampton and more. Our new Modular Snake System offers the flexibility to mix and match core DB25 cables with TRS, XLR, and AES/EBU breakouts for any situation.

Visit planetwaves.com for a complete demo

D'Addario

World Radio History

The Changing Landscape of

Trucks Evolve in the Face

By Janice Brown

It's almost impossible to exaggerate the pandemic effect that plunging record sales and low-cost recording technology have had on recording facilities and engineers. Location recording professionals who have survived the loss of their traditional live album business have adapted their offerings to suit an industry in which the small laptop-based live recording system has become an unlikely competitor. Smaller secondary trucks and high-end portable rigs, along with expanded post-production services, now support the "big rigs," which, by the way, still handle plenty of big jobs.

To David May, VP of DVD audio and video production for Warner Bros. and Rhino Records, professional audio trucks remain an absolute necessity. "We have a huge volume of work going on—we did about 160 DVDs last year, several of which involved live concert recordings for accompanying CDs," May says. "It's an old joke that sound is always the last consideration when it comes to producing films or television, but we're a record company, and when we're shooting a concert for DVD and TV sound is just as important, if not more so, as the visual."

Indeed, location recording mainstays such as Karen Brinton and David Hewitt's Remote Recording Services, Randy Ezratty's Effanel/Sirius XM Productions, Guy Charbonneau's Le Mobile, Kooster McAllister's Record Plant Remote and Guillaume Bengle's Studio Mobile bring a quality assurance to producers like May, whose jobs may not only hinge on fiscal responsibility, but also depend on quality product at the end of the day. Some bands may hook up a Pro Tools rig to the digital console at front of house or rely on the video truck's audio booth or touring personnel to record a concert, but this is risky business, fraught with many possible pitfalls.

"Live recording is high-pressure—you only get one shot," says Larry Hamby, Sony/BMG senior VP of A&R, Commercial Music Group. "By the time I want to hire a professional recording truck, there's already an imperative in a project—it's usually an expensive, high-pressure project with a lot of commercial demands built into it, so you really don't want to blow it. You want as much of a safety net as possible, and by appealing to the best in the business that's what you get."

Much like the biggest and best recording studios, the best in the mobile recording business face the difficult challenge of justifying their existence to the new wave of clients, many of whom are trying to achieve greatness on a shoestring budget. "Instead of the band management or record label comparing our bid with a bid from one of our competitors, they're comparing it to how much it would cost to plug a laptop in at FOH," says Brinton, owner and manager of Remote Recording. "It's comparing apples and oranges. I've had clients who've wanted to use us and been overruled, and then had to deal with the aftermath when the computer at FOH lost the signal and they ended up with no audio."

May has used small portable rigs when the budget is just not there for a truck, but will hire a qualified crew to capture the show. As most of the mobile recording specialists do offer smaller vehicles or portable solutions, relying on a totally makeshift rig or a laptop recording off the board seems foolhardy in a one-night-only situation. "I did a show in Los Angeles recently where four bands were performing, two of which I was responsible for recording," says May. "I told the production company for the other two bands that I was hiring Le Mobile and offered that if they used the truck as well, we would all save money. They said their budget was too tight; they were just going to record from FOH. Halfway through their first band, they realized they were getting no signal and they ended up with no audio except the mix CD from FOH."

World Radio History

Remote Recording

PHOTO: SHUTTERSTOCK.COM/CDWPHOTOS

OF NEW CHALLENGES

That other producer might have opted for Le Mobile's more economical 48-track portable system, which features Pro Tools HD with Apogee converters and Grace Design preamps, as well as a backup hard drive, UPS power, a full splitter, intercom system and timecode generator. "It's a real system and will be operated by a real engineer [namely, Ian Charbonneau] who knows about mic placement and crowd-miking," says Le Mobile owner/operator Charbonneau. "If you were to lose power, you'd have 20 minutes of backup power for your system while you find the source of the failure."

Hamby adds, "People are watching money everywhere in this economy, but there are other ways to skin that cat—I'm not going to compromise when it comes to the recording if the product is audio."

NEW DIRECTIONS

Selling Effanel Music to XM Satellite Radio (now Sirius XM) in 2005 was Ezratty's way of adapting his business to the changes he saw happening in the industry. "I saw a tightening up of the business model: A lot of bands were beginning to record themselves and smaller companies were popping up as the technology became so obtainable," he explains. "It was pretty analogous to what was happening in the studio world. The client base for Effanel was changing, and it was companies like XM and Sirius and the big television networks who were becoming our bread-and-butter clients."

In the past few years, operating as XM Productions though still a service-for-hire, Ezratty notes, "The major uptick in our business has come from festivals—we do Bonnaroo, Lollapalooza and Austin City Limits."

The large-scale technical capabilities of a professional audio truck and the seen-it-all experience of the engineers onboard are integral to a huge music festival being covered by several multiplatform media outlets. Ezratty explains, "We go to Bonnaroo, for example, as a stand-alone recording company, and while our feed happens to be going out on XM that is not the main thrust of the gig. Each stage has nonstop coverage, and we become a central clearinghouse of audio and video for all the stages—whatever outlets have made arrangements for picking up any act at any given time, it's all there waiting for them. AT&T Blueroom, for example, had a live Webcast going off a few of the stages, and Fuse was covering the show, as well."

Charbonneau handles the massive

Le Mobile's Guy Charbonneau gives Gwen Stefani some mixing tips during her Harajuku Lovers tour

Kooster McAllister poses with his new Record Plant Remote truck

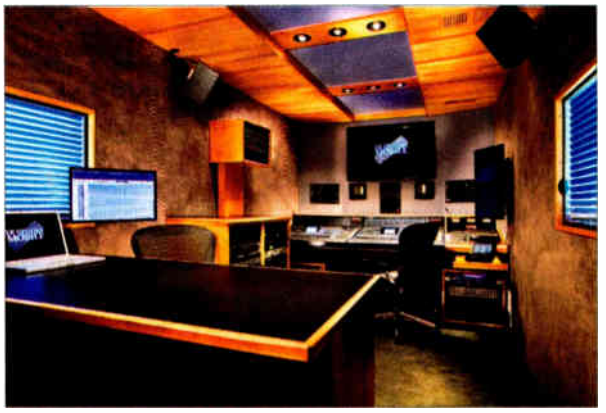
World Radio History

Coachella festival each spring, bringing his main Pro Tools HD3 and Neve 8058–equipped truck and that 48-track portable recording system to work two stages, while Gary Ladinsky's Design FX and Seattle Recording capture the other two. "We've done a Webcast for the past three years, which Hank Neuberger [of Springboard Productions] produces, so each site has to feed a live mix to the Webcast," notes Charbonneau. "I am in charge of all the audio and supply all the drives to the various outlets, plus I'll pull and mix the music for the festival DVD."

Le Mobile's main business is concert DVDs, and Charbonneau is building facilities to handle post-production for these projects. "I'm building a nice control room where my Pro Tools engineer, Anthony Catalano, can work post-show," he says. "It will have a 60-inch TV screen, surround monitoring array, and we will welcome video editors to bring their Final Cut systems in there, so Le Mobile will be a complex. I can offer clients a package deal between the services of my truck and an editing and post-production suite."

Post-production is also a growth area for Sirius XM/Effanel, according to Ezratty. "We were working on post-production for the *U2 3D* film for IMAX for over a year, in our studios at Jazz at Lincoln Center. The band recorded it with their system on the road, but there was still a lot of post-production revenue to be had."

Music television, concert specials and *American Idol*–spawned reality programming have created regular business for location-recording trucks such as Ringwood, N.J.–based Record Plant Remote and Le Studio Mobile in Montréal. Last year, McAllister built a new Record Plant Remote truck, which is parked in Nashville, where he records and mixes the weekly series *Nashville Star* live-to-air for NBC.



Le Studio Mobile "Version 2.0," with two Yamaha DM2000V2 consoles

"Ninety-eight percent of my work now is for television or DVD," McAllister says. "For the larger shows I've worked on—*Nashville Star* for NBC, *Can You Duet* for CMT and *Decades* for VH1—grabbing something from the FOH mix is not an option because you have to make sure your interface is with timecode and word clock, and that you're able to provide everything the video truck needs. When you're mixing something live to air, you need someone that's paying attention specifically to that mix for TV."

McAllister built the new Record Plant Remote truck to suit the direction he sees his business heading. "I designed the new truck specifically for what's needed on these TV programs: ease of interface, quick setup and everything being recallable at the quick push of a button," he says. "There are other trucks in

World Radio History

www.yamahaca.com

PS Series — *Ability to field any position with dedicated rotatable asymmetrical horns, handling anything from touring to installed sound.*

GEO T Series — *The big slugger with quad 8's and a 3" HF device. Newly outfitted with NXtension settings for improved clarity and control.*

GEO D Series — *Pitching too good to be true. 12" fastball with dual firing side arm 8's, finishing with a 3" HF device.*

COLLECT THEM ALL

Buy them, rent them, trade them with your friends. The lineup is large and the products diverse. Whether looking to complete a small PA in a house of worship or choosing a rig for the next big tour, NEXO's family of speakers have got you covered. From the transparent sound of the ALPHA Series to the gripping power behind the GEO T, each speaker in the NEXO group is sure to become a collector's item.

GEO S12 Series —
Future star grand slam hitter featuring a rock solid 12" LF and a 3" HF driver.

Alpha/Alpha E Series —
MVP compact high power hitter with modules and subs for touring and installed sound.

For more information or to request a speaker demo, email nexodemo@yamaha.com.

GEO S8 Series — *8" 2-way hitter with a stunning 1" HF device. When size matters, nothing out slugs this all-star.*

YAMAHA
commercial audio

Yamaha Commercial Audio Systems, Inc.
P. O. Box 6600, Buena Park, CA 90620-6600
©2008 Yamaha Commercial Audio Systems, Inc.

World Radio History

the U.S. using the same basic format—Yamaha DM2000s with a fiber-optic system—but one thing that sets me apart is that I can do 96 inputs to 96 tracks at 96 kHz [recording to four Tascam X48s, providing 96 redundant tracks]. A lot of the trucks have a bottleneck with the fiber system, where it will only allow them to record at 48k, and I've successfully alleviated that bottleneck."

McAllister's original API truck does the *Good Morning America* summer concert series in New York City's Bryant Park, which recently drew 10,000 for an 8 a.m. Miley Cyrus performance. "Having the two trucks has been great because it's given me the two places to strike from," says McAllister, "though it seems, these days, I have more work in Nashville than anywhere."

Guillaume Bengle recently introduced Le Studio Mobile "Version 2.0" in the form of a brand-new recording truck, equipped with two Yamaha DM2000V2 digital production consoles, 24-bit/96kHz, cascaded and fully automated, for a total of 192 channels. Bengle also records to Tascam X48s and Steinberg Nuendo, and a Sony PCM 800 48-track recorder rounds out the system so that Studio Mobile can provide 72 redundant tracks. "I really feel I've built a truck for our times," says Bengle, who records the Montréal Jazz Festival and recently recorded Paul McCartney performing a free concert for 200,000 in Quebec City for Pay-Per-View.

"The timing of the new truck and all aspects of the design and equipment choices have been really good," Bengle notes. "Most of my market is in Canada—the big networks like CTV, CBC and TVA. But I'm also going to the U.S. more than I used to. Often, if it's a short enough distance, I can drive the truck myself and hire local engineers. Inside the truck, I have everything I need to do these shows. I did the finale of *The Apprentice* in New York City and the *Billboard Latin Music Awards* down in Miami."

Bengle feels the producers who choose a laptop-based recording system over a truck or a professionally assembled and manned portable system may end up hitting a wall. "Oftentimes, a customer will do some kind of temporary system and it ends up costing him more money than if he'd just hired me," he comments. "They don't realize how much trouble it is and how much time it takes away from what they need to concentrate on—the music. A customer came back to me recently, saying they'd tried to do it themselves and the audio guy had nothing on the hard drive after the show. So they come back."

In 2006, Remote Recording introduced a second truck, which is also equipped with two DM2000V2 consoles, with a pair of 128-track AMD 64-bit dual-processor Nuendo systems and a 96-track Pro Tools system. Brinton reports that the new "White Truck," which is half as long as the original Neve-equipped "Silver Truck," handles about half of the gigs that Remote Recording books. "The White Truck has helped us expand our clientele and have more versatility. Having two trucks really helps in this volatile business climate, where all the bookings seem to come at the same time, and then very little will be going on at other times."

Both Remote Recording trucks, for example, have worked at the Metropolitan Opera this year, on shows that go out live in HD to Regal Cinemas and are captured, edited and posted for broadcast on PBS. "Either truck can handle it, but the Met went digital this year and there's one show we're doing in the upcoming season that has around 140 inputs, so they've specifically requested the digital truck for that for a more seamless production."

Remote has also beefed up the Silver Truck to 96 inputs, and Brinton notes that she still has a core group of clients who will only work in the Silver Truck with its analog Neve VRM

World Radio History

console. "At the end of last year, we recorded Neil Young to 2-inch tape, so analog recording still comes up sometimes," she adds, "though typically we're going to Pro Tools HD with a Nuendo backup."

Record Plant Remote's interior: Yamaha DM2000 consoles with fiber optics

NEW BUSINESS

Just like the stationary studio market, mobile recording businesses succeed on reputation and relationships. Even in tough economic conditions, the right combination of people and technology can be successful. On June 1, engineers Joel Singer, John Harris and Jay Vicari, and producer Mitch Maketansky launched a brand-new mobile recording company, Music Mix Mobile, and right out of the gate handled the Billy Joel concerts at Shea Stadium and Hershey Park, Bon Jovi in Central Park, and shows for Coldplay and Rush. The new truck, called M3, has an all Grace Design front end (112 Grace mic pre's), Pro Tools HD6 and HD5 systems, and 32-fader Digidesign D-Control, with a Genelec 8200 DSP monitoring system. According to Singer, it also boasts one of the largest selections of plug-ins available in the U.S.

"We are recording on two of the largest Pro Tools recorders in any remote truck in the world right now," reports Singer. "They're capable of recording 144 inputs, and we've done it already—over 112 inputs for the Billy Joel concerts." On bringing a new truck into the market, Singer replies, "There are new clients out there, people who want to take projects from beginning to end in more cost-effective ways and we are set up to do that."

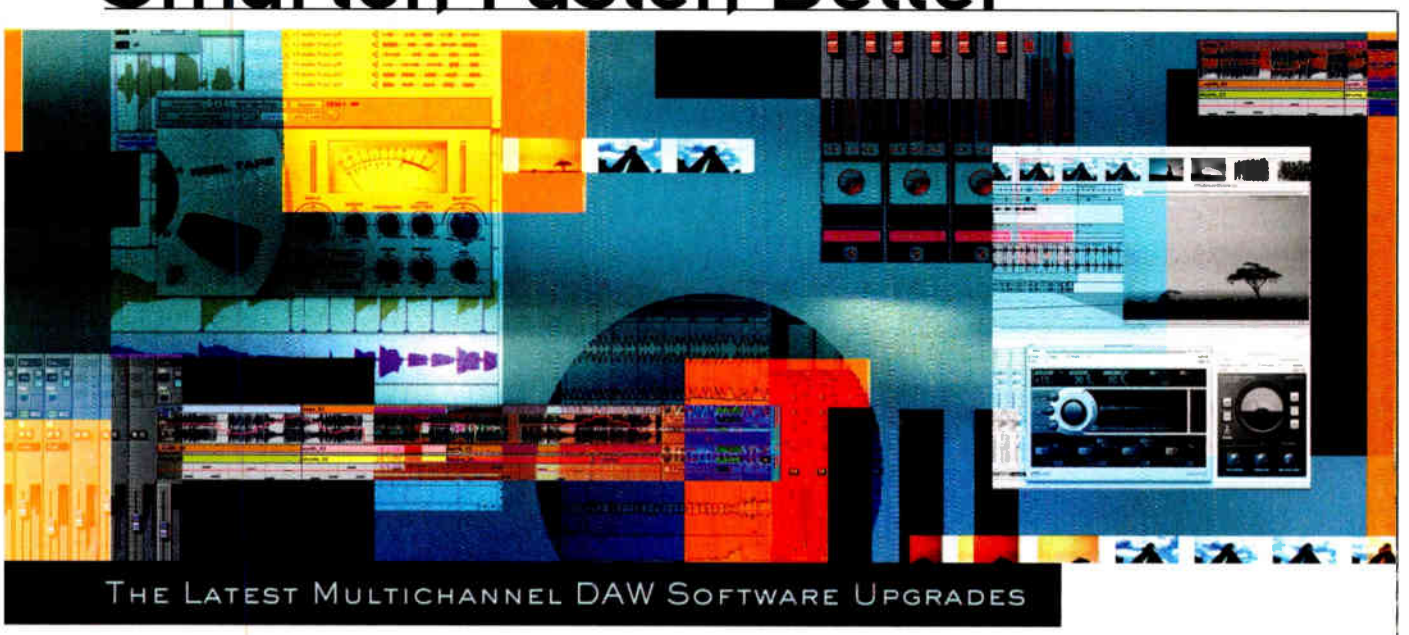
Music Mix Mobile also offers flight-pack systems and a post-production facility, located in New Jersey, where Harris and Vicari remix projects. "We can set up our flight-pack systems in the back of our Sprinter truck if necessary, which we did for The Cure at Madison Square Garden for the Fuse Network," Singer describes. "We then went out to Denver and recorded three nights of the theater show *3 Mo' Divas*, which we're also remixing in 5.1 for a PBS HDNet broadcast with the same flight pack—very space- and cost-effective for the client."

Indeed, HDTV paves another way for the ongoing need for true mobile recording specialists, as the imminent transition in February '09 to all-digital TV is sure to bring an increase in hi-def programming and the networks will need hi-def content. "HDTV will expose everything, and as there's more and more HD channels, I definitely think there's going to be more of a need for high-quality audio production," May asserts. "The qualified people are out there, and we're set to do it—we all have to be fiscally responsible without compromising the quality of the content." III

Janice Brown is a freelance writer based in New York City.

World Radio History

Smarter, Faster, Better



The Latest Multichannel DAW Software Upgrades

By David Weiss

The digital audio workstation remains right at the heart of music production. Given the fast-moving world of DAW design, we felt a review of upgrades in these programs (since last fall's AES) was in order. To offer a manageable list, the software included is limited to systems with the ability to record/play multichannel audio for music production. A few players reported no major updates since AES, but are nonetheless worthy of checking out if you're shopping for a new DAW. These include BIAS Deck (www.bias-inc.com), Mackie Traktion (www.mackie.com), Steinberg Nuendo (www.steinberg.net) and Sony Acid (www.sonycreativesoftware.com).

Ableton (www.ableton.com) Live is now up to Live 7.0.7. This platform includes the Live 7 Suite, which bundles Live 7 with multiple instruments and entry-level Live 7 LE. Live has added control surface support for the Akai MPD24, support for dynamic adjustment of the Audio Units plug-in buffer size and improvements for setting up a Library when starting Live without one. On Mac OS X, Live now supports up to 256 input and output mono channels of the selected audio device.

Adobe (www.adobe.com) added features for its PC-based Audition 3, including enhanced spectral editing, which allows making a free-form selection in frequency space with the Effects Paintbrush and applying effects to that selection. A Healing Brush function lets users smooth over a selected region to repair clicks, pops and other noises automatically. Among other upgrades are improved multitrack editing, new effects—including convolution reverb, delay, mastering tools and tube-modeled compressor—and iZotope's Radius time stretching for altering tempo without changing pitch.

After a monster upgrade with Logic Pro 8—sporting a redesigned interface and bundling Soundtrack Pro 2, Studio Instruments, Studio Effects/Studio Sound Library and MainStage—Apple (www.apple.com) has been low-key with Logic, but several fixes are reflected in Logic Pro 8.0.2. Chief among them are improvements in integration with third-party control surfaces for better performance (especially with Euphonix surfaces) and proper outline colorization of inactive regions within the Take folder. In addition, key commands are reassigned so as not to compete with Leopard shortcuts.

Offered as freeware (or $19 with the optional Multi-Audio accessory), Anvil Studio (www.anvilstudio.com) offers a cost-effective DAW option for Windows Vista (32-bit)/XP/2000/ME/98/95. The record/mix platform has introduced several bug fixes, including the ability to use automation to dynamically adjust the tempo of the song using the Pro-Mix accessory and improved MIDI master/slave synchronization.

Audacity (audacity.sourceforge.net), the free open-source Mac/PC/Linux/Unix DAW, has some improvements to its Audacity recording platform. Chief among them are a new Vocal Remover plug-in and improved scaling and layout for rulers and VU meters in the interface.

Cakewalk (www.cakewalk.com) continues to enhance its PC-based SONAR 7 Producer Edition. The step sequencer can now save and load SONAR Step-Sequencer pattern files and has new mouse gestures to edit velocities in the Steps pane. It can also change/set default velocity of new steps, accepts step record from MIDI devices and can preserve patterns when changing step sizes. It also offers tight integration with all Euphonix control surfaces and improved Active Controller Technology support for the Edirol PCR-M Series and the RSS V-Mixing System via the proprietary SONAR REAC driver for sending 40 channels of audio via a Cat-5e Ethernet cable or fiber optic.

Digidesign (www.digidesign.com) has made two significant additions to Pro Tools 7.4 (which includes Pro Tools HD, Pro Tools LE and Pro Tools M-Powered). Elastic Time lets users change the tempo and timing of loops, music, dialog and other sound files with simplified auditioning of loops

World Radio History

The Breakthrough Live Mixing and Recording Solution

V-Mixing System

New Version 1.5 Update
Addition of 8 Matrices • Greater Output Assignment Flexibility
More shortcut features and effects

More than a digital console... it's a system.

System Solution

- Configurable Digital Snakes
- 48-Channel Digital Mixing Console
- 40-Channel Multi-track Recording
- Cat5e or Fiber Audio Distribution

Easy To Learn, Easy to Use

- Dedicated Knobs
- Intuitive Graphical User Interface
- Easy Transition from Analog Mixing Consoles
- Onboard Help
- Bright TFT LCD Display

Outstanding Sound Quality

- 24-Bit Digital Audio
- Pristine Preamps
- Remote Controllable

Powerful Digital Benefits

- Built-in Effects
- Record to USB Flash Memory
- Stored Scenes With Instant Recall
- User Accounts with Password Level Protection

Mix Magazine Certified Hit | Radio World Cool Stuff Award | ProAudio Review PAR Excellence | Rental & Staging Systems Best Mixing System

Roland Systems Gr

Get More information Online
www.V-MixingSystem.com
800.380.2580

RSS by Roland

World Radio History

and audio files in sync with the session tempo. Additionally, 7.4 has new/expanded Avid video workflows, including support for the upcoming Media Station|PT 2.7 with video satellite option. Expanded integration with Avid Interplay is also standard, as is support for media streaming from Avid Unity ISIS shared storage networks (Windows XP only), support for Avid Mojo and Avid Mojo SDI video interfaces on Intel-based Macs, and tri-level sync compatibility with Sync HD.

Changes with **FASoft's** (www.ntrack.com) n-Track Studio start with a Signal Path view, a real-time representation of the routing of audio signals in the audio engine. The addition of RMS level meters with RMS+Peak option and support for K-System metering allow for more accurate metering of audio loudness using Bob Katz's K-System. Also included is support for the Wave64 file format, including WAV files beyond the 2GB limitation, using either .wav or .w64 extensions.

ProTools 7.4 adds Elastic Time, AVID integration

Image Line Software continues to lavish attention on its FL Studio 8 (www.flstudio.com) Windows-based DAW. Improvements include the Slicex drum loop–slicing generator plug-in and the SynthMaker fully modular environment. Support of MIDI SysEx input and handling of basic MMC functions has also arrived, as has full Mackie Control Universal support.

At **M-Audio** (www.m-audio.com), the DAW-in-residence is Pro Tools M-Powered V. 7.4. As with Digidesign Pro Tools, one of the most significant additions is Elastic Time (described above). For users running Windows Vista Ultimate or Business, Pro Tools M-Powered 7.4 provides new support for both Microsoft platforms (32-bit only) in addition to its current Windows XP and Mac OS 10.4.9 support.

Magix's Samplitude 10.1 and Sequoia 10.1 (www.samplitude.com) offer improved automation functionality and updated program help for Frontier, JLCooper, Logic, Mackie, PreSonus and Tascam hardware controller setup. Sidechaining is now available for the vocoder, and MIDI editor step recording can now occur via keyboard or MIDI entry. File handling/import/export also has increased versatility.

The **Merging** (www.merging.com) Pyramix Native V6 is the fully functional, software-only version of Pyramix that's configurable from 24 to 96 tracks—boosted now to include up to 96 I/O capability and up to 192kHz sample rate. All main Pyramix options are now configurable in Native. Pyramix MassCore V6 is configurable from 16 to 384 inputs and output channels (768 I/Os) in a single system, with up to 256 buses user-configurable as mix/sub/aux/returns. New features include MassCore Technology with a new surround monitor section, full support of VST with automation and enhanced support for interchange formats such as OMF, AAF with MXF, XML and Final Cut Pro XML.

News from **MOTU** (www.motu.com) comes via Version 6 of its Digital Performer software.

World Radio History

New features include a user interface redesign, a CPU-efficient ProVerb convolution reverb plug-in, the MasterWorks Leveler limiting amplifier plug and six new virtual instruments. Also included is XML file interchange with Final Cut Pro, track comping, support for interleaved broadcast WAV audio files, enhanced support for operation as a software front end for Pro Tools HD systems, prerendering of virtual instruments, the ability to "bounce and burn" directly to an audio CD and numerous other productivity enhancements.

MOTU DP6 adds plug-ins

PowerTracks Pro Audio from PG Music (www.pgmusic.com) has added Audio Chord Wizard 2, which figures out the chords from any audio CD track, MP3, WAV, or WMA (Windows Media Audio) file and writes the results in PowerTracks' chords window.

RML Labs remains sharp with its SAWStudio (www.sawstudio.com) Basic, Lite and Full—now at V. 4.2. Among the updates to this PC-based DAW are enhanced MIDI Controller API functions to handle the Frontier AlphaTrack's special functions. Sample Edit mode in the SoundFile view has been modified to switch samples at the midpoint between samples instead of at the start of each sample, making Sample Edit control much easier when the user is modifying sample values. The DAW's Video Track Viewer 3 now has added compatibility for some HD MP4 formats and extended compatibility for more MPEG and QuickTime formats.

Digital converter specialist Prism Sound made many changes with its acquisition of SADiE (www.sadie.com), resulting in the current SADiE Series 5 package. Integration with other manufacturers' equipment has been thoroughly addressed, so SADiE can easily transfer between OMF, AES-31 and AAF into its own EDL format, and can now import/export MP2 and MP3 files. as well as record/replay from Mac-formatted drives. The integrated PQ editor, integral to CD creation, has been enhanced: DDPi creation, along with CD text, can now be done directly from the playlist. Waveforms are now automatically created as material is recorded, allowing for editing while recording; more customizable functions and hot-keys bring virtually every single function within the SADiE system under user-definable control.

Sonic Studio (www.sonicstudio.com) cuts in with soundBlade V. 1.2.2. iZotope's MBIT+ redithering and support for AIFC import has been added as part of the base package, User interface and functionality improvements have been made to the QuickTime Interlock option. Sonic EQ LE, a free version of Sonic Studio's minimal-phase equalization, has also been added as part of the base soundBlade package, and the Quartet DynPEQ option—a dynamic equalizer plug-in for soundBlade from Wholegrain Digital Systems—is now shipping. DSD Import has been announced, and export of LPCM files as DSD data is supported.

Released this month are Steinberg's (www.steinberg.net) Cubase 4.5 Essential and Cubase 4.5 Studio. New features include improved support for Yamaha Motif XS and the KX USB Music Studio Series, 45 new acoustic instruments for HALion One by Sonic Reality (including the Yamaha S90 Grand), 250 new drum loops by Big Fish, and Sequel V. 2 Project Import and Sequel V. 2 Content Pack compatibility. The flagship Cubase 4.5 offers seamless integration with the new Steinberg hardware MR816 CSX and MR816 X Advanced Integration DSP Studio, CC121 Advanced Integration Controller. Sequel 2, an update of Steinberg's new software app for music creation and live performance just released last year, offers a range of new features including Track Freeze, hardware controller Learn mode, track icons and more.

Steinberg Cubase 4.5: hardware integration, more loops

Orion 7.5 from Synapse Audio Software (www.synapse-audio.com) now has a new audio engine boasting double-fast operation on processors with multiple cores. Other new features include Windows Vista compatibility, enhanced workflow and interface design, updated VST implementation to V. 2.4 and a new limiter effect modeled after the 1176LN. III

David Weiss is Mix's New York editor.

A Symphony that Rocks... Hard.

"

Ulrich Wild

Producer, Engineer, Mixer

"The Symphony System finally brings near zero latency to native recording, and the converters (AD/DA-16Xs) sound absolutely fantastic. Logic Studio sounds much better than any other DAW I've used before. The low-end is warm and the high-end is silky smooth. It is a very efficient program and not very taxing on the CPU, which, along with the new Intel Macs, leaves me with an astounding surplus of processing power. The quality of this system surpasses the large format analog consoles I was used to."

Recent projects:
Project 86, SOiL, Static X, DethKlok, Mindless Self Indulgence

The Symphony System:

Apogee X-Series & Rosetta Series Converters, Apple's Mac Pro & Logic Studio

Apogee Sound Amazing

www.apogeedigital.com/symphony

World Radio History

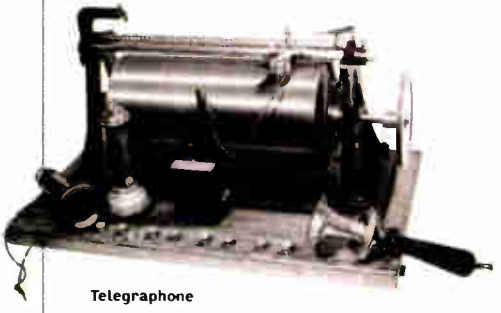
2008 TECnology Hall of Fame

A Century of Pro Audio Innovation

In pro audio, history is not only our past but also our present—especially as classic gear remains in use for decades. A spin-off of the TEC Awards, the TECnology Hall of Fame was created to spotlight significant innovations that forever changed our industry. Each year, inductees are selected by a committee of top engineers, producers, educators, historians and journalists. Listed chronologically, here are this year's honorees.

Telegraphone (1898)

Tape recorders may not be as important as they once were in modern recording studios, but magnetic recording technology continues to permeate our lives in the form of hard disks, mag stripes on credit cards, etc. The lineage of magnetic recording can be traced to Danish engineer Valdemar Poulsen (1869-1942), who created the Telegraphone magnetic recorder in 1898. Poulsen described the system as an "essential advance in this branch of science as it provides for receiving and temporarily storing messages and the like by magnetically exciting paramagnetic bodies...such as a steel wire or ribbon." The Telegraphone medium was steel piano wire wrapped in a tight spiral around a small brass cylinder, although later Poulsen developed reel-to-reel recorders using spools of wire. His 1900 Telegraphone recording of Austrian Emperor Franz Joseph is the earliest magnetic recording in existence.



Telegraphone

Western Electric 618A (1931)

The first dynamic microphone was patented in 1874 by Ernst Siemens but never caught on. As telephone and radio technology improved, Bell Labs' Edward Christopher Wente created the first condenser mic in 1916, offering improved performance, but in a large, fragile package. Wente worked with fellow Bell engineer Albert Thuras to develop the first commercial dynamic microphone, which on its release in 1931 was called the Western Electric 618A electrodynamic transmitter. With a thin duralumin diaphragm and cobalt-steel magnet, the omnidirectional 618A offered high output and a respectable 10kHz bandwidth. It remained in use for years and was also the mic of choice for Franklin Delano Roosevelt's famous "Fireside Chat" radio addresses.

Western Electric 618As—the mic of choice for FDR's "Fireside Chats"

Neumann CMV3 (1928)

Georg Neumann developed the successful Reisz carbon mic in 1923. As radio gained in popularity and record companies switched over to the "electrical recording process," microphones became the front end in the audio chain. Excited by the idea of building condenser mics, Neumann founded Georg Neumann & Co. in November 1928, and that same year debuted the CMV3—the first mass-produced condenser mic. Nicknamed the "Bottle Mic," the CMV3 had an omnidirectional capsule with gold-sputtered colloidan (later switched to PVC) diaphragms and RE084 triode-based electronics. In 1932, Neumann unveiled the CMV3A, featuring interchangeable capsule heads, including a cardioid version of the famed M7, which was later adapted for use in the U47.

Shure Unidyne Model 55 (1940)

Seeking to create a low-cost cardioid dynamic microphone, Shure engineer Benjamin Bauer began developing the Unidyne in early 1937. Prior to this, most unidirectional patterns were achieved by multi-element mics that combined the outputs of omni and figure-8 capsules. That worked, but resulted in bulky mics with uneven frequency response and unpredictable directional patterns. Bauer felt a single-capsule approach was the only workable solution. He experimented with capsules having front and rear openings that allowed sound waves to reach the diaphragm. Partially blocking the rear openings created a short phase delay that effectively cancelled the sounds from the rear, and the Unidyne was born. Debuting in 1940 as the Model 55A/B/C (each had different impedances), the Unidyne was an immediate hit, and nearly 70 years later it remains in production; today, the model 55SH combines vintage looks with a modern capsule.

JBL D130 Loudspeaker (1947)

A year after founding Lansing Sound (now JBL), James B. Lansing began working on a high-performance woofer using the new Alnico V magnet material developed during

World Radio History

JBL D130

World War II. With its 4-inch, edge-wound aluminum-wire voice coil; cast-aluminum frame; rear-cone venting; and aluminum dome to radiate high frequencies, the D130 in many ways defined the modern high-power woofer. It soon found favor with cinema, P.A. and home hi-fi users, while its extended HF response—out to 6 kHz—was ideal for the growing musical instrument market. Leo Fender began using the D130 in Fender amps in 1955. In various forms, the 130 Series was in production for more than 50 years—a remarkable accomplishment.

Tannoy Dual Concentric (1948)

Founded in 1926, Tannoy built its first speaker systems in 1933, followed by mics, amps and test gear. In 1947, Tannoy's Ronald Rackham created the dual-concentric design, combining a 15-inch woofer and compression driver with two voice coils sharing a single

Dual Concentric debut in 1948

magnet structure and the woofer cone forming a wide-dispersion horn. After this "Monitor Black" successfully debuted at London's Radio Olympia Expo in 1948, Decca bought the first six units for its studios. Later versions—such as Tannoy's Red and Gold monitor series—made dual-concentric designs a worldwide studio standard, while the DSP control in Tannoy's new Precision and Ellipse models take the technology to a new level.

Universal Audio/UREI 1176 (1968)

Long considered a classic, the 1176 peak limiter began when engineer/producer/designer/studio owner Bill Putnam experimented with the idea of using FETs as voltage variable resistors for gain-control devices. Putnam's Universal Audio was an engineering-driven company, and the 1176 went through constant revisions; the most significant was Brad Plunkett's addition of low-noise (LN) circuitry in the preamp stage—hence the version

Universal Audio 1176

1176LN with the familiar black faceplate. In 2000, the reborn Universal Audio released an exact re-creation of the 1176LN, and its popularity continues. But in any form, the 1176 still sounds great and is easy to use.

API 550A Equalizer (1968)

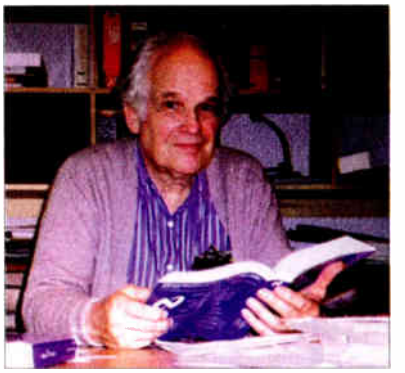
In 1967, Saul Walker designed the first 12-track recording console for Apostolic Studios (New York City), a facility used by Frank Zappa on many of his legendary recordings. The console project led to Walker's founding of API (Automated Processes Inc.), focusing on creating modules for custom mixers, which were common in most studios in that era. Still prized today, perhaps the most beloved API module is the 550A, a 3-band

API 550A

equalizer with five switchable frequency centers on each band. Walker's design combined his 2520 discrete Class-A/B op amps with an ingenious proportional-Q circuit that alters the filter bandwidth (Q) with changes in gain boost/cut—three octaves wide at ±2 dB, narrowing to one octave at ±12 dB. The result? A highly musical unit offering simple, fast operation. In 2004, API resumed production of the 550A (and the 4-band 550B), offered in both modular and rackmount formats.

dbx 160 (VU) (1976)

David Blackmer founded dbx in 1971, based on the concept of using decibel expansion (hence the name "dbx") to replace the peaks lost from the limited dynamic range of magnetic tape. His brilliant decilinear VCA and RMS level-detection circuits changed the world, yielding classic products such as dbx noise reduction, dbx compressors, OEM VCAs for automated consoles and more. Blackmer's first pro unit



David Blackmer

was the model 160 compressor/limiter, something he really didn't want to make because, after years of creating products that would restore or expand dynamic range, a box that squashed dynamics seemed very wrong to him. Yet this half-rack unit found favor with engineers and two 160s could be linked for stereo operation.

Yamaha NS-10M (1977)

From Yamaha's consumer hi-fi group, the most inauspicious audio debut in 1977 was surely the NS-10M. At the time, no one in pro audio used them, and they didn't rise to prominence for another five years when they replaced Auratones as the most common stu-

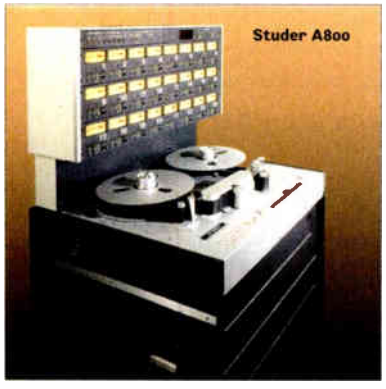
Yamaha NS-10M

World Radio History

dio reference speaker. Claiming it smoothed the top-end response, engineers began hanging tissues over the tweeters, and NS-10Ms so adorned were a common sight during the 1980s. In 1987, Yamaha debuted the NS-10M Studio model, which offered the same 7-inch woofer but had a redesigned tweeter, tweaked crossover and minor changes to optimize horizontal placement.

Studer A800 Multitrack (1978)

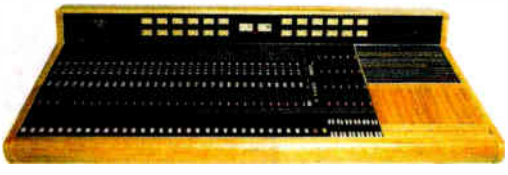
Studer has a long history of building precision recorders. Its first multitrack—the J37 tube 4-track—debuted in 1964 and found fame in 1967 when George Martin and crew used two J37s to record The Beatles' *Sgt. Pepper* album. In 1978, the Studer A800 brought a new generation of



pro multitracks. Thanks to its huge frame, half-horsepower spooling motors (for effortlessly handling 14-inch reels) and thick-slab alloy deckplate, the A800 weighed nearly 900 pounds, yet was the first microprocessor-controlled multitrack—remarkable in 1978 when even the simplest early PCs were years away. Perhaps more important than the A800's smooth handling was its sound, providing 15 to 30k Hz of analog excellence. The recorder was discontinued in 1988, although thousands of A800s are in daily use 30 years after its introduction.

Trident Series 80 Console (1980)

It isn't often that a console company comes out of a recording studio. London's Trident Studios opened in 1968, and having the first 8-track recorder (Ampex) in Europe, it attracted top artists from the start, including The Beatles, who recorded "Hey Jude" there. In 1972, longtime Trident engineer/designer Malcolm Toft founded Trident Audio Developments to create products based on consoles the studio built for its own use. With its "A" and "B" series, Trident Audio prospered and expanded, adding designer John Oram to its team in 1974. The 1979 TSM console had high-end performance, but cost $150,000. At $40,000, the Series 80 (1980) was more affordable, yet from its English ash exterior to its TSM-based circuitry, with clean preamps and musical equalizers, it never seemed second-rate and was hugely successful. Today, the Series 80 lives on in various modern reissues.



Trident Series 80 Console

Kurzweil 250 (1983)

After inventing a number of firsts—text-to-speech synthesis, the CCD flatbed scanner, Omni-Font optical character recognition and a print-to-speech reading machine for the blind—

Ray Kurzweil met Stevie Wonder, who encouraged him to apply computer control to acoustical instruments. As a result, he founded Kurzweil Music Systems in 1982. A year later, AES visitors marveled at the Kurzweil 250, the first ROM-based sampling keyboard to successfully reproduce the full complexity of acoustic instruments, with natural-sounding pianos, thick drums, lush strings, choirs and more. It weighed 95 pounds and cost almost $16,000, but sounded great, and Kurzweil followed it with a long series of innovative—and more affordable—products.

CEDAR—Computer Enhanced Digital Audio Restoration (1990)

In 1985, the British Library National Sound Archive funded digital audio restoration research at Cambridge University, work that led to the prototype CEDAR computer, the earliest PC-based audio restoration system. Its unveiling at AES Europe in 1987, along with being featured on BBC-TV, helped secure funding for a commercial system. CEDAR gave users real-time

control during the transfer, letting operators adapt the processes for varying noises in the material. The first production systems in 1990 incorporated dual-floating-point AT&T DSPs hosted in a conventional PC, later followed by dedicated hardware units, PC- and server-based systems, and plug-ins for DAW platforms. Since then, tens of thousands of CD, DVD, film and broadcast projects have employed CEDAR noise-suppression technology.

Opcode Studio Vision (1990)

Ideas sometimes come when you least expect them. In the late '80s, Paul de Benedictis—Opcode's marketing guy—and Digidesign software engineer Mark Jeffery were carpooling from San Francisco to the South Bay office park where both companies were located. During one of their 30-minute commutes, these two musicians considered the possibility of combining the power of Opcode's Vision MIDI sequencer with the digital audio capabilities of Digidesign's Sound Tools and Audiomedia recording systems.

Opcode Studio Vision

Excited about the prospect, Opcode founder Dave Oppenheim worked with fellow code writer David Willenbrink (co-founder of Blank software) to make it happen. It worked. Audio data was displayed as tracks of waveforms and could be cut/pasted/manipulated as easily as MIDI tracks, and the software was the talk of Winter NAMM on its debut in January 1990. ■

George Petersen is Mix's executive editor and runs a small record label at www.jenpet.com.

World Radio History

"When I got my Radial DI, it gave me a special sound that was natural, with a fine presence... and the engineer said What is that? I've got to get one!"

~ Will Lee

(George Benson, Dave Matthews, Bob James, Billy Joel, Spyro Gyra)

"With the Radial JDI, my bass comes through extremely clean, very quiet and with a smooth transparent low end. I use my Radial DI for everything."

~ Tony Levin

(Peter Gabriel, King Crimson, Mark Knopfler, John Lennon)

"Radial builds DIs exactly how I would do it. Real quality and they sound great. I love them. They are not going back!"

~ Bruce Swedien

(Quincy Jones, Michael Jackson, Jennifer Lopez, Paul McCartney)

"The JDX captures my sound with previously unobtainable control and clarity, offering our soundman a direct injection of sonic rage!!"

~ Kerry King

(Guitarist with Slayer and King of metal mayhem)

"I love my J48 DI's! They produce a big, fat, clean signal that is so good, I use them for my live recording. Thank you Radial!"

~ Tommy Emmanuel

(Certified Guitar Player, Two-time Grammy nominee)

"Radial DI's provide the flexibility I need to perfectly match any situation. I specify Radial exclusively for every tour I mix."

~ Dave Natale

(The Rolling Stones, Fleetwood Mac, John Mellencamp, Tina Turner)

"My JDV DI is crystal clear and easily configures to the most elaborate set-ups. I love it and use it every day!"

~ Billy Sheehan

(Steve Vai, Mr. Big, David Lee Roth, Greg Howe, Paul Gilbert)

"You need to carry direct boxes that are reliable and the perfect match for your direct input devices. That's why I choose Radial DI's."

~ Rob 'Cubby' Colby

(Phil Collins, Prince, Paula Abdul, Janet Jackson, Cindy Lauper)

"Radial makes a DI box that does exactly what it is supposed to do. No compromise."

~ Paul Boothroyd

(Paul Simon, Paul McCartney, AC DC)

"Live or studio, Radial DI's are the only ones we use. They're built like tanks and eliminate noise without killing tone. I love them."

~ John Rzeznik

(Goo Goo Dolls)

STUNNING!

From a place far far away... come the Radial **Phazer**™ and **JDX Reactor**™, two out-of-this-world Power Tools made to seek out rich tones... to boldly go where no sound engineer has gone before!

The Phazer™ is a 100% discreet analogue phase alignment tool that lets you combine any two sound sources and bring them together in phase. Combine top and bottom mics on a snare, inside and out on a kick, two mics on an acoustic guitar and finally... an affordable way to phase align that bass! The Phazer makes it easy with a single-dial phase control and a filter that focuses the effect like a tractor beam!

The JDX Reactor™ may be the best sounding guitar amplifier direct box in the cosmos! A reactive load combines the direct feed from the amp head with the return electro-magnetic impulse from the loudspeaker to create guitar tones so thick it'll make a Vulcan cry! Combine a mic'd signal with the direct feed from a JDX through the Phazer to create fat new sounds that are nothing short of ... well... stunning!

Radial - Power Tools for Power Players™

Radial® engineering

...true to the music™

www.radialeng.com

1638 Kebet Way, Port Coquitlam, BC V3C 5W9 tel: 604-942-1001 email: info@radialeng.com

World Radio History

vintageking.com

new | used | vintage

WORLD CLASS AUDIO | WORLD CLASS SERVICE

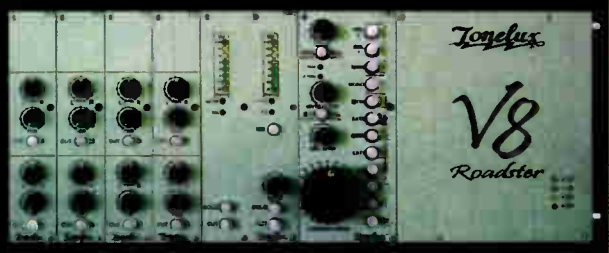
Shopping for studio equipment can be overwhelming. Don't know where to start? Call us today for friendly, expert advice. We offer the widest array of pro audio recording equipment in the world and our customer service is second to none. We also offer trial/demo periods for nearly every item we sell.

So whether you own a small project studio or a world renowned mastering house, let Vintage King Audio be your creative partner!

Shadow Hills Mono GAMA 500 Series Mic Pre

Centered around Shadow Hill's custom discrete op-amp, the Mono GAMA's no-compromise design exudes hugeness, fidelity, punchyness and depth, across the full frequency range, without becoming veiled or choked, the way non-discrete varieties can.

shadow hills



Tonelux Mixers

Mixers with real tone - from 8 slot with a handle to 96 input desks. Mic pres, EQ's, Compression, Fader Automation. From legendary mixer designer Paul Wolff.
(8x2 mixer with control room pictured)

Tonelux

Telefunken | USA Ela M 251E System

Already acknowledged as identical to the original by leading recording engineers, Telefunken | USA has spared no expense in meticulously reproducing, to original historical specifications, the legendary Telefunken Ela M 251.

D.W. Fearn VT-15 Vacuum Tube Amplifier

The VT-15 Vacuum Tube Recording Channel combines the mic pre from the D.W. Fearn VT-2, and the DI input functionality of the new VT-3, plus the acclaimed dynamics control of the VT-7 Compressor, and the most-often used features of the VT-4 Equalizer.

D.W. FEARN

Prism Sound Orpheus Firewire Interface

All-in-one firewire interface solution for your DAW. Includes 8 channel AD/DA, 4 mic preamps, and "Over-killer" limiters on every channel, along with a host of other cutting edge features.

PrismSound

*Bill Me Later® is subject to credit approval as determined by the lender, CIT Bank, Salt Lake City, Utah, is governed by Utah and Federal Law, and is available to US customers who are of legal age in their state of residence. See website for important disclosures about payment amounts and terms.

World Radio History

STUDIO STANDARDS
VINTAGE CLASSICS
CUTTING EDGE DIGITAL
RECORDING CONSOLES
CONTROL SURFACES
PATCHBAYS AND CABLING
TURNKEY PACKAGES
STUDIO INSTALLATIONS
MASTERING
LEASING

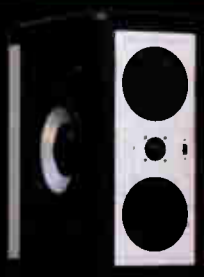
Pay Later! BillMeLater
Subject to credit approval!

FREE SHIPPING!
When you order online.

Helios Type 69 Mic Pre/EQ Module

"WON'T GET FOOLED AGAIN was recorded on the Stones mobile using 69s. These modules are the ones that re-create the sound I remember. Straight out of the box. It's spooky."
- Pete Townshend

helios



Barefoot Sound MicroMain27

Nearfield. Main. Mastering. In one.
The Barefoot MicroMain27 is a ground-breaking active monitor that lets you hear what's really happening in your mixes from top to bottom.

BAREFOOT SOUND

Summit Audio ECS-410 Everest Channel Strip

From crystal clear to tube overdrive, the NEW ECS-410 Everest is the summit of flexibility, precision, tone and taste.
It's time to change your channel!

Summit Audio Inc.

A Designs Pacifica Solid State Stereo Mic Pre

"The Pacifica has the depth of the Neve, the top end of a GML and the punch of the API - all rolled into one great mic pre."
- Tony Shepperd

A Designs

Weiss DAC2 D/A Converter

The DAC2 is a high performance stereo Firewire based digital to analog and digital to digital converter for usage either standalone or in conjunction with a PC or MAC computer.

weiss

Solid State Logic Matrix

Matrix is a SuperAnalogue™ 16 channel, 40 input mixing console with inbuilt signal router and multi-layer digital workstation control. In use it's simply the most elegant way to be creative with your entire arsenal of analogue outboard and cutting-edge digital equipment. Let us quote you on a complete turnkey system bundle with patch bay/cabling, DAW, outboard mic pre's and eq's, monitors and headphone system.
We can arrange complete system install and configuration on site. Give us a call today to discuss your specific needs.

Solid State Logic

888.653.1184 | info@vintageking.com

vintageking.com

World Radio History

Big Tracks, Small Box

Portable Digital Recorders Capture Hi-Res Audio

By George Petersen

The lineage of high-quality portable location recorders can be traced to Stefan Kudelski's Nagra I and II decks in the early 1950s. Equipped with precision spring-wound motors and tube electronics, these early models were crude by today's standards, so it was the DC servomotor drive and germanium transistor electronics of the Nagra III in 1957 that proved a battery-driven portable recorder was capable of serious, high-end audio work.

The evolution continued, with digital tape (in DAT and reel-to-reel variants) eventually eclipsing the analog formats. New storage technologies emerged, such as hard disk, DVD-R, Compact Flash, SD cards, Memory Cards and onboard RAM. Although never developed specifically for pro audio applications, these media were inexpensive and reasonably compact, while providing high reliability and large data capacity—all ideal attributes for pros who are doing long-form, uncompressed audio recordings in the field.

Exploring the market for pro-quality portable recorders, we discovered a huge offering of available products. These range from relatively simple point-and-grab pocket stereo machines carrying $299 street prices to no-compromise, high-end systems with advanced features such as flexible analog and digital I/O options, onboard mixing, timecode and word clock I/O, and the ability to store to multiple media simultaneously for total redundancy in critical no-fail situations.

With the ease of removable media—either disk- or card-based—all the units surveyed offer simple interfacing to transfer tracks to a DAW for editing or post-processing. Here, an external USB card reader is an ideal, low-cost accessory for your PC/Mac, so the recorder itself need not be present during the transfer process. Typically priced at less than $20, this simple add-on will surely be appreciated in situations where the recorder's batteries are low and the charger isn't available when a day's worth of location recordings is being transferred.

Once the anathema of compact recorders, the internal/included mics on many units seem to be better than ever, with some products providing the ability to tweak the mic angle to vary coverage pattern. Alternatively, all include jacks to connect external mics, opening up a near-infinite number of possibilities to the recording process. Some of the recorders also incorporate balanced XLR inputs, built-in phantom powering and even onboard M/S (mid-side) mic decoding/monitoring—all useful features for demanding work.

The chart on the following page details the specifications and features for 42 current models, ranging from stereo to 16-channel systems, from a variety of manufacturers. While specs alone should never be the sole factor in determining which recorder is best for you, the chart should provide a starting point, and from there you can narrow the field to products that meet your specific needs.

Recorders are getting lighter, more reliable, more flexible, better-sounding and more affordable than ever, so this may be a good time to check out a portable system. Happy hunting—and capture some great sounds! III

The Zoom H4 has an onboard stereo mic.

The 2-track Korg MR-1000

The Aaton Cantar-X2 offers an 18-in mixer.

World Radio History

PORTABLE DIGITAL RECORDERS, AT A GLANCE

COMPANY/PRODUCT	TRACKS	[illegible]	[illegible]	ANALOG I/O	PHANTOM POWER	TIME-CODE	[illegible]	[illegible]	RETAIL	NOTES
Aaton Cantar-X2; www.aaton.com	8	HD; DVD	24-bit/96k	8 XLR in, 2 XLR out	Yes	Yes	AES; FireWire	9x12x3.2	$15,395	18-in mixer; word sync; Ethernet to PC/Mac; M/S decoder
Alesis ProTrack; www.alesis.com	2	iPod	16-bit/44.1k	2 XLR/TRS in; mini line out	Yes	No	USB	N/A	$499	Portable dock for iPod recording; onboard mics
Boss Micro BR; www.roland.com	4	SD	24-bit/44.1k	1/8" mic, 1/4" guitar; 1/8" line	No	No	USB	5.4x3.25x0.87	$319.50	Onboard effects and drums
Edirol R-09 HR; www.edirol.com	2	SD	24-bit/96k	1/8" mic/line	No	No	USB	2.5x4.5x1.1	$450	Onboard mics, wireless remote
Edirol R-44	4	SD	24-bit/192k	4 XLR-TRS in, 4 RCA out	Yes	No	S/PDIF, USB	6.2x7.25x2.6	$895	Onboard mics; two units link for 8 tracks
Edirol R-4 Pro	4	HD	24-bit/192k	4 XLR-TRS in; 4 RCA out	Yes	Yes	AES/EBU; USB	9.5x8.6x3.1	$1,995	Onboard mics; waveform editing
Fostex PO606; www.fostex.com	8	HD; DVD	24-bit/192k	6 XLR in; 6 XLR out	Yes	Yes	AES/EBU, USB	4.6x12.8x9.2	$9,995	Onboard mixer, word clock I/O
Fostex PD204	2	HD; DVD	24-bit/192k	4 XLR in; 2 XLR out	Yes	Yes	AES/EBU; USB	4.6x12.8x9.2	$4,999	Onboard mixer; word clock I/O
Fostex FR-2	2	HD; CF	24-bit/192k	2 XLR in, 2 RCA out	Yes	Opt	AES/EBU, S/PDIF, USB	3x9.8x8.7	$1,499	Timecode reader/generator option
Fostex FR-2LE	2	CF	24-bit/96k	2 XLR-TRS in; 2 RCA out	Yes	No	USB	2.25x8.1x5.2	$799	Includes wired remote
HHB PortaDrive; www.hhb.co.uk	8	HD	24-bit/96k	6 XLR mic/line, 4 XLR out	Yes	Yes	AES/EBU; S/PDIF, USB	13.1x4.2x8.8	$13,995	Onboard mixer, word clock I/O, M/S decoder
Korg MR-1; www.korg.com	2	HD	1-bit/2.8MHz	2 TRS mini mic/line; mini out	No	No	USB	2.5x4.7x0.94	$899	Includes stereo mic and 1-bit-to-PCM converter app
Korg MR-1000	2	HD	1-bit/5.6MHz	2 XLR-TRS in, 2 XLR, RCA out	Yes	No	USB	7.6x6.7x2.2	$1,499	Includes 1-bit-to-PCM converter software
Marantz PMD620; www.d-mpro.com	2	SD	24-bit/48k	2 mini mic/line in; mini line out	No	No	USB	2.5x4x1	$599	Onboard mics
Marantz PMD660	2	CF	16-bit/48k	2 XLR mic in, 2 mini line in/out	Yes	No	USB	4.5x1.9x7.2	$649	Includes remote, onboard mics
Marantz PMD670	2	CF	16-bit/48k	2 XLR mic in; RCA line in/out	Yes	No	S/PDIF; USB	10.4x2x7.3	$899	On-the-fly, EDL-style marking
Marantz PMD671	2	CF	24-bit/96k	2 XLR mic in, RCA line in/out	Yes	No	S/PDIF; USB	10.4x2x7.3	$1,199	"Virtual Third Head" confidence monitoring
Marantz CDR420	2	HD; CD	16-bit/44.1k	2 XLR-TRS in, 2 RCA out	Yes	No	S/PDIF; USB	11x4x9	$1,499	Onboard CD burning and audio editing; optional DC pack
M-Audio MicroTrack II; www.m-audio.com	2	CF	24-bit/96k	2 TRS in, mini in, 2 RCA out	Yes	No	S/PDIF out, USB	2.4x4.25x1	$499	Includes mic, -10dB pad optional
Nagra LB; www.nagraaudio.com	2	CF; 2GB internal	24-bit/192k	2 XLR mic in; 2 XLR out	Yes	Yes	AES-3 out; USB	6.9x2.6x7.3	$3,000	Onboard editor
Nagra VI	6	HD, CF	24-bit/96k	4 XLR mic/line, 2 XLR line	Yes	Yes	2 AES in/out, USB	12.6x2.9x11.2	$7,595	Onboard mixer, color TFT metering/status display
Nagra Ares-BB+	2	PCM-CIA; CF	20-bit/48k	2 XLR mic/line in; 2 XLR out	Yes	No	USB	6.25x6.75x2	$2,395	M/S decoder; internal editor option
Nagra Ares-MII	2	2GB int	16-bit/48k	Mini mic/line in; mini line out	No	No	USB	4.9x2x0.9	$1,100	Onboard mic; onboard editor
Nagra Ares-PII+	2	PCM-CIA; CF	24-bit/48k	DIN-to-XLR mic/line cable	Yes	No	USB	7x3x1.2	$2,495	Onboard mic; onboard editor option
Olympus LS-10; www.olympus.com	2	SD, 2GB int.	24-bit/96k	Mini mic/line in, mini line out	No	No	USB	5.2x1.8x0.9	$449	Onboard mic
Roland CD-2e; www.rolandus.com	2	SD; CD	24-bit/44.1k	2 1/4" mic; 2 RCA line out	No	No	None	10.6x7.25x1.8	$749	Onboard mic
Sony PCM-D50, http://pro.sony.com	2	4GB int; MS-Pro	24-bit/96k	Mini mic	No	No	USB, optical digital out	2.9x6.2x1.3	$599	Onboard mic with X/Y and wide stereo patterns
Sony PCM-D1	2	4GB int; MS-Pro	24-bit/96k	Mini mic/line	No	No	USB; optical digital out	2.9x6.75x1.6	$1,999	Onboard mics, titanium body
Sound Devices 702; www.sounddevices.com	2	CF	24-bit/192k	2 XLR mic/line; TA3 line outs	Yes	No	AES-3; FireWire	1.8x8.2x4.9	$2,195	Word clock I/O, records to ext FireWire drives; TC thru ports
Sound Devices 722	2	HD; CF	24-bit/192k	2 XLR mic/line; TA3 line outs	Yes	No	AES-3; FireWire	1.8x8.2x4.9	$2,775	Word clock I/O; TC thru ports
Sound Devices 702T	2	HD, CF	24-bit/192k	2 XLR mic/line, TA3 line outs	Yes	Yes	AES-3, FireWire	1.8x8.2x4.9	$2,775	Word clock I/O; all TC formats supported
Sound Devices 744T	4	HD; CF	24-bit/192k	2 XLR mic; 2 TA3 line in/out	Yes	Yes	AES-3; FireWire	1.7x8x4.4	$4,395	Word clock I/O; all TC formats supported
Sound Devices 788T	8	HD, CF	24-bit/48k	4 XLR mic/line, 4 TA3 mic/line	Yes	Yes	AES/EBU, FireWire	1.8x10.1x6.4	$5,995	Word clock I/O, all TC formats supported
Tascam DR-1; www.tascam.com	2	SD	24-bit/48k	Mini mic/line, 1/4" mic ins	No	No	USB	2.8x1.1x5.3	$399	Variable angle onboard mics
Tascam GT-R1	2	SD	24-bit/48k	Mini mic/line, 1/4" instrument	Yes	No	USB	2.8x1.1x5.3	$469	Onboard mics and drums
Tascam HD-P2	2	CF	24-bit/192k	2 XLR mic in; RCA line in/outs	Yes	Yes	S/PDIF; FireWire	10.25x7.75x2.5	$1,249	PS/2 keyboard control
Yamaha Pocketrak 2G, www.yamaha.com	2	2GB internal	16-bit/44.1k	Mini mic/line	No	No	USB	1.25x4.6x0.5	$450	Onboard mic
Zaxcom Deva 5.8; www.zaxcom.com	10	HD; DVD; CF	24-bit/96k	8 XLR mic/line, 6 DB-25 line outs	Yes	Yes	8 AES ins/outs; FireWire	10.5x8x3.75	$12,995	16-input mixer; PS/2 keyboard control; word clock I/O
Zaxcom Deva 16	16	HD; DVD; CF	24-bit/192k	8 XLR mic/line; 4 line in; 8 line out	Yes	Yes	8 AES ins/outs; FireWire	10.5x8x3.75	$14,995	16-input mixer; PS/2 keyboard control, word clock I/O
Zaxcom Fusion	4 to 8	(2) CF slots	24-bit/192k	8 XLR mic/line	Yes	Yes	8 AES ins/outs; FireWire	10.6x7.7x3.2	$7,995	16-input mixer, LCD touchscreen; PS/2 keyboard control
Zoom H2; www.samsontech.com	2*	SD	24-bit/96k	Mini mic/line in, mini line out	No	No	USB	2.5x4.3x1.25	$335	*Onboard 4-ch encoder; onboard multipattern mic
Zoom H4	2*	SD	24-bit/96k	2 combo XLR/TRS in	Yes	No	USB	2.75x6x1.5	$495	*Onboard 4-track mode; onboard X/Y mic

KEY: Media: HD=Hard Disk; SD=Secure Digital; CF=Compact Flash; MS=Memory Stick. All units are DC-powerable with two or more recording tracks. All prices are U.S. MSRP.

World Radio History

THIS IS SAE INSTITUTE OXFORD DEGREE CENTER

PROGRAMS COMMENCE OCTOBER 2008

Accelerated programs in

DIPLOMA OF AUDIO ENGINEERING
BACHELOR OF ARTS (HONS) DEGREE IN RECORDING ARTS*
MASTERS LEVEL - SAE TONMEISTER®

BACHELOR OF SCIENCE (HONS) DEGREE IN GAMES PROGRAMMING*

DIPLOMA OF DIGITAL FILM MAKING
BACHELOR OF ARTS (HONS) DEGREE IN FILM MAKING*

Degrees validated by Middlesex University (UK) and issued in partnership with Qantm College and SAE International Graduate College.

SAE INSTITUTE

SAE INSTITUTE is located on 5 continents
NEW YORK::LOS ANGELES::NASHVILLE::ATLANTA::MIAMI::LONDON::LIVERPOOL::GLASGOW::PARIS
LJUBLJANA::VIENNA::STOCKHOLM::ZURICH::GENEVA::BERLIN::HAMBURG::COLOGNE;; FRANKFURT
MUMBAI::BANGALORE::SYDNEY::ADELAIDE::PERTH

World Radio History

Stick with us kid, we'll make you a star.

Real tools for real audio stars.

YES! Send me 1 year of *MIX Magazine* for only $41.97— a savings of more than **53% off** the regular newsstand price. Mail this card back today! Subscribe online at www.mixonline.com or call 1-866-860-7087.

AUDIO RECORDING FACILITY?

A ☐ Private Recording Studio OR B ☐ Commercial Recording Studio

Name

Company name

Address

City, State, Zip

B80901

SEND NO MONEY. WE'LL BILL YOU LATER.

Money-back guarantee: If MIX Magazine fails to provide you with the most useful information on professional audio, you can cancel your subscription at any time and receive a full refund.

Offer good in US only. Canada ($48 US) and International ($60 US) prepaid only. Newsstand rate for 13 issues is $90.87. Please allow 4 weeks for delivery of your first issues.

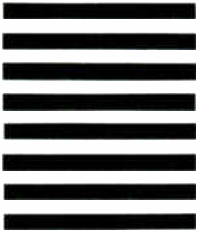
B80901

FREE with your subscription

Save 53%

World Radio History

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO 1041 NORTH HOLLYWOOD CA

POSTAGE WILL BE PAID BY ADDRESSEE

MIX

PO BOX 16885
NORTH HOLLYWOOD CA 91615-9257

World Radio History

THE WORLD'S LARGEST CREATIVE MEDIA CAMPUS

(YES, THE WHOLE BUILDING)

SAE OXFORD::The SAE Oxford campus is unique. It offers a complete creative learning environment within one of the most traditional English university towns. The township of Oxford is made for students. Oxford is located only one hour from London with a regular (every ten minutes) bus and train service.

OPTIONS:: Students can commence their studies at any SAE Institute around the world and transfer to SAE Oxford for their second year or could choose to study their complete course at SAE Oxford. Students from other schools or colleges can be accepted by attending an entrance examination.

GET YOUR DEGREE FROM SAE OXFORD - it's for life.

www.sae-oxford.com

Armstrong Road, Oxford OX4 4SX United Kingdom Tel. +44 845 017 9044

www.sae.edu

In USA call 1.866.723.2983

SAE INSTITUTE OXFORD

1976-2006 30 YEARS SAE

INDIVIDUAL HANDS ON TIME

ESTABLISHED IN 1976

ACCELERATED DEGREE

INTERNATIONAL RECOGNITION

LATEST STUDIO TECHNOLOGY

THE SAE OXFORD DEGREE ADVANTAGE

23 countries - over 50 locations - established since 1976
MADRID::BARCELONA::AMSTERDAM::ROTTERDAM::BRUSSELS::MILAN::ATHENS::ISTANBUL
STUTTGART::MUNICH::LEIPZIG::AMMAN::DUBAI::KUWAIT::SINGAPORE::MALAYSIA::BANGKOK::CHENNAI
BRISBANE::BYRON BAY::AUCKLAND::MELBOURNE::TOKYO

World Radio History

TEC

THE MIX FOUNDATION FOR EXCELLENCE IN AUDIO PRESENTS

24TH ANNUAL TECHNICAL EXCELLENCE & CREATIVITY AWARDS

FRIDAY OCTOBER 3 2008 AT THE WESTIN ST. FRANCIS HOTEL, SAN FRANCISCO

Join pro audio's top manufacturers, engineers, producers and other sound professionals to recognize the outstanding achievements of the past year in audio production and product design, and honor the creative genius of T Bone Burnett and a special honoree to be announced.

Good tickets are still available!
For information call Karen Dunn at (925) 939-5149
or email Karen@tecawards.org.

TEC AWARDS HALL OF FAME

Joseph Henry "T Bone" Burnett first came to prominence in the early 1970s, playing guitar and piano on Bob Dylan's fabled Rolling Thunder Revue. He has since pursued parallel careers as a performer and producer, releasing several solo albums as well as working on dozens of records by artists such as Elvis Costello, Roy Orbison, The Wallflowers, Counting Crows, Los Lobos and Gillian Welch. He is currently touring in support of his most recent production, *Raising Sand*, by Robert Plant and Alison Krauss.

IN SUPPORT OF HEARING HEALTH AND AUDIO EDUCATION

MIX
FOUNDING SPONSOR

Gibson FOUNDATION
SPONSOR LES PAUL AWARD

Harman
SUSTAINING SPONSOR

ALLEN&HEATH
Focusrite
Platinum Sponsor

FRO www.gcpro.com
Platinum Sponsor

Meyer Sound
Audio Production Sponsor

RØDE MICROPHONES
Platinum Sponsor

SENNHEISER
Platinum Sponsor

UNIVERSAL AUDIO
Video Production Sponsor

World Radio History

By Bryan Reesman

Weezer

INTO THE "RED" WITH THREE SESSIONS

When he first sits down to chat about the making of the new Weezer album, the first thing that drummer Pat Wilson asks is, "Do you think it's quiet? Do you notice that you have to turn it up to hear it?" I acknowledge that there are definitely quiet sections on it. "I mean overall," he clarifies. "Most modern records are so loud, and we mastered this one kind of conservatively, at 1990s or late-1980s rock levels. I think the average level is -12, which is unheard of for a modern rock record, although it might become a little bit of a trend. I think people are turning off of music because it's less musical. When there's half a dB of dynamic range in a mix, that's not natural. We don't hear the world like that. It's like someone shouting at you the whole time."

Dynamics certainly abound in the world of Weezer, and over the years they have become known for their quirky, amiable blend of modern and classic

World Radio History

rock sounds with lyrics that occasionally veer toward the ironic, and their latest, self-titled effort is no exception. In fact, it is probably their most diverse album yet. from the chugging anthem "Troublemaker" to the Red Hot Chili Peppers–style funk rock of "Everybody Get Dangerous" to the delicate "Heart Songs," the only ballad you'll ever hear that name-checks Judas Priest, Iron Maiden and Slayer (not to mention Joan Baez, Devo and ABBA).

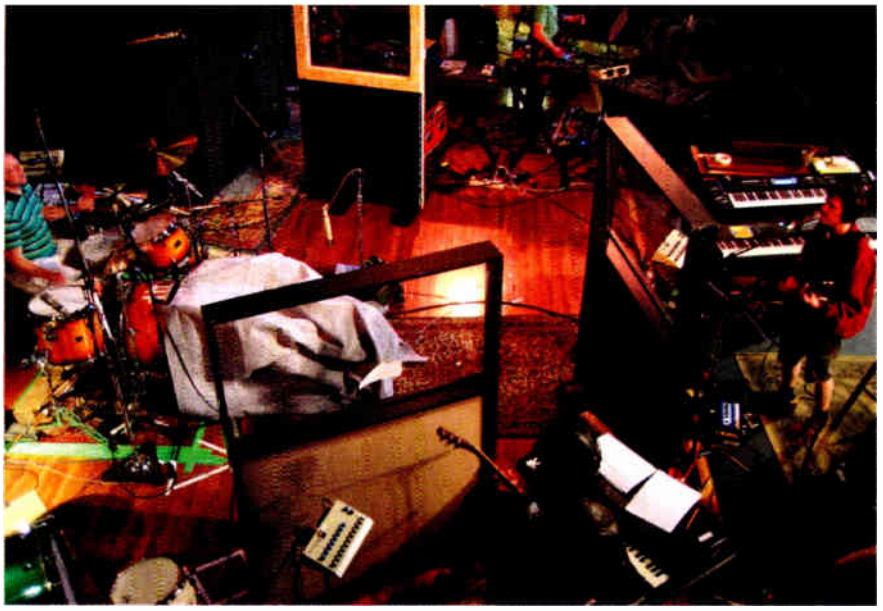
The album's most diverse tune is "The Greatest Man That Ever Lived (Variation on a Shaker Hymn)," which features an old shaker hymn melody—well, it sounded unintentionally close to one, so Weezer frontman and principal songwriter Rivers Cuomo gave them the credit to avoid potential accusations of plagiarism—and in the song the same melody is reiterated through a number of different styles, including hip-hop, Aerosmith, the Andrews sisters, Bach and Beethoven.

"I got the idea to do theme and variations because I was just super-tired of writing verse-chorus-verse songs," reveals Cuomo. "I wanted to write a song with a completely different kind of structure, so I thought of theme and variations from classical instrumental music. Then I very quickly jotted down the first 11 or 12 genres that I could think of and just went for it."

The eclectic *Red Album*, as this third self-titled Weezer album has become known, was recorded in three sessions: four months total between March and September 2007 and two weeks in February 2008. There was a two-month session with producer Rick Rubin at Shangri La in Malibu, Calif., followed by a self-produced two-month session at the Malibu Peforming Arts Center (MPAC). The final sessions with Jacknife Lee at Threshold in Santa Monica, Calif., came about after their label, Geffen, insisted on having more commercial songs on the album, which resulted in the sardonic rocker "Pork and Beans" (ironically, the group's biggest radio hit ever—it spent more than 10 weeks at Number One on *Billboard*'s Hot Modern Rock chart) and "Troublemaker," which are, in fact, the album's main radio cuts.

The first stop was Shangri La. "I think that place had a vintage, 32-input API," recalls drummer Wilson. "Channels were going down all over the place, but it definitely had a vibe. Rivers has a Neve BCM-10 that we usually wind up tracking the drums through anyway. I think there were some outboard APIs and maybe 1081s. It was typical Neve and API stuff."

As for the MPAC, "That was a large, state-of-the-art, modern theater, and we had the run of several rooms, including the big live room," Cuomo says. "It was very free-flowing, bright and conducive to creativity and collaboration."



A bird's eye view of Weezer in session at the Malibu Performing Arts Center

"The MPAC situation was interesting because they have a control room upstairs from the stage with a gigantic API—literally, 72 channels," Wilson adds. "It's ridiculous, but it was unworkable because we couldn't talk to the engineer up there. so he came down and we monitored off of a Midas front-of-house console. We rented an API 1604, a little sidecar, and again had the BCM-10. We were replicating what we had in Shangri La. It was a lot of fun, actually. We would do a couple of takes and then sit down in the seats behind front of house and listen to the speakers."

Rubin checked in via e-mail with Weezer while they were at MPAC, but the group was basically on their own to experiment. "It definitely felt like our parents were on vacation and we got the run of the house," says Cuomo. "I played drums on one song, and Pat played lead guitar and sang [on 'Automatic']. It felt very liberating to be on our own." Further, guitarist Brian Bell wrote and sang on "Thought I Knew," on which Wilson plays lead and Cuomo drums, while bassist Scott Shriner co-wrote and sang on "Cold Dark World."

The group definitely worked hard, producing 16 songs (10 of which are on the regular CD; 14 are on the deluxe edition) during the four-and-a-half months of recording. "I certainly wouldn't say that we slack if there's no producer there, because we're all producers," asserts Cuomo. "When I'm doing my tracks, I've got the other three guys there to give me feedback and push me. On top of that, I'm a good worker myself."

The third and last session was produced by Jacknife Lee at the more traditional Threshold facility, which Cuomo found fun. "They had a vintage Neve with at least 48 channels," says Wilson. "Pretty much everything went through the Neve on that one. I don't think there was any API on those two songs."

The contrast between Rubin and Lee as producers was very distinct, and the band found merits with both. "Working with Jacknife Lee is very invigorating," Cuomo says. "He's got a ton of confidence and enthusiasm. He just likes to keep things moving and keep things fresh. It feels like the rest of my band really trusts him, so I'm able to step back a little bit and let them work on their own and get their tracks to where they like them. It seemed to work really efficiently that way."

Lee also knows how to push people positively. While Wilson was recording his parts for "Troublemaker," the producer told the drummer that a fill he had played in the chorus would have made him trip on the dancefloor. "I remember thinking, 'Oh, man, I don't want to make anybody trip,'" recalls Wilson. "In the past I would've been a little bit more standoffish because I always wind up arguing with people at some point, but it made me realize what a badass he was when my first reaction was not to be confrontational. That's the mark of a good producer, when you immediately have a deep respect [between you]."

"Jacknife is the first guy there and the last to leave," adds Wilson. "He's also wicked hands-on and is way into Logic and stuff like that. Rick is on the exact opposite end of the spectrum. He's a nonmusician with the good ears. For him, sitting in the studio for four or five hours is a total drag. He would rather hear what you're doing once and comment on it, and then you go back and work through it. You do that until he says, 'Okay, that's really great.'"

"Working with Rick is great," concurs Cuomo. "He's able to listen to what's going on and

World Radio History

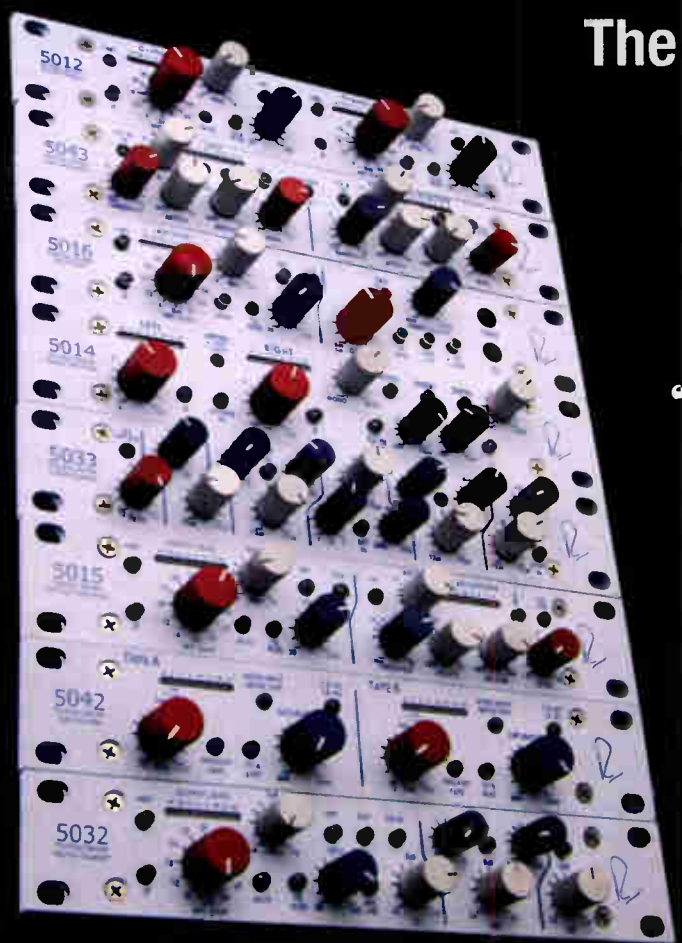
immediately pinpoint the most important thing that needs work."

In looking at how Weezer's studio sound has evolved over the years, Cuomo says he feels that the band has a much more musical and sensitive feel today. "On our first record, the *Blue Album*, it was all we could do to just stay in time and play along to a click track," he recalls. "It sounded a little mechanical, although powerful. Now we're able to not use a click track, and it just sounds more musical to me." (Wilson reveals that the group did use a click for "Pork and Beans" because the chorus is one BPM slower than the verse.)

While there is a lot of overdubbing during the making of a Weezer album, "at the heart of everything we do is a really good live take," remarks Cuomo. "It also feels like everyone has found a place in our sound where they can flourish and really contribute. The *Blue Album* sounded more like me controlling everything. I demo'd the songs before I taught them to the guys. It sounded maybe two-dimensional, and now it's got all these different personalities and sounds like we're gelling."

The recording and mixing of the *Red Album* paralleled the group's classic-rock influences both sonically and in terms of performance. Engineers this time out included Andrew Scheps, David Schiffman, Dana Nielsen and Tom McFall. Rich Costey mixed the album, aided by engineer Justin Gerrish, at Avatar Studios in New York City. Cuomo says that Wilson is the band's "sonics" guru, and he was very involved from recording through to mastering. "I became far more interested in the engineering side of stuff," confirms Wilson, "and a lot of what you hear [on the *Red Album*] is me trying to preserve the atmosphere around the drums rather than what a lot of people do these days with active rock, which is to close-mike everything and bus-compress the shit out of the drums. Then you bring up the ambience with what's left over from the overheads. But a lot of these songs have a kick drum mic, a snare drum mic and two faraway overheads. Just by paying attention to how hard you hit the cymbals, you can still play rock that's got some spirit to it rather than the more focused sound that you hear a lot today. It's more like Zeppelin but not totally room-based."

Despite all of the different sessions and people involved, mixer Costey brought it all together in the end. "I think just having one person at the helm during mixing, using all the same gear, [made it] stand a pretty good chance of having it sound cohesive," muses Cuomo. The band had a meeting with him prior to explain their old-school philosophy, which the mixer was totally on board with. "We threw tracks at him from different sessions with different producers and all different kinds of sounds, but it really came back sounding like an album. Pat was very involved with mixing and making sure that it just didn't end up sounding like a cookie-cutter modern-rock album. He wanted to make sure that we retained the character of those recording sessions and of this band." III



The New Analogue Standard.

Rupert Neve Design

Here are a few brief descriptions:

"Superb"
-Studio Magazine

"Incredibly Fantastic"
-Pro Sound News

"Amazing"
-Tape Op

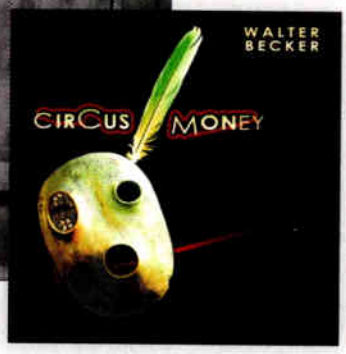
"Exceptional"
-Audio Media

"Fabulous"
-Future Music

"Top-notch"
-Mix Magazie

RUPERT NEVE DESIGNS

World Radio History



Walter Becker

SOLO "CIRCUS MONEY" HAS DEEP GROOVES

By Mr. Bonzai

Walter Becker and Donald Fagen have been on the road all summer leading Steely Dan through its paces, drawing enthusiastic crowds to their Think Fast tour. Meanwhile, Becker has a little side treat for us: His second solo album, *Circus Money*, thrills with exquisite musicianship and just the right touch of Dan—darkish and naughty in spots. The spirits of Jamaica haunt many of the tunes—sometimes in the daylight, more often dancing in the shadows. As you'd expect, it's eclectic, rhythmic, clever, and laid-back in a good way. We caught up with Becker before the tour.

When did you start working on this new album?

We started recording it almost two years ago, and [producer] Larry Klein and I started writing it about a year before that. I had a bunch of different ideas about what I could do based on Jamaican-style music, with a kind of reggae rhythm section, or rock steady, or whatever you want to call it.

I was wallowing in a deep research phase of listening to this kind of music, and making some sketches and trying to figure out how I wanted to approach it. At that point, Larry came to me, and he said, 'Why don't we make a record?' He said he would produce it and we started writing together. In some cases, we started from scratch, or we'd cop a tempo and a feel off this or that Jamaican record. We'd get a basic tempo and a rhythm pattern for the bass.

Larry is a bass player, like you. It's two bass players ganging up on Jamaican music. There is such fine musicianship and an incredible groove on this album. It makes you want to get up and move your spine around.

Well, that is a much-strived-for effect. The way it worked out, there are ways in which I would use elements or principles from Jamaican music and I would apply them to things that didn't sound particularly Jamaican. For example, "Downtown Canon" doesn't sound like a reggae song—or maybe it does.

Some of the songs are rather bass-heavy, and I love it. In some cases when the song starts out, it sounds like the bass is the lead instrument, as in "Bob Is Not Your Uncle Anymore."

It is, that being one of the more overtly reggae-sounding tracks. In reggae music, the groove is defined as much by the bass part as by the chord changes. If you listen to American soul music, the drummer is laying down a pretty steady beat. The bass player may be blowing around that, a lá Motown records or soul and funk records. The bass is still very, very important to the whole thing, but it functions in a different role. In Jamaican music, the roles are reversed. The bass player lays down the repetitive part and the drummer can blow around that a little bit.

For some of these songs, in order for them to make sense we had to have that density in the bass to build the tune around. It's almost like the bass part is like a Big Band riff that you build the tune around, you know?

How long did tracking take?

Ten or 11 days.

Didn't Steely Dan use to take years making an album?

Well, Steely Dan could afford to take years. Also, with Donald and me both there, getting something that met both of our expectations became doubly hard. For this record, everybody had heard all the songs beforehand and everyone had charts. Also, I had made little MIDI demos that I later put vocals on.

You recorded in New York City, right?

We recorded and did some overdubs at Avatar in New York, and then did overdubs at Larry's studio in California.

It's interesting that you were recording around the same time, with the same engineer, as when Larry was producing Herbie Hancock's Album of the Year, The Joni Letters.

Yes, Helik Hadar is a very good engineer. The original tracking dates for my album were done by Elliot Scheiner for six days and Jay Messina for five. I started on impulse and booked those tracking sessions in New York.

It's been 14 years since your first solo album, 11 Tracks of Whack. ***Did you plot out this hiatus ahead of time?***

Certainly not. After I did that album, we started working on Steely Dan records and tours.

Yes, and what a pleasant surprise that you guys came back and took over again!

Well, it seems to me that the careers we have been fortunate enough to have, have been such unlikely ones in so many ways. We were able to get a fairly unusual kind of music played in the first place, and stick with it and keep doing it without worrying about whether our audience would follow along with us wherever we went through the '70s. We essentially stopped through the '80s, and then picked it up again in the '90s. As it turned out, the '80s was no decade for guys like us anyway. ■

World Radio History

PAUL SANDWEISS

Emmy® Award-Winning mixer of:

- American Idol®
- American Music Awards®
- Billboard Music Awards®
- Cher Farewell Tour Special
- Emmy Awards®
- Genius: A Night for Ray Charles Special
- Grammy Awards®
- Janet Jackson All for You Special

GET $100 BACK when you purchase an LSR4300 Subwoofer in September '08

Visit jblpro.com/lsr for more information

When the mission is flawless mix-down of live music performances, the producers of America's top rated TV shows call Paul Sandweiss and his team at Sound Design Corporation. To make sure there are no surprises when he views the shows at home, Paul relies on JBL LSR6300 Series Studio Monitors on the gig. "I work in a lot of environments and my monitoring set-up is critical. Not only do the JBL LSRs get the job done, when clients come in, they love the sound. The LSRs have great low end, warm midrange and airy sweet highs that allow me to put a little more love on my mixes. I can mix sixteen hours a day with no fatigue. The RMC™ Room Mode Correction is very helpful in situations where we have to get in quick and get going. It gets us closer faster. We just got a set of the new LSR4300 series and the automated RMC makes set up really easy. It's about knowing the mixes will translate, and the JBL LSRs work really well for us, on location and in our five control rooms at Sound Design."

Hear why Emmy® Award-winning mixer Paul Sandweiss relies on the LSR Series Studio Monitors.
Visit www.JBLPRO.com/LSR

LSR SERIES
STUDIO MONITORS

JBL

A Harman International Company

METAlliance™ CERTIFIED

Look for the METAlliance™ Certification on selected JBL LSR Studio Monitors.

World Radio History

Zenph Studios' John Walker observes the re-recording setup onstage at the Shrine Auditorium

Art Tatum

"RE-PERFORMANCE" CAPTURES EVERY NUANCE

By Blair Jackson

As many a frustrated pianist can tell you, it's nearly impossible to play like jazz piano immortal Art Tatum. Such was his improvisational genius and jaw-dropping dexterity that Tatum's peers shook their heads in disbelief at his prodigious keyboard feats. Yet now there's an amazing CD that captures every aspect of Tatum's brilliance—with no pianist in sight! *Art Tatum: Piano Starts Here—Live at the Shrine* is a remarkable modern "re-performance" of a 1949 Tatum concert LP (as well as four songs from a 1933 studio session),

Richard King (left) reviews notes with Steve Epstein

accomplished by programming every nuance of Tatum's playing on those recordings onto software that was then "read" by a Yamaha Disklavier Pro grand on the same L.A. Shrine Auditorium stage that Tatum graced nearly 60 years ago.

"The Disklavier cannot do what we need so they built a different model called the Disklavier Pro," explains John Walker, whose Raleigh, N.C.–based Zenph Studios (www.zenph.com) software company is responsible for the sophisticated programming. "I wish they'd called them 'Ford' and 'Ferrari,' because that's how significant the difference is between those two instruments. Now that the Disklavier Pro exists, you can get thousands more levels of touch and nuance, so *now* we can really replicate what a musician does."

We're talking about a literally microscopic level of data analysis and coding—the tonal coloring, the attack and decay of each note, every pause and pedal move is exactly replicated on high-resolution MIDI files and then "played" back on the Yamaha (or new similar models from Steinway and Bösendorfer).

Piano Starts Here marks the second Zenph release for Sony BMG: Last year, a re-performance of Glenn Gould's 1955 recording of Bach's *Goldberg Variations* came out to rave reviews. It was produced by Grammy-winning classical and jazz producer Steven Epstein and recorded by Epstein's longtime colleague, Richard King. They collaborated on the Tatum disc, as well.

In a sense, once the programming is perfected and tried at Zenph Studios, there's no mystery about the performance's *quality* to be recorded; the producer's role is mainly before the actual recording, "With the Tatum [album]," Epstein says, "because there wasn't really any written material, the idea was to become as familiar as possible with the original recordings to get a sense of any technical aberrations or musical quirks. Then it's a question of correlating those [original recordings] with what I heard in the concerts."

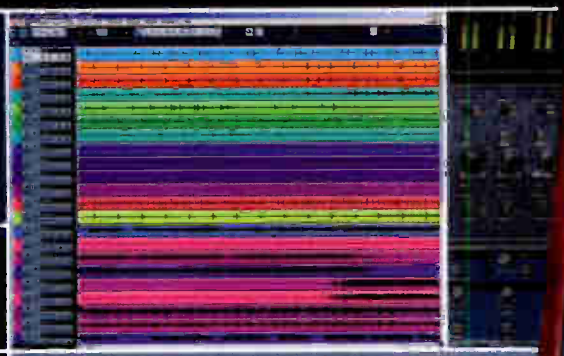
Sonically, the actual recording of two shows—complete with audience—at the Shrine in September 2007 could have been any other hires live session. Though the files created in North Carolina had been completed to everyone's satisfaction, there was still slight apprehension going into the Shrine. "It seemed almost too loud and forceful in the [Zenph] studio," Epstein says. "But Tatum knew what he was doing. He was *projecting* in this big place." Walker adds, "God bless Steve Epstein's ears—he found the right spot on the stage where everything worked musically—every accent, every rest, every pedaling."

King says, "The idea was to do a 5.0 surround recording as simply as possible to capture it as accurately as possible. So we had five microphones—transformerless DPA 4006TLs—straight to the [Millennia] mic preamp, straight into the Sonoma [DSD digital workstation]. As a safety net, we had a pair of Sennheiser MKH 40s deep in the piano—as you normally would for a jazz piano recording—and the [binaural] dummy head. We also added two Neumann cardioids for audience mics. When we went to mix [at Legacy Studios in New York City] we didn't use the piano mics at all and the audience mics were only brought in and out for applause, so they weren't part of the main pickups. It really ended up being the five-DPA array with a tiny amount of Lexicon 960 reverb. [The converters were Meitners.] Everyone was concerned with the sound matching timbre-ly the sound of the original live recording, but that was quite dirty and didn't have a lot of air in it so we had room for our own creativity."

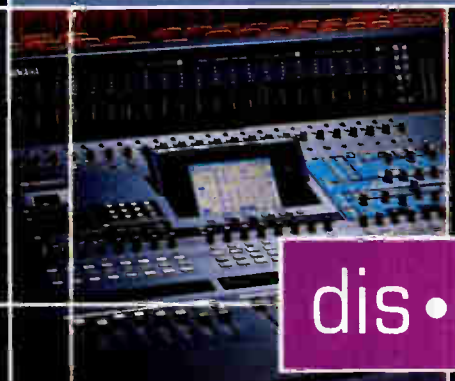
The result is an astonishing re-creation—Tatum for the digital age. What's next for Zenph? Besides a new Tatum with Big Band disc, expect to hear re-performances of Rachmaninoff, Rubenstein, Ellington and others. They're close to perfecting their standup bass programming, and drums and horns aren't too far off. "We think voice may be 10 years away," Walker says. Don't bet against perfect Caruso in 2018. III

World Radio History

www.yamahaca.com



Nuendo 4 features a world-class automation system, 39 all-new VST3 audio effects plug-ins, advanced post pro editing features and more.



dis•tinct

(di-stingkt') *–adj.*

1. Readily distinguishable from all others.

Some things just have a way of standing out. A prime example — Yamaha's DM2000VCM. 96 inputs at 96 KHz, on-board mix automation, 6.1 surround, a series of add-on effects, EQ's and dynamic processors are just a few of its notable qualities. With the capability to control the new Nuendo 4, along with various other DAW's, the DM2000VCM is an industry favorite for reasons beyond compare.

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

YAMAHA

commercial audio

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

©2008 Yamaha Commercial Audio Systems, Inc.

World Radio History

CLASSIC TRACKS

Dobie Gray

"DRIFT AWAY"

By Dan Daley

When songwriter Mentor Williams came to Nashville from L.A. in 1972, he was looking at an interesting proposition. After several years of studio experience limited to songwriting demos in L.A., his naturally entrepreneurial inclination led him to strike out on his own as a producer. He was able to cut a deal with Nashville-based Decca (soon to be acquired by MCA) for his fledgling production company, Third Son. Williams had chosen as his first album project a try at restarting the career of Dobie Gray, the son of a Texas sharecropper whose previous chart success had been nearly a decade earlier with the Top 20 R&B version of Ramsey Lewis' jazz classic, "The In Crowd." Engineer Gene Eichelberger, at Quadrafonic Sound (now Quad Recording) remembers Williams as anxious about his freshman project: "Some of the songs took longer to mix than they did to record," he recalls, as Williams sought to make good on his first major-label outing.

Talk about hitting a grand slam on your first at-bat in the majors. The album's first single, "Drift Away," penned by Williams, topped out at Number 5 on the pop charts in '73 and became an instant classic, a staple of oldies radio that generated scores of genre-hopping covers by artists ranging from Michael Bolton to Narvel Felts.

Future publishing mogul Tim Wipperman, then the tape copy person at A&M Records, had introduced Williams to the new generation of Nashville session players in the year before the sessions started in autumn of 1973: guitarist Reggie Young and bassist Mike Leach, who had cut their teeth at Chips Momans' American Studios in Memphis; keyboard player David Briggs, who founded Quadrafonic with fellow Muscle Shoals veteran Norbert Putnam; and drummer Kenny Malone, so sensitively attuned to a song's meaning that, famously, upon hearing that a song's lyric described a woman slitting a man's throat, told the producer to wait a moment while he retrieved a different cymbal from his van, one that had just the right "scream" for the track.

It was a session crew unlike previous ones in Nashville, perfect for the blend of R&B, soul and pop that Williams heard in Gray's distinctive voice. Briggs' presence on the record made Quadrafonic a logical choice. The studio, optimistically named for the doomed CBS and Sansui quad-channel formats, was cutting-edge for its time with a 24-channel Quad 8 console (later expanded to 32 channels by Eichelberger with the help of his young wiring assistant, Denny Purcell), an Ampex MM1000 2-inch 16-track deck and Altec main monitors with JBL 4130 speakers in the rear. Compressors were a pair each of the Teletronix LA2A and UREI 1176.

With the musicians assembled in the live room and Gray in an iso booth with a Neumann U47 FET ready to do vocals, Williams ran the chord changes down on an acoustic guitar while Eichelberger put the finishing touches on the microphone placements. The kick drum had a U47 positioned in front of it to catch the pop that Eichelberger used to give the low-end percussive definition, with a pair of U87s for overheads above the toms and pointing downward, and an AKG 224E on the snare drum placed tightly a couple of inches in from the rim. "Kenny asked me what kind of sound I wanted on the snare, and I said something deep and rich to complement Dobie's voice," Williams remembers. Malone, formerly the head of the percussion department at the Armed Forces School of Music during his stint in the Navy, chose a 10-inch field marching drum and kept the snares loose to give it a tail that the EMT 250 plate reverb would emphasize. "A lot of the verse is just drum and bass, so the sound of the kit was very important to the track," says Williams.

Guitar amps for Young, whose Les Paul played the song's soulful and defining double-stop fills, and Troy Seals, whose Telecaster added staccato country licks in the chorus, were miked with AKG 224s set about six inches from the speakers, slightly off-axis. "I also used the 224s for acoustic guitars a lot," says Eichelberger. "They sound good with very little EQ on them." A pair of U87s on a baby grand created a stereo piano track, and Leach's bass was picked up by a combination of a homemade DI tap and an Electro-Voice RE-20 microphone on the amp.

"The band picked up the song immediately," Williams remembers. "The intro was a set of

World Radio History

chords I had, but Reggie turned them into what you hear on the record": a folky two-bar riff that sets up the song and serves as the turn-around between verses. Young later doubled the part each time it occurred, and Eichelberger set the two tracks slightly out of phase with each other, giving it a Leslie-like quality. A roll of 3M 250 tape—one of the first of a generation of formulations designed to absorb hotter record levels—began to pass over the capstan at 30 ips and the basic track was locked in within the first three passes, with an almost-complete lead vocal from the guide track. Gray punched in a word here and there, but Williams says he would let small artifacts, like headphone leakage, pass in favor of keeping the feel of vocal.

Williams, not wanting to add any additional timbre to Gray's sonorous vocal, had the singer harmonize with himself, despite the fact that tracks were becoming scarce. "We had to put some of the harmony tracks onto the parts of the guitar tracks where the guitars were laying out," says Williams. "We had a piece of one of them on a cymbal track." The track becomes a bit denser toward the end: A tambourine appears on the ride-out only, and handclaps were added in the final breakdown chorus.

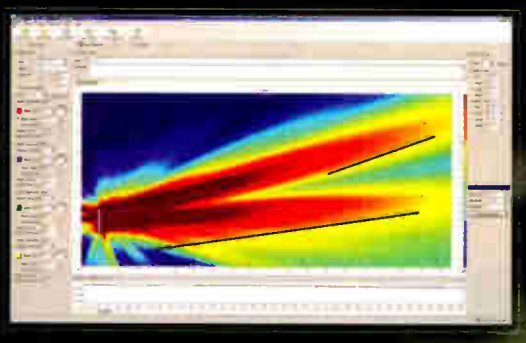
Strings were recorded after tracking was complete in Quadrafonic's wood-paneled front room, recorded by Eichelberger with a combination of U87s and 224Es and mixed to stereo. "I always made sure I checked them for phase before I recorded them," he says.

This, of course, all went down during the era before console automation, so the mix was physically strenuous. "It took two sets of hands, mine and Gene's, to get that mix done," says Williams. "There was a lot of riding the faders because of the vocals that were sharing guitar tracks, and a lot of panning for the same reason: We had to put the harmony tracks down the middle in the choruses and then quickly pan the guitars back to hard-left and -right. There was also a lot of muting; for the entire intro and first verse, most of the tracks are muted to reduce noise." Eichelberger had an unusual trick that grouped mutes—sort of. "We would put three or four cassette boxes together with gaffer's tape and use them to cover several mute buttons at the same time with one hand," he explains. "That was the 'master' mute." The record got its finishing touch from mastering engineer Bernie Grundman in Hollywood.

"Drift Away" did anything but drift away, and has remained part of the repertoire of countless cover and party bands ever since, not to mention a favorite of contestants auditioning for *American Idol*. In 2003, a version by Uncle Kracker, featuring Gray as guest vocalist, reached Number One on the pop charts; a year later, it topped the adult contemporary chart, cementing its wide cross-over appeal. Gray has managed to stay vital through the years as both a performer and songwriter—his move to Nashville in the '70s led to his songs being covered by everyone from Ray Charles to George Jones to Tammy Wynette to John Denver. He's also done considerable work in commercials. His Website, dobiegray.com, claims he has an album of new material due this year.

The success of "Drift Away" also helped establish Quadrafonic Studios and Nashville itself as destinations for far more than country music, along with records like Neil Young's *Harvest* album, recorded at the studio in 1972. "Back in L.A., they thought I was crazy to go to Nashville to make a pop/R&B record," recalls Williams, who says he at first had to battle the label—which was looking for a short, up-tempo ditty—to make "Drift Away" the first single. "But after that, Nashville became the new hip place to record. People realized you could make any kind of record you wanted there. And you still can." ■

Steer The Sound Not The Box

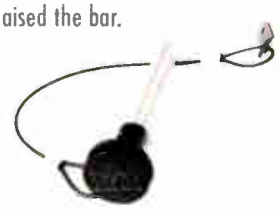


BeamWare - Complex Mathematical Calculations
Behind An Intuitive Graphic User Interface

steerable portable powerful

IC Live

Built for live sound, we've taken Iconyx technology and raised the bar. Digitally Steerable Sound to minimize reflection for the highest intellegibility. A portable package and easy setup, with or without a computer. Slim design for maximized sight lines.



Experience what IC Live can bring to your business of corporate events, live concerts, theater, political rallies and more.

ICONYX DIGITALLY STEERABLE LINE ARRAY LOUDSPEAKER SYSTEMS

RENKUS-HEINZ

GIVE YOURSELF THE ADVANTAGE

www.renkus-heinz.com

World Radio History

PHOTOS: FAULE SAVIANO

By Gaby Alter

Sheryl Crow

SINGER/SONGWRITER TAKES THE GREEN ROAD

With a peace sign on the backdrop, Sheryl Crow took the stage at the Nikon at Jones Beach amphitheater in Long Island, N.Y., opening the show with "God Bless This Mess" from her latest release, *Detours*. The tune was a state-of-the-union address from the outspoken artist, depicting a country fractured by the Iraq war and the events of 9/11. It's par for the course of *Detours*, whose songs Crow mixed with her slew of hits.

As an activist on the road, Crow puts her money where her mouth—and her gas tank—is. The tour has been playing arenas, amphitheaters and clubs in the States since June, and Crow and crew use buses and trucks that run on cleaner-burning (and more expensive) bio-diesel fuel. Other "green" initiatives include merchandise made from recycled materials, rechargeable Green batteries and eliminating plastic bottles.

Echoing this "going-green" philosophy, front-of-house engineer Sean

World Radio History

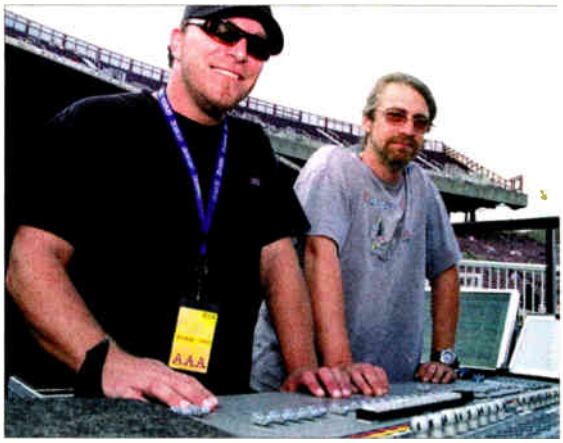
"Sully" Sullivan carries no outboard gear, sticking instead to the built-in plug-ins of his Digidesign D-Show Profile mixing console, keeping his FOH footprint compact. "I just try to keep it simple," he says. "It's crazy enough that we're controlling everything with software and trusting it to work every night—that has got my full attention."

Sullivan uses the desk's Pro Tools recording capabilities, documenting each gig and playing back the next days. This lets the engineer dial in many of the sounds well before the performance and helps him avoid setting levels incorrectly during soundcheck when the band might not be playing at full energy. Thanks to the D-Show, when Crow hits the stage, everything is spot-on. "There's a lot more of fixing and working on things that are happening now as opposed to making the hi-hat sound exactly the way you want or the snare to be sent to a reverb perfectly," he adds. "This console makes live mixing just like a studio; I can sit around all day and work on stuff."

There are other advantages to having high-quality recordings of every show. "We've done a full-production live DVD shoot without having to bring in a truck to record. We have hundreds of shows to use parts from as backup if something goes wrong that night," Sullivan says.

OUTDOOR SOUND

Sullivan considers tonight's venue to be pretty ideal. "Open-air outdoor venues behave a lot differently than arenas and indoor venues do because what you produce in the P.A. hits your audience and then gets on about its business and leaves the area," Sullivan explains. "Outdoors is more like a studio, where there is no room sound because you're not in a room. All my best mixes happen outdoors."



Front-of-house engineer Sean "Sully" Sullivan (left) and monitor engineer Geno Salerno

The tour is carrying a Clair Bros. i3 line array with a side-hang of 18 i3s and six BT-218 subs per side flown behind the P.A. "The problem with most P.A.s working well with subs evenly throughout the venue is that the high boxes are so full-range, especially from Clair Bros.," he says. "Everything they put out has good, reinforced low end, so when you have a line array in the air producing the same low frequencies as subs on the ground, they don't hit you at the same time everywhere. So by putting [the subs] close to the main P.A. in the air—basically right by each other—they pretty much become one, so no matter where you are in the building they're always hitting you at the same time."

The amps are Clair Bros.' Stak Raks with Lab. gruppen PLM models with a Clair iO crossover processor built into each channel. "Through network control, we can do whatever we need to as far as EQ'ing, controlling zones of the P.A., sections of the line array, shading sections of the line array,

suppress *(səˈprɛs) vb.* to reduce or eliminate a particular frequency or frequencies in a signal.

SuprEsser *(səˈprɛsə) n.* a new plug-in from Sonnox.

Sonnox

The Oxford SuprEsser plug-in from Sonnox .

A new definition in de-essing.

- Transparently controls aggressive frequencies
- Linear Phase Dynamic EQ
- Automatic Level Tracking
- Graphic Display (FFT) for increased accuracy
- Full spectrum operation
- Easy to use & advanced mode for ultimate control

Time limited introductory price offer.

Oxford Plugins

www.sonnoxplugins.com

World Radio History

or if the subs don't line up perfectly to the wrap we can adjust sub distances to the P.A. accordingly."

ALL MIKED UP

Sullivan is covering many of the inputs onstage with Heil dynamic PR-30 and -40 mics. "I've used condensers all my life, and P.A.s are typically hyped up a lot more than a studio reference monitors are," he says. "So you end up not needing a lot of what a condenser normally does for you. It's not a quiet atmosphere, so what goes into it you're going to hear back, and if it's the P.A. getting back into it, what good does that do you? These Heil microphones have taken that approach as far as scientific response and good-quality sound, but they're not that sensitive to anything they are not pointed at. If something's not very close to them, you're not really going to hear it in them," he continues. "I mean, I've seen Bob Heil gaffe-tape them to the end of a shotgun and make movie sound effects with the things."

Crow sings into a Shure UR-4D wireless series with an SM58 capsule. Sullivan treats her voice with Waves Renaissance plug-ins: a compressor, de-esser and EQ, "And that's it," he adds. "I spend most of the show EQ'ing her mic to how she's using it." One of the tour's challenges was closely approximating the acoustic guitar sounds from the album for the live show. "[In a studio], you stick a nice mic in front of it and it sounds great," Sullivan says. But live, the piezo pickups being used were not cutting it. "We shipped in a bunch of esoteric preamps and compressors, and all kinds of stuff—this was going off of [producer] Bill Bottrell's recommendations—to get the guitars sounding the way Sheryl was expecting them to sound. We went through a lot of pieces of gear and ended up with a simple, little mic preamp, a Chandler Limited LTD1, just to get the signal hot enough to compress it a little bit with a Purple Audio 77 comp/limiter. No DI is involved because the mic pre is onstage, so it's all line-level by the time it leaves the guitar."

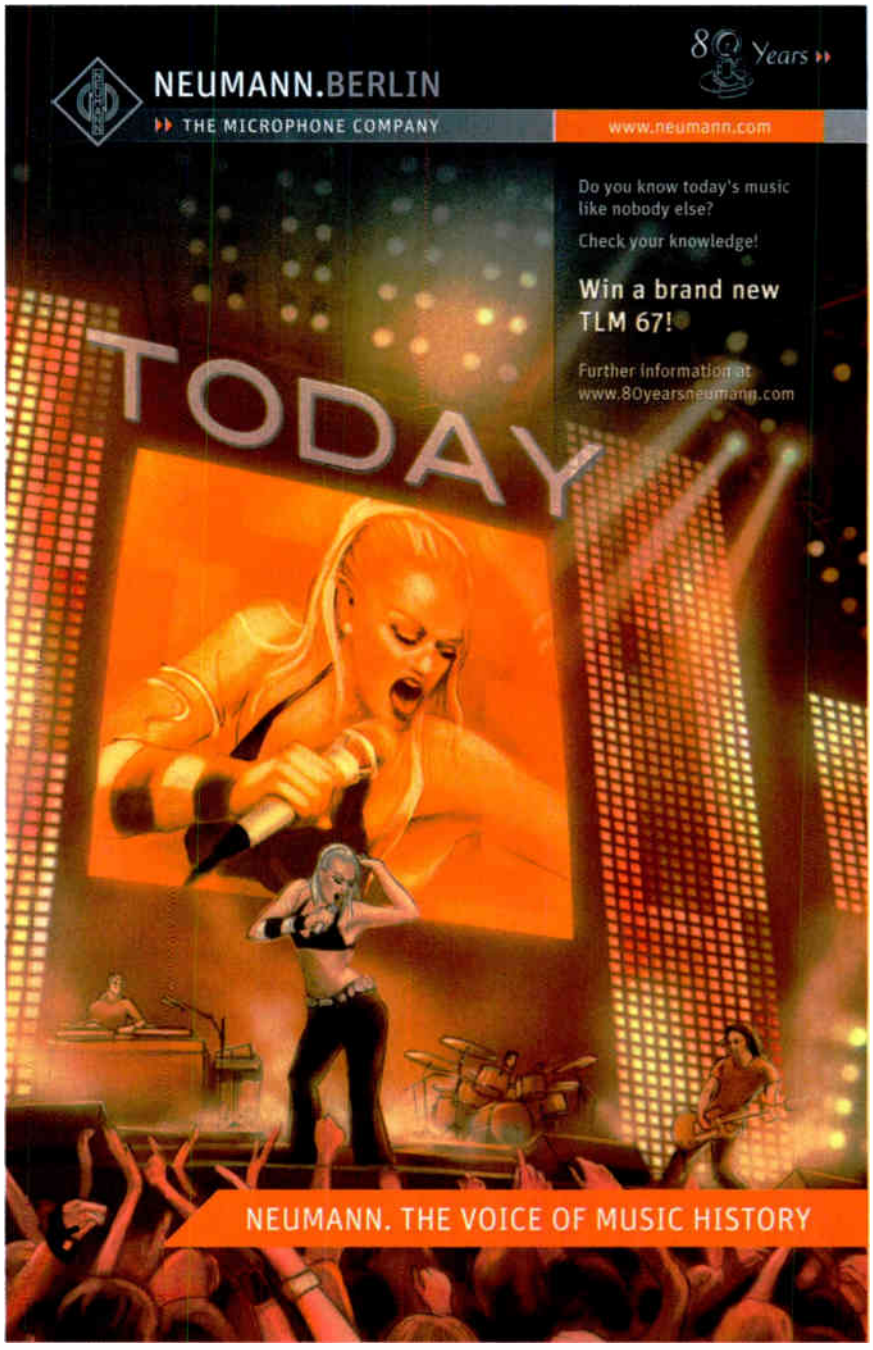
VETERAN EARS

Geno Salerno has been Crow's monitor engineer since 1995. "I've learned a lot from working with the same artist for such a long period of time," he says. "Like, what's that look on her face mean, what's she looking for right now. She'll tip her head back and that means more vocal. She'll bring up the neck of her guitar and that's more guitar, but then if she brings it straight up that's not more guitar, she's just playing to the audience."

Salerno is mixing on the same board as Sullivan, "except the grown-up version," he quips: the Digidesign D-Show VENUE, which is twice the size of the Profile. "It's got more space in the middle section so I can see and access more outputs easier."

The band uses Future Sonics IEMs with Sennheiser EW300 G2 Series beltpacks, except for drummer Jeremy Stacey, who uses a 12AM Clair wedge with an ML-18 sub and an occasional in-ear for a click. Crow takes one in-ear in and out during the show, leaving the other in, while guitarists Peter Stroud and Tim Smith use one in-ear each. On Crow's vocal, Salerno uses a Digidesign Smack compressor plug-in, which is similar to a Fairchild 670 comp/limiter. "In the past, she had never wanted any compression on her voice at all," he says. "This tour's rehearsals, Bill Bottrell came out, and she really wanted him to have a hand in how stuff went down. He wanted to have a compressor on her voice to affect the way she sang, which for me was great because I finally had a little control. If she doesn't think about me, then I'm doing my job," Salerno concludes. "It's not my job to go up there and be a pop star sound guy. It's to let them play together without me being a factor." III

Gaby Alter is a New York City–based writer.



World Radio History

SOUNDCHECK

LES—New Crew on the Block

From left: Gary Teal Sr., Jennifer Teal, Gary Teal Jr., Michael Eads and Steve Huf

By Heather Johnson

Less than a year since opening its doors, Jennifer and Gary Teal's Live Event Solutions (LES, Conyers, Ga.; www.liveeventsolutions.net) boasts the largest QSC WideLine-10 line array system inventory in the state; it also carries WL218-sw subs, PL380/340 power amps and HPR Series for monitors.

"There are a million brands of loudspeakers and 99 percent of them sound great," says company co-founder Gary Teal Jr. "But QSC really came through with a commitment to us, and that meant a lot. We've had great response from client to client."

Clients are also attracted to the company's Kermit-the-Frog–green AVS road cases. "We made a conscious effort to brand our company," says Teal Jr., who handles the majority of the company's front-of-house duties. "When we show up, it's painfully obvious. The decision to 'go green' does two things: It protects against theft and starts more conversations than you'll ever know.

"Customers come to us to solve a problem," he continues. "They're faced with a certain situation, and we turn-key it. Given our name, Solutions, we're trying to solve their problem by handling all different elements of the show."

The Teals launched Live Event Solutions in December 2007, after Gary Teal Jr. and Sr., along with lighting designer friend Michael Eads, left another Atlanta-based production company to strike out on their own. Within weeks of forming the new venture, equipment started rolling in—just in time for Christmas. "It's been like a rocket taking off—right out of the box, we got really busy," says Teal Jr.

Two months into the New Year, he broke a personal resolution: He bought a stage top. "I swore I never would," he says. "But, boy, did I eat those words because we started looking at the requests for staging and roof systems in early February and decided to buy a 28-foot-by-28-foot sloped roof. That thing was booked for eight consecutive weeks!"

The small staff of five—which includes his father, Gary Teal Sr., as general manager and Jennifer Teal as president—can provide a gig with lights and staging components, but their primary focus remains audio production and sound reinforcement. The company carries Yamaha LS9 and M7CL digital mixing consoles; Whirlwind cabling and snake systems; power distribution from Motion Laboratories; and mics are mainly Shure models, including the UHF-R Series wireless.

In addition to outdoor festivals, Live Event Solutions has supplied audio for charity events such as the American Cancer Society's 2008 Hope Fashion Show in Atlanta, as well as graduations and corporate events. This spring, the QSC system could be found at the Exchange Park Ladson Fairgrounds (Ladson, S.C.), handling rock bands Seether and Flyleaf. A few weeks later, LES supplied audio for SummerFest, an outdoor event in Atlanta featuring Shawn Mullins and Sister Hazel. "Their crew was amazing," says Teal Jr. "Everybody was in 105-degree heat and had the right to be grouchy, but nobody was. And the P.A. performed beautifully."

tour log

Mastodon

Rockers Mastodon recently held a sought-after headlining spot at this year's Bonnaroo festival, where *Mix* caught up with front-of-house engineer/tour manager Lewis Lovely. If you didn't make it to the festival, check out our online photo gallery available at mixonline.com/photos/bonnaroo2008; you can also check out a 30-minute Webcast of Mastodon's performance at www.atblueroom.com/music.

How much gear are you carrying on this tour?

We are carrying backline and a mic package. The boys are in the middle of recording their new record with Brendan O'Brien and are really concentrating on that right now.

Do you have a specific mixing style for the band?

I try not to make any one thing the predominant ingredient in a mix. You always run across engineers who think kick drum and vocals are all you need to hear. I want to comfortably hear any of the little nuances Mastodon has written in their songs.

What is the most difficult portion of your job for this tour?

As tour manager and front-of-house engineer, I have the wonderful job of taking care of their daily lives. They are a true trouble-rousing rock 'n' roll band, so press is always fun to schedule.

Where can we find you when you're not on tour?

Brooklyn, yo, with my wife, BB!

fix it

Monitor engineer Shon Hartman, The Offspring

These new PLM Series from Lab.gruppen eliminate the need for separate processing. Because they integrate signal distribution, drive processing, power amplification and performance monitoring into a single unit with a unified software controller, I simply recall the pre-programmed settings for different wedge monitors, ARCS, subs or thumpers. Built-in Dolby Lake processing means that I need one less unit in my rack and it allows me to have a spare amp just in case. This really helps keep the footprint of my monitor world quite small.

World Radio History

Cyndi Lauper Hits Theaters

Photos & Text by Steve Jennings

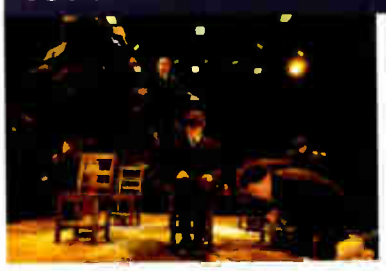
Currently out in support of her latest, *Bring Ya to the Brink*, Cyndi Lauper is hitting mid-sized theaters across the U.S. before heading to Europe. *Mix* caught up with the artist's second True Colors tour (which also features The B-52's, Andy Bell of Erasure and comedian Wanda Sykes) at Berkeley, Calif.'s Greek Theater.

FOH engineer Kevin Sproatt is mixing on a Digidesign D-Show Profile using onboard plug-ins: BF3s and Crane Song Phoenix. At monitor world, Michael Mule is manning a DiGiCo D1, one of his longtime favorite boards because he can "see everything at once without having to scroll through pages to get where I want to be," Mule says. "I'm not using any plug-ins, but Cyndi has a Daking mic pre and EQ that we insert on her mic that goes to her ear mix [Shure PSM 600 transmitters with Sensaphonics ear molds]. Her mic is a standard Shure 58 RF that we put a 57A grille on."

Eighth Day Sound systems tech Kyle Walsh explains the P.A.: "12 L-Acoustics V-DOSC per side with three dV-DOSC downfills, six d&b B2 subs per side, four d&b Q1s per side for side hangs and four d&b Q7s for front-fills. The V-DOSC is powered by Lab.gruppen amps; everything else with d&b D12s. A Dolby Lake controls the system."

FOH engineer Kevin Sproatt

load in



The production of Tony Award–winning *Spring Awakening* includes numerous Shure UHF-R wireless devices, which were spec'd by audio engineer Francis Elers and sound designer Brian Ronan, and provided by Masque Sound.

Fresno, Calif.–based sound company JAG Music Productions bought a D.A.S. Aero 38A line array system...Audio Analysts is again supplying gear for Ringo Starr's All Star outing; FOH engineer Brian Bravido is manning a Yamaha PM5D. Aaron Goldstein is the monitor engineer...Norwegian pop band a-ha have played a string of sold-out dates with FOH engineer Sven Persson at the helm of a Midas XL8 Live Performance System...Now available: Clear-Com Communication Systems' software-based intercom system, Clear-Com Concert...Ahoy! Two Digidesign VENUE systems recently set sail on Cunard's Queen Victoria ocean liner; Nautilus Entertainment Design provided the A/V designs for the ship's 30 entertainment venues onboard...Amit Peleg, president of Peltrix, was hired to consult, design and install a new high-end sound system at New York City's Highline Ballroom, including bringing in an assortment of AKG mics...A Soundweb London has been installed at Café Martorano at the Rio All-Suite Hotel in Las Vegas for chef Steve Martorano, who fillets fish and rocks the turntables.

road-worthy gear

Middle Atlantic Power Distro

Middle Atlantic Products' PD-915R-M 15-amp power-distribution system provides power to nine outlets and monitors eight AC parameters—voltage, current, watts, VA, frequency power factor, kWh and run time—providing real-time power-quality information. Indicating total system load, these factors are easily viewed on a front-mounted LCD. The single rackspace is protected by surge and spike protection that does not pass noise to ground.
www.middleatlantic.com

Kaltman RF Analyzer

The Invisible Waves line are PC-based RF-spectrum analyzers with automatic charting of open white space for use with wireless gear. The $1,495 IW1800 covers the 9kHz to 1.8GHz span, and extends into the lower GHz ranges. For users requiring analysis above 1.8 GHz, the IW4000 monitors the 9kHz to 4GHz range, and the IW7000 handles the 9kHz to 7GHz band.
www.kaltmancreationsllc.com

Stagegear 411 Series Roadcases

The new 411 Series from Stagegear feature Ever-Roll™ casters with sealed precision bearings, 9/11/13-ply European birch construction, three exterior finish choices and countersunk/recessed hardware. Also new is the LightHouse™ interior lighting system option that incorporates a state-of-the-art, high-output LED strip to light the case interior with just a flip of a switch.
www.stagegear.com

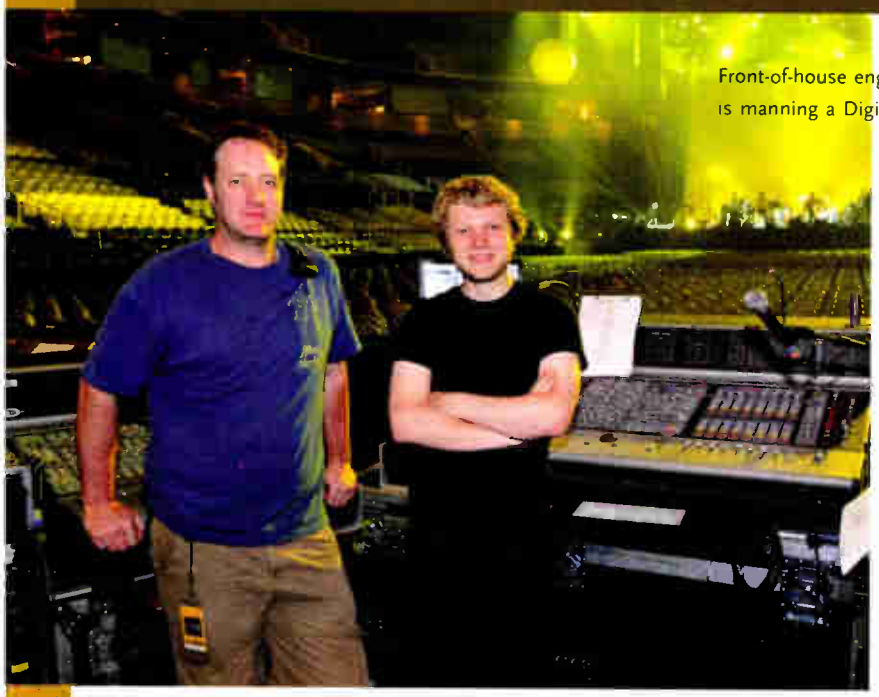
World Radio History

ALL ACCESS

photos and text by Steve Jennings

Coldplay

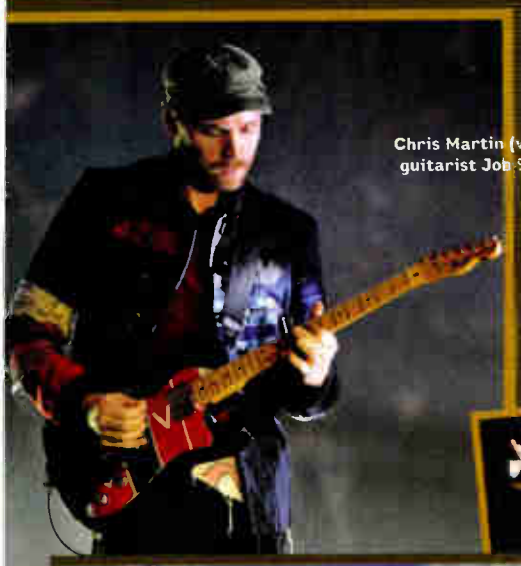
Out in support of their latest, *Viva la Vida*, British pop/rock outfit Coldplay (Chris Martin, vocals/piano/guitar; Jon Buckland, guitar; Will Champion, drums; and Guy Berryman, bass) played a slew of dates in the UK before returning Stateside. The P.A. for the U.S. tour is being provided by Eighth Day Sound; Wigwam Acoustics supplied all the gear in Europe and continues to provide the front-of-house and monitor packages. *Mix* caught up with the band and crew at the HP Pavilion in San Jose, Calif.



Front-of-house engineer Daniel Green (on right with crew chief Tony Smith) is manning a Digidesign VENUE board, using a slew of onboard effects, including Waves, URS and Digidesign Smack!. "It's great to hone each song night by night and have the same great results," he says. "Plug-ins have also been a great help as their setting can also be saved. The only outboard gear I'm using is an Eventide H8000 for special effects and a Lexicon 960 on all reverbs."

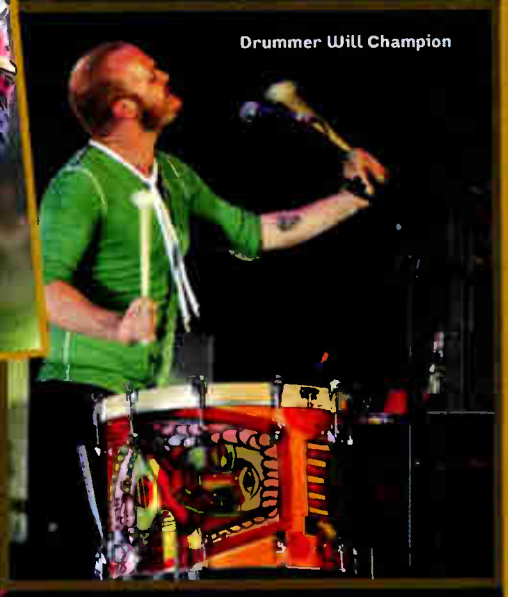
According to crew chief Tony Smith, the d&b J Series P.A. comprises 16 J8s (main hang) with four J12 down-fills, six flown J subs and another six J subs on the ground. The side hang includes 16 J8s. "We have a sell line of over 270 degrees, so we have 12 J12s to cover right around past the upstage edge," Smith details. "There is also a selection of Q7s and Q10s for front-fill. The system is being driven by D12s using the R1 remote network. The signal is kept in the digital domain to the D12s via Dolby Lake in North America, but we will be experimenting with the XTA 448s in Europe for the overall system EQ, along with Smaart and Earthworks M30 for system analysis."

World Radio History



Chris Martin (vocals, piano, guitar) and guitarist Jon Buckland emote for their adoring fans.

Bassist Guy Berryman



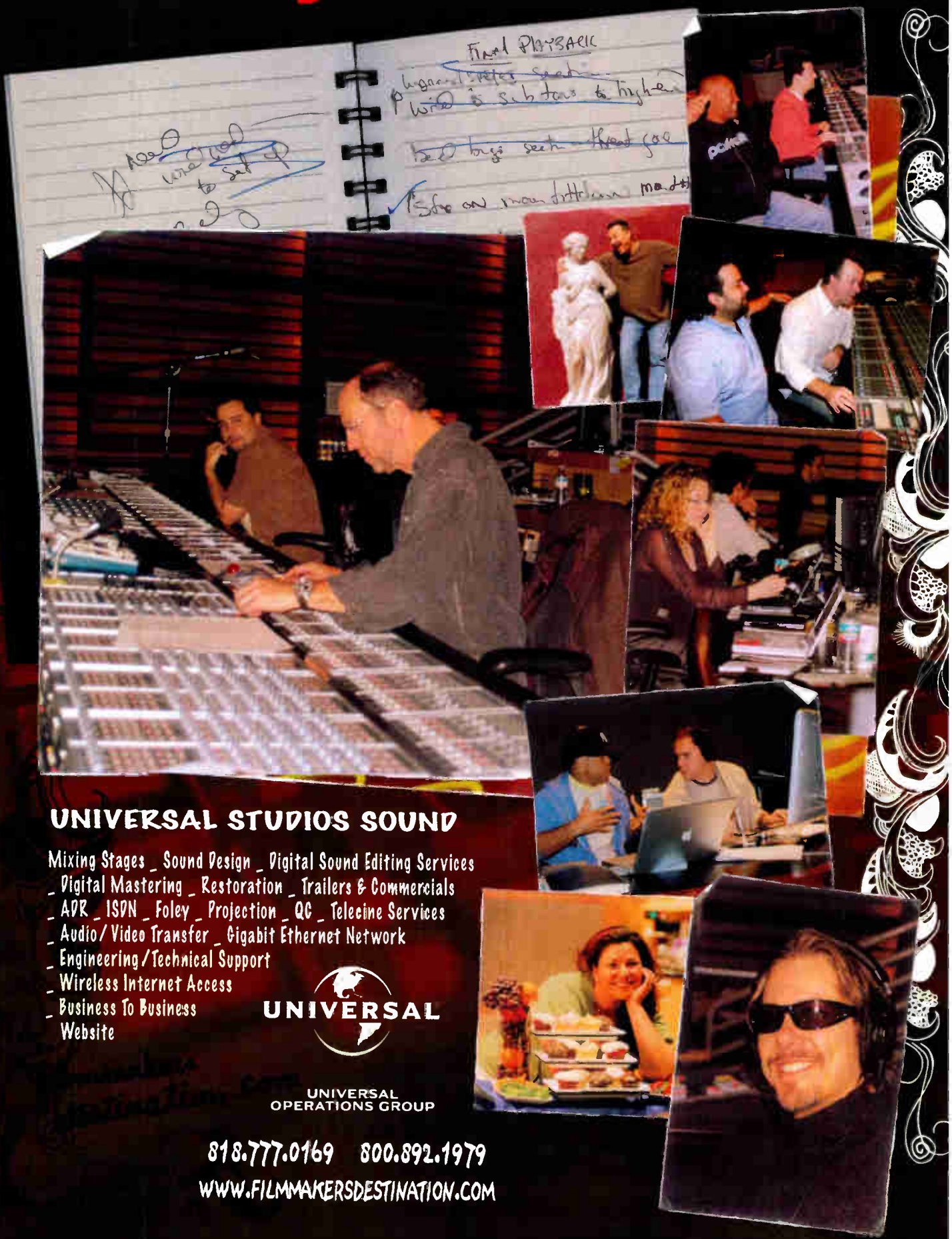
Drummer Will Champion

Over at monitor world, engineer Chris Wood is manning a Digidesign VENUE board, where he creates the mixes for each bandmember's Sennheiser in-ears. Onstage, Wood is also controlling the d&b M2 wedges.

The band performs two songs on the ramp (stage B) and another two songs out in the audience tiers (stage C). "Our RF tech, Stephanie Thompson, handles stage C duties: cables apart from the IEMs which are the Sennheiser EW300 systems alongside a power amplifier to ensure that the IEMs work, regardless of where the band is performing," Green explains. "On stage B, the band is once again on Sennheiser EW300 IEMs. We use two radio Neumann KK105s for Will and Guy's backing vocals, plus a radio Shure SM58 for Chris' vocals. Jonny and Chris' guitars are also on Shure wireless systems."

World Radio History

hear your vision



UNIVERSAL STUDIOS SOUND

Mixing Stages _ Sound Design _ Digital Sound Editing Services
_ Digital Mastering _ Restoration _ Trailers & Commercials
_ ADR _ ISDN _ Foley _ Projection _ QC _ Telecine Services
_ Audio/Video Transfer _ Gigabit Ethernet Network
_ Engineering/Technical Support
_ Wireless Internet Access
_ Business To Business Website

UNIVERSAL

UNIVERSAL OPERATIONS GROUP

818.777.0169 800.892.1979

WWW.FILMMAKERSDESTINATION.COM

World Radio History

By Blair Jackson

The Magical World of "Spore"

NEW GAME COMBINES CREATION, EVOLUTION AND HISTORY

Years in the making, *Spore* is the latest and boldest videogame to come from the extremely fertile mind of *Sims* creator Will Wright and Maxis/Electronic Arts. In a gaming landscape increasingly dominated by testosterone-fueled console offerings (Xbox, PS3), games such as *The Sims* and *Spore* still cater mostly to the PC/Mac market and to players of all ages and both sexes. And who can argue with the success of the *Sims* franchise and its sales nudging toward 80 million copies worldwide?

With estimated development and production costs well north of $10 million, there is a lot riding on *Spore*, but it seems almost certain to become a runaway success: It has been hotly anticipated since it was announced at the 2005 Game Developers Conference, and in previews at the most recent E3 it caused quite a sensation, even earning a Best of Show pick from GameSpy.com. The game hits stores in the U.S. on September 7.

World Radio History

If you're familiar with *The Sims*, you know that much of the pleasure derived from the game comes from a combination of player-controlled design of the characters and settings, and then the freedom and open architecture of the actual gameplay. Rather than it being goal- or mission-oriented, it's more about character evolution and management, and how interactions with other characters affect different situations. The characters speak an odd tongue known as Simlish (which has always sounded vaguely like Dutch to me), yet the emotional content expressed in that language couldn't be more clear, and thus universal. Well, are you ready for *Sporelish*?

Originally, Wright was going to call his new creation *Sims Everything* because of the incredible scope of the game: Players start as single-celled organisms in the ocean of pre-history, then make their way through assorted evolutions to become land-based creatures (and never humanoid Sims), organize into tribes, build cities and conquer territories, and eventually leave the planet for strange worlds in deepest space. In other words, it's the entire history of the universe in one videogame! Still, it has that unmistakable sense of playfulness and whimsy that is at the heart of *The Sims*. At every step on the long road of evolution and increasing character sophistication, the player is faced with a multiplicity of choices—from the physical traits of the characters (two legs or four; long beak or sharp teeth, or *both*; etc.), to the types of buildings that will form cities, tribal philosophy (warlike, religious, economically savvy), to the sort of spacecrafts and planets that make up the outer reaches of the cosmos.

The player-controlled editors allow for hundreds of thousands of combinations, all of which will affect the gameplay in some way, and then there's also another component that expands *Spore* in other completely unpredictable directions: Though not technically an online multiplayer game, single players will be able to introduce cool content created by other players into their own games through a combination of a Spore network on YouTube, Maxis' own *Spore* site and "*Spore*-casts," which will allow players to "subscribe" to other users' content through RSS Web feeds.

As you might expect, a game with so many different worlds, character types and situations posed a mighty challenge when it came to supplying sound effects and music for the varied realms. Spearheading that end of production was Kent Jolly, who works out of Maxis' headquarters in Emeryville, Calif.—next to Berkeley and coincidentally just down the street from *Mix*'s main office. A native of Indiana, Jolly had originally planned to study photography at the Art Institute of Chicago out of high school, but got sidetracked taking audio classes there and became fascinated by modular synthesis. For grad school, he went to Mills College in Oakland, Calif., to study electronic music, and it was through a friend at Mills, Robbie Kauker—now audio director of *The Sims* franchise—that he first landed some contract sound design work with Maxis. Jolly eventually went to work for Maxis full time and worked on *The Sims*, *Sim City 3000* and other games.

The *Spore* sound team, from left: Sasha Goldenson (audio QA), Cyril Saint-Giron (audio software engineer), Mike Cormier (senior sound designer), Peter Swearengen (audio producer), Chris Seifert (sound designer) and Kent Jolly (audio director)

With Kauker fully occupied by the ongoing growth of *The Sims*, Jolly was tapped to head the *Spore* sound design team. "I got involved in this project four-and-a-half or five years ago," Jolly says as he sits at his three-screen Pro Tools station in his equipment-cluttered office at Maxis. "The intent was to ship the game earlier than we did, but even with that it was still early to get involved in a game. Will had gotten the game to a point where there were nine or 10 people on the team, and he wanted to hear what the creatures might sound like and how it would sound going from the game into the editor—in just a general sense. I had put some sound to an early prototype where you can see a planet and zoom all around it, and that was a lot of fun. And we had some voice sessions early on with a guy named Roger Jackson and that did a lot toward getting ideas." Jackson later supplied vocalizations (mostly pitched up) for the single-celled creatures in the first level of the game. Other vocal talent contributed Sporelish touches from the creature stage to aliens.

Because the creatures in the game seem more animal-like than humanoid, Jolly also employed hundreds of animal recordings—many original, others drawn from libraries, most of them spliced, diced, electronically altered and combined in interesting ways. "We went all over the place," Jolly offers. "We went to L.A. to record trained animals [like the monkey from *Pirates of the Caribbean*]. We went to Arkansas, where there's an elephant refuge we'd heard about from one of the guys who'd worked on *The Lord of the Rings*." Jolly's main partner on these outings was sound designer Mike Cormier—both carried Sound Devices 722 recorders, the former with a Schoeps M/S setup,

World Radio History

MUSIC HAD A ONE-NIGHT STAND WITH SOUND DESIGN. AND THE CONDOM BROKE.

chapter three:

THE MODULES LIBRARY

INTRODUCING A NEW MUSIC LIBRARY THAT'S NOT MUSIC. Sure, every cut in MODULES tells a story, conveys an emotion and even features builds and climaxes. But you won't be hearing any of these tracks while on hold or on the dance floor.[1]

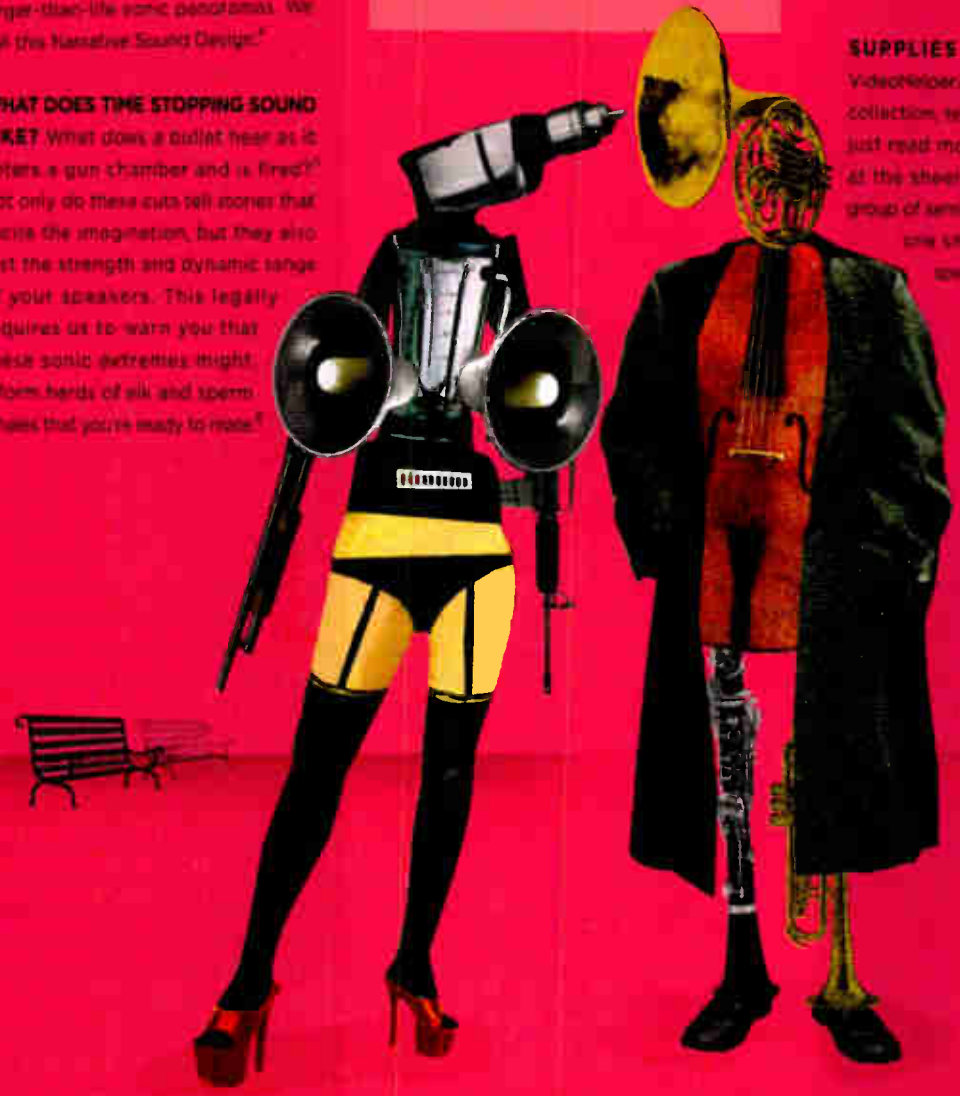
THE CHAIR-STAINING POWER OF SOUND. Exploding fireworks in grain silos. Spy microphones in oven-stewed car engines. Horrible things done with hammers.[2] We take real, not-so-recognizable organic sounds and twist, corrupt and mold them into complex, larger-than-life sonic panoramas. We call this Narrative Sound Design.[3]

WHAT DOES TIME STOPPING SOUND LIKE? What does a bullet hear as it enters a gun chamber and is fired?[4] Not only do these cuts tell stories that excite the imagination, but they also test the strength and dynamic range of your speakers. This legally requires us to warn you that these sonic extremes might inform herds of elk and sperm whales that you're ready to mate.[5]

START THOSE KEGEL EXERCISES! Every MODULE is designed to not only test bladder control, but also to make editing easy.[6] Each track features modular hits/transitions and possible endings that can be used interchangeably within other MODULES or as stand-alone works/parts.

SPREADING FASTER THAN SYPHILIS! Last year alone, MODULES has been featured in network promos, videogame commercials and in more than 50 major motion picture trailers. A few intrepid producers have used this collection to score entire trailers. Can other libraries say that?[7]

SUPPLIES ARE LIMITED![8] Go to VideoHelper.com and listen to the entire collection, register to download cuts or just read more and grow despondent at the sheer number of potty jokes a group of semi-literate adults can make on one site. Or call 212.633.7008 and speak to a live human being.[9]



1. Especially when they're sitting on the toilet, texting.
2. Unless the EU has relaxed its rules for producers.
3. Even BBC Hammonds' wails and not talking horse.
4. Speculations can never indeed as well as "Ghost Busters" virtual explosions. Bye-bye.
5. Followed by the sound of the Audio Underdog employment department.
6. We are not known for their timeliness, this one is no exception. 2008 wedding anniversary.
7. Easy, Joe Hisaishi Kitaro. Put the Samurai down, more shoes. But I mean, the dead movie stock from outstanding.
8. Yeah, most libraries can. Not available here in Esperanto, our mark.
9. Surprised at premium, web designers and businesses in the Midwest.
10. A live human talking to another human(s), because that's not just gross, it's creepy.

VIDEOHELPER

877.843.3843 videohelper.com

World Radio History

"The SIGMA has a perfectly true and transparent sound, especially when tracking electric guitars. It captures the performance with a special warmth and vibe that only vintage ribbon mics do. The Sigma IS the new vintage standard!"

Michael "Fish" Herring, Artist/Producer
Christina Aguilera, Prince, Mariah Carey

SIGMA
Phantom powered ribbon microphone

SONTRONICS
INSPIRED BY SOUND

for a retailer near you, visit
sontronicsusa.com

the latter with a Sennheiser shotgun. "A sound designer named Andrew Lackey was also on the team for a while," Jolly says. "He did sound for the second and third *Matrix* films and then came to EA. He was from Florida, so when he was home he went around and recorded some of the gator places for us. Beyond that, we also used some of Ann Kroeber's [animal recordings] and there are also library sounds. Andrew eventually moved on to other projects and sound designer Chris Seifert came in to take his place. Chris was instrumental in pulling all of these sounds together and making all the sounds fit to animation.

"Almost all the characters are a combination of different sounds, and, of course, they're customized according to their appearance," Jolly continues. "Most of the sounds associated with the creatures are based on the type of mouth you put on there—you can make interesting sounds by combining different kinds of mouths. As you progress as a tribe, it maps to what that mouth would sound like [speaking] more tribal Sporelish—*this* set of mouths maps to an intelligent insect race and *these* ones are birds and the rest are mammalian. When you get to [the] civilization [stage], they all map to a more conventional Sporelish.

"All the intelligent insect and bird stuff was done by a guy named Dee Baker in L.A. who's an incredibly talented voice actor who does amazing things with his mouth. He gets this liquid-y, crunch-y sound. We put a little processing on it, but no additional animal sounds. The mammalian intelligent VO was done by Roger Jackson."

Jolly continues, "The footstep system is also complicated because you never knew what kind of foot [the player] will put on or how many feet a creature will have. The front two can be humanoid and the back can be hooves, and the hooves can be huge and the front feet tiny. We did a lot of recording of footsteps at Skywalker [Sound Studios, Marin County]. We have barefoot on dirt, barefoot on grass—all these surface types. Then on top of that, the bigger the foot is, there would be a filter on it [within the game], so as the foot gets bigger you lower the setting on the highpass filter and let more low end through. If you have lots and lots of feet, it tries to bring out the highpass a little bit so it skitters more, distributing more of their weight across the creature. We also recorded the right foot and the left foot, so we bisect the creature and it gets assigned right foot or left foot and there's a cadence to it. It helps the naturalness of the sound, but it's incredibly complicated."

Other creature sound sessions took place at the studios of EA's Redwood Shores headquarters (across San Francisco Bay from Maxis), at Shoreline Studios in Santa Monica and at Live Oak Studios in Berkeley. "We recorded all the sounds using a custom tool we wrote here that we would bring to the studio and hook up over a network to the actual animation tool that the animators used."

Many of the background ambiences came from various libraries—Jolly singles out the recordings of Douglas Quin, who has recorded all over the world, from jungles to Antarctica—and libraries also helped when it came to the sounds of wars (from medieval swords to modern armaments) and cities in the game's civilization part.

Another fascinating aspect of *Spore*'s audio is the music, which necessarily reflects the different stages of the game—from primal to futuristic—and is both ever-changing and, at certain points, controllable by the player. Jolly was involved in writing/designing quite a bit of the music, but he also had some help from a couple of notable sources. Some of the space music was written by Cliff Martinez—best known for scoring several Steven Soderbergh features, including the sci-fi flick *Solaris*—and British composer/musician/producer Brian Eno also became a valuable contributor and collaborator.

"Brian was involved in a lot of general music design with me, so he came here and I also went to London and worked in his studio," Jolly says. "He'd come with his Mac and Logic and he'd be generating sounds. We would sample them, get them in as instruments into the game and play with them together.

"There are two kinds of generative music in the game. One is sort of MIDI note-based—that happened much more here from samples made by Brian by ourselves. But there's also a whole area that's more like Brian's ambient music, where he made it using software he called 'Shuffler.' The software was based on earlier pieces where he would make 10 CDs and they'd all have a set of tracks, and then he'd set them on 'random shuffle' and they'd play randomly and we'd make ambient music that way. We re-created that system in the game, especially in the space game: When you go to a planet, [there's a music] system there that plays a different sample every 10 to 30 seconds, and *this* group [of samples] has this volume range and this pan setting, and a whole group of *those* forms one track. You end up wending through these tracks that are changing all the time."

Speaking of the music more generally, Jolly notes, "Unlike a lot of games, most of it is not looped—it's being generated in real time. There might be chunks of drum loops that are being re-sequenced randomly, and then all the pads and other sounds are basically MIDI but we're generating them randomly."

And in the "Civ Game," as Jolly calls it, "the

World Radio History

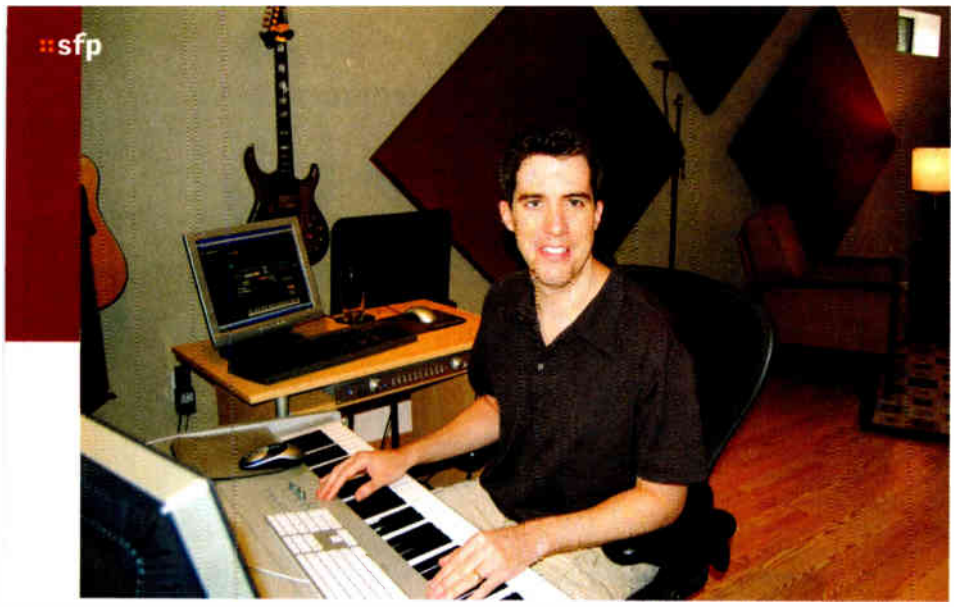
user gets some control over the music: You can pick beats—some were made by Brian, some were made by me and my assistant Aaron McLeran, and then reprocessed and changed—and then you can pick a melody instrument and design your own little melody, and also pick up ambience tracks. Using a note editor, you can set the tempo, get rid of notes, change the length of how they play...and there's an algorithm [built in] that will randomly form melodies." The note editor was conceived in stages by Jolly, Eno, Wright and engineer Cyril Saint Girons, who has helped develop other systems for Maxis.

As you might imagine, the combination of effects and music possibilities takes up a lot of space—indeed, Jolly says there is "*days* of stuff on there. It's more than two gigs of compressed audio." Asked whether the sheer number of audio events planned for the game inhibited the sound work, Jolly says, "Our biggest concessions were CPU-oriented. Our approach was sort of, 'Okay, let's do it, whatever it is!' That was great, but what it meant was at the end of the project we had to do a lot of intense LOD—level of detail—removing of sounds that were not needed and not necessary: 'No, you're only allowed to have, at most, *five* of these or *six* of those.' What are the sounds you absolutely *have* to hear? Balancing that with what you *want* was one of the biggest challenges.

"At one point, we thought we might have to go to 22k for all of our samples, but in the end we didn't have to. Some of them are 22k, but most of the voices are 44 MP3 and most of the music is 44 MP3." It was determined early on that a dedicated surround mix would eat up far too much real estate in the game so most of it is stereo. "It gets multed out to surround, but we did very little in 5.1 for CPU reasons," Jolly explains.

On the day in late July when I interview Jolly, I can sense his relief that he's almost at the end of what has been a very long road working on *Spore*. Predictably, there were a few weeks of nights and weekends trying to meet the (latest) deadline. I mention that it's a miracle he could keep all of it straight in his head over the months and years. He responds, laughing, "The truth is, it was like working on five games at once—Cell, Creature, Tribes, Civilization and Space—plus all the editors. And it's so complicated making everything work together. Assets that you created in one area might show up in another area, even though the context and everything about it is completely different. Then there's the whole online component where you can populate your game with content made by other users. The possibilities literally seem endless, so yes, it *was* a lot to figure out and keep in mind." ■

World Radio History



Colin O'Malley

FROM "TOMB RAIDER" TO YANNI

By Gary Eskow

A smooth transition from academia into the world of the professional composer is a dream for many musicians. Colin O'Malley is among the few who have actually achieved this impressive feat. The Albuquerque, N.M., native studied music at the University of New Mexico and parlayed this experience into an internship at Disney World. The arrangements he wrote impressed, and upon graduation O'Malley segued to Florida to dive into full-time composition work. During the past decade, O'Malley has managed to garner a substantial list of credits in varying fields, including indie films, advertising, theme parks (music for *The Mummy's Revenge* rollercoaster at Universal Studios) and videogames.

Tomb Raider: Underworld, an Eidos release due in November and pictured at right, is O'Malley's latest videogame project. "I got a break several years ago when a friend hired me to create the track for *Superman Returns*, an Electronic Arts game," he says. "I met a lot of people during the process, and that track opened some doors for me." The *Superman* score required a 74-piece orchestra, which was recorded in Bratislava, Slovakia.

"This game [*TRU*] required two hours of music and the process was very intense," he continues. "Toby Guard, the writer who created the Laura Croft character, was involved and his vision for the music was specific and dead-on.

"I get no visuals, just detailed descriptions of the game's levels. You learn how to handle the technical demands as you go along. There are places where you have to create music with multiple layers. If the bad guy enters, for example, you need to amp up the score with additional layers." Although O'Malley doesn't consider himself a game composer per se, he says, "It's something I'm glad to be involved with," and successes in that still growing field tend to lead to other opportunities.

O'Malley works out of a project studio in his home, with a quad-core Mac running Logic 8 at its heart. "I also have four slave computers running Kontakt 2," he says. "When you're working under tight deadlines, it's essential that you have processors that will allow you to have the entire orchestra live at all times. I'm constantly refining the template upon which I base my sequences. Sometimes I think being organized is more important than creativity!"

An excellent mixer, O'Malley works without a hardware console, but he does use an Evolution UC-33 USB MIDI controller. "It's a very simple device with a bank of nine faders that I use mostly to automate volume and other MIDI controls. My studio is really very simple. An Apogee Ensemble is my FireWire digital interface, and I have only one set of speakers—Mackie HR824s."

He uses plug-in processors exclusively, and is picky about which ones he relies on. "I stay away from Logic's EQ. Sonalkis, for my money, makes the best compressor [SK-3rd Mk2] and EQ [SV-517 Mk2]—I use them on everything. Altiverb 6 is a huge part of every orchestration I build. Using different spaces to create multiple early reflections is vital. I also love WizooVerb; I haven't heard a better algorithmic reverb plug-in.

"I recently discovered the Abbey Road Brilliance Pack," he continues, "and it's great, particularly the organic way it handles the high end. And I highly recommend a new plug-in called Time Freezer. It lets you lock audio that takes place over a period of time into one event. The results can be other-worldly."

O'Malley has dozens of commercially released sample libraries, but the custom samples he recorded across two large sessions form the spine of his orchestral sound. "In particular, I was dissatisfied with the sterile and perfect nature of commercial string libraries. Sustains, for example, are entered into with perfect intonation—but that's not the way music is made in the real world. Along with several other composers, I recorded string ensembles in Utah, and later on I went to Slovakia to record additional musicians.

"I continue to use some commercial libraries. The Sonic Implants library is often overlooked, but I like it a lot—their percussion is great. Project Sam True Strike is also outstanding, and in the soft synth department Spectrasonics' Atmosphere is at the top of the list. For basses I use a cheap plug-in from Manytone Music called Manybass. It has a warmth and dirtiness I love."

One of O'Malley's steadiest gigs might surprise you: Six years ago, a friend who was working in Yanni's studio pestered the fellow Floridian to the point where he sat down and listened to O'Malley's reel. Yanni liked what he heard and hired the young composer to arrange one of his works. Today, O'Malley spends about a third of his time writing for Yanni. "Initially, most of the work is sample-based," he says. "He'll send me a piece of music, give me a general direction and then I'll create an orchestration on my computer—I never use paper and pencil for this work—and send back 24-bit, 44.1kHz stereo stems, usually 12 to 15 of them. Right now, we're working on a big project called *Yanni Voices*. Yanni and his producing partner, Ric Wake, are creating material for four terrific singers." ■

Gary Eskow is a Mix *contributing editor.*

World Radio History

Our Secret Weapon...

KC Porter & Sebastian Jacome
WorldBeat Studios
Santana, Ozomatli, Selena, Enrique Iglesias, Ricky Martin, Maná, Luis Miguel, Laura Pausini, Los Fabulosos Cadillacs

The ML4000

The Essential Mastering Solution

The ML4000 is a high-resolution limiter and multi-band dynamics processor designed for music, mastering, post, and live sound.

The ML4000 provides outstanding results with an intuitive user interface, flexible design, and powerful set of algorithms.

McDSP

PRO TOOLS 7 SOFTWARE

PRO TOOLS LE 7 SOFTWARE

PRO TOOLS 7 SOFTWARE

M c D S P P R O F E S S I O N A L A U D I O P L U G - I N S

DYNAMICS • EQUALIZATION • CONVOLUTION REVERB • MASTERING
ANALOG SATURATION MODELING • GUITAR AMP MODELING
MULTI BAND DYNAMICS • POST PRODUCTION TOOLS • SOUND SYNTHESIS

Download free demos of our entire product line at www.mcdsp.com

World Radio History

Tech
NEW PRODUCTS

Vintage Vibe for DAWS

Waves **Jack Joseph Puig Plug-Ins**

Designer plug-ins are the latest fashion in audio, and this new set from Waves (www.waves.com) will surely interest anyone seeking a sonic edge in their productions. The JJP collection is based on some of the most sought-after vintage pieces of gear from the studio of producer/engineer Jack Joseph Puig. Based at Hollywood's Ocean Way Recording Studios, Puig has produced hits for artists such as Green Day, U2, Sheryl Crow, the Rolling Stones, Black Eyed Peas, John Mayer and more. The bundle includes models of Puig's Fairchild 660 and 670, and the Pultec EQP-1A and MEQ-5—some of the most coveted pieces of hardware in audio. Puig has contributed presets for the plug-ins and personally approved the emulations as sonically accurate.

Designed nearly 50 years ago by Rein Narma, the original Fairchild stereo 670 compressor and its 660 mono counterpart are renowned for their advanced compression techniques and incomparable sound. Key features of the PuigChild 670 include Lateral Vertical mode (M/S compression), promising optimal stereo imaging; Linked and Unlinked modes; Digidesign ICON support; and up to 24-bit, 192kHz resolution.

The Pultec EQP-1A is favored for its warm, round low-frequency equalization and its beautiful high-frequency boost; it also has the unique ability to boost and cut the same frequencies simultaneously, thereby creating a resonant shelf. Used primarily for broadband equalization, the original EQP-1A features four low-boost/cut frequencies, three high-cut frequencies and seven HF boost points, along with a bandwidth control for shaping the high-boost curve. Plug-in features include unique resonant low-shelf boost, Digidesign ICON support and up to 24-bit, 96kHz resolution.

The distinctive tonal characteristics of the Pultec MEQ-5 midrange EQ have made it a popular signal chain choice and coveted heirloom piece in the racks of many studios. Key features include Digidesign ICON support and up to 24-bit, 96kHz resolution. All JJP plug-ins are currently available separately or as part of the Waves Mercury bundle, and offer TDM, RTAS, VST and Audio Units support, as well as PC and Mac compatibility. Prices: $1,600, TDM; $800, native.

API Design Within Reach

Arsenal Audio **Preamp and EQs**

API has released three products through its affordable new Arsenal (www.arsenalaudio.com) line. The 2-channel Arsenal R 20 ($1,195) mic preamp features low-noise mic and instrument inputs, a 2U chassis with internal power supply and up to 55 dB of gain, plus switches for -20dB pad/phantom power/polarity, analog VU meters with separate peak indicators and balanced I/Os. The Arsenal R 24 ($1,195) is a 2-channel EQ modeled after the classic API 560 model 562. All four bands are peak/dipping parametric design with 12 dB of boost/cut per band. It includes a custom transformer-balanced output with extended headroom of +23 dB. The Arsenal V 14 ($695) is a single-channel version of the R 24 housed in a VPR500-format modular chassis.

World Radio History

Full Sound, Small Footprint

JBL Control 2P **Compact Powered Monitor**

The JBL (www.jblpro.com) Control 2P 5-inch, two-way powered monitors use the same transducers and crossover as the Control 1 Pro. The system includes two speakers, one with onboard power amps and user controls for it and the connected passive speaker. Features include a headphone jack, side-mounted volume control for both speakers and internal peak limiter to protect against overdriving. An HF contour control lets users tailor high-frequency response to application requirements. Price: $249; a $25 wall-mount kit is optional.

Cubase Integration at Your Fingertips

Steinberg CC121 **FireWire DAW Controller**

Yamaha and Steinberg (www.steinberg.net) continue to grow together, and there's no better proof than the co-developed CC121 advanced integration controller. It features a knob with point-and-control support for any visual Cubase 4 parameter, as well as internal FX settings or VSTi parameters using mouse-pointer selection. It's plug-and-play with no additional setup/parameter assigning required. The CC121 has a motorized, 100mm touch-sensitive fader and dedicated control of Cubase channel settings, including solo/mute, record arm, "e" settings button, automation read/write, pan and VSTi editor, as well as a full Cubase EQ section with 12 dedicated rotary encoders with mode selection and bypass switches. A user-assignable section—with Cubase-integrated presets for control room/studio sends and monitoring setup—completes this versatile package. Price: $499

Get Rid of Noisy Neighbors

ATC Labs **AutoAudioDenoizer**

ATC Labs boasts the introduction of the industry's first automatic, real-time, software-based noise-removal and -reduction product. Features include broadband background noise removal—including impulsive noises and clicks—and automatic continuous tracking/capturing of changing noise profiles. Designed for stringent live audio applications under difficult multi-channel circumstances, the AutoAudioDenoizer ($1,499) promises no compromise or distortion of the original audio source during noise removal. Other features include options for tuning and saving user-defined profiles and an intuitive interface. Download a free demo version at www.atc-labs.com.

Condensers for Stage and Studio

Audio Technica AT2035/AT2050 **Condenser Mics**

The latest condenser mics from Audio-Technica (www.audio-technica.com) are the cardioid AT2035 ($249m pictured) and the multipattern AT2050 ($369). The AT2035 offers flat, extended frequency response (20-20k Hz), 148dB SPL handling and 12dB self-noise. The AT2050 has omni, cardioid and figure-8 patterns; 149dB SPL handling; and 17dB self-noise. Both mics feature a switchable 80Hz highpass filter and a 10dB pad, and ship with a shock-mount and a protective pouch.

World Radio History

Software Meets Hardware

Muse Research **Total Workstation Rack**

IK Multimedia and Muse Research (www.museresearch.com) teamed up to offer the Total Workstation Rack ($1,999), a combination of Muse's unique Receptor hardware plug-in player with IK's Total Workstation line of "Powered By SampleTank" instruments: SampleTank 2.5, Sonik Synth 2, Miroslav Philharmonik, SampleMoog and SampleTron. The software comes pre-installed/authorized within Receptor, offering immediate access. The Rack can be integrated with any DAW as a normal instrument plug-in using Muse's UniWire technology without putting extra strain on the computer's CPU. IK registered users can get the Total Workstation Rack crossgrade version for a special $1,699 price.

Pickin' and Grinnin'

Applied Acoustics Systems **Strum Acoustic GS-1**

This acoustic guitar software synthesizer from AAS (www.applied-acoustics.com) is based on the latest physical-modeling technology. Strum ($229) ships with a collection of steel and nylon acoustic guitars and includes an elaborate voicing module that automatically voices chords played on the keyboard as a guitar player would on the fretboard. Strumming and picking actions are reproduced by an auto-strum function, special strumming keys or MIDI loops; EQ, multi-effects and reverb modules are also included. GS-1 runs on both Mac OS X and Windows as a stand-alone application, and in host sequencers supporting VST, Audio Units and RTAS plug-in formats.

Making Connections

Planet Waves **Modular Snake System**

More consoles, converters, patchbays, preamps and other pro devices are moving to the industry-standard DB25 connectors to save time and panel real estate. Now, creating custom studio cabling has never been easier, thanks to the Modular Snake system from Planet Waves (www.planetwaves.com). Users select from 5/10/25-foot "core" cables with DB25 connectors and mix/match various breakouts to suit any application. Available terminations include digital (AES, with four male/four female XLRs) and analog (with eight channels of XLR male, XLR female or ¼-inch TRS). All cables feature oxygen-free copper conductors, two layers of shielding and Amphenol gold-plated connectors. Prices: $59.99 to $159.99.

New Blood for Your Productions

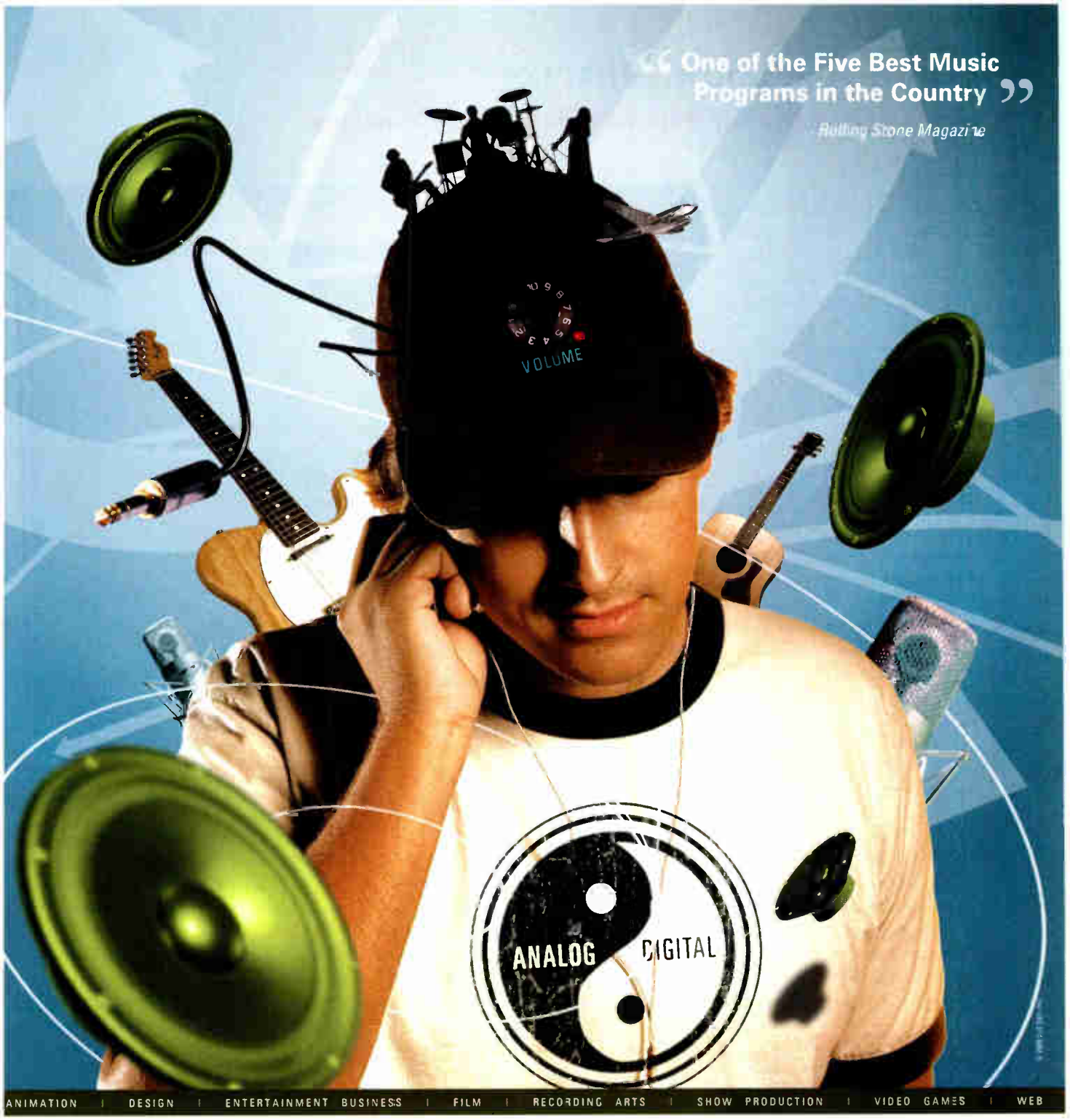
Digidesign Transfuser **Virtual Instrument**

The new Transfuser ($295) VI from Digidesign features 2 GB of loops and phrases, plus a series of modular drum machine/sound generators, dedicated sequencers, loop-manipulation tools and effects—all bundled in an intuitive drag-and-drop composition/editing interface. It also lets users create/tweak/arrange/perform grooves on-the-fly within Pro Tools, and supports WAV, AIFF, ACID, REX 1 and 2, and Apple Loops files. Included are 20 real-time effects and nearly 2 GB of loop/phrases. Download a free 14-day demo at www.digidesign.com.

World Radio History

Recording Arts

Associate's Degree Program



Master's | Bachelor's | Associate's Degrees

800.226.7625 • 3300 University Boulevard • Winter Park, FL 32792

Financial aid available to those who qualify • Career development assistance • Accredited University, ACCSCT

fullsail.edu

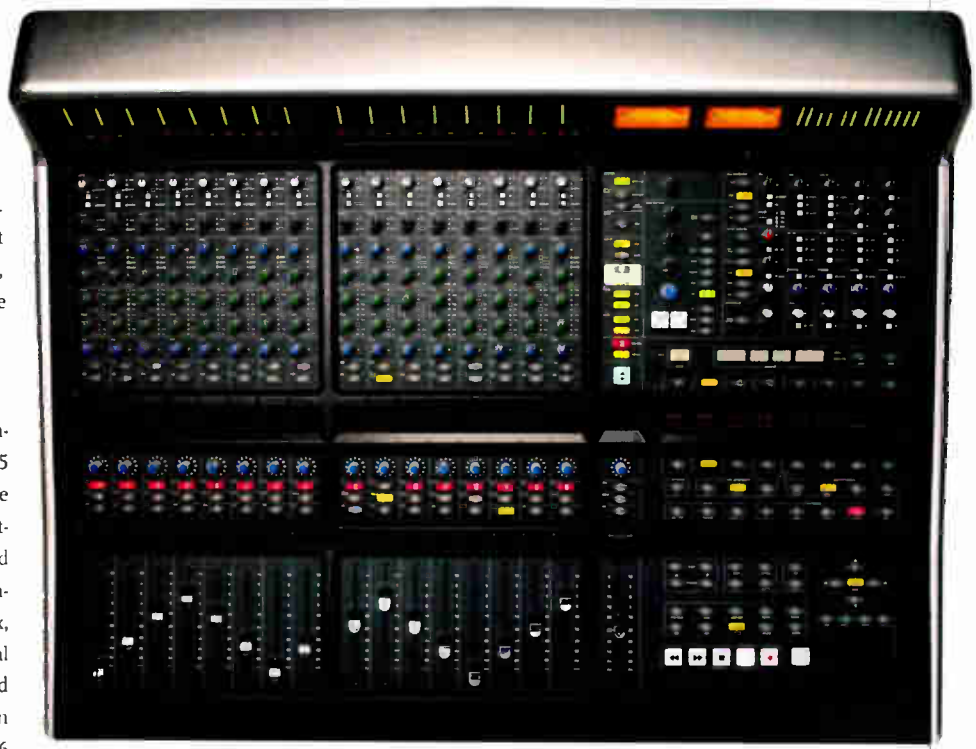
FULL SAIL UNIVERSITY

World Radio History

By Barry Rudolph

Solid State Logic Matrix

Compact Analog Console With DAW Control and Summing



Matrix is a small-footprint analog mixer that offers up to 40 line inputs and uses the same SuperAnalogue technology as Solid State Logic's Duality. Intended to be the nexus of any studio, Matrix simultaneously communicates and controls up to four different DAWs. Its compact size and ergonomic layout make it ideal for the project studio, ADR/Foley suites, jingle production studios or as the centerpiece of a sound-designer's rig.

Matrix Revealed

Matrix was intentionally designed with no analog processors. Given the console's $25,995 price point, this makes sense, considering the fact that many users prefer their favorite outboard mic preamps, EQs and compressors, and the fact that more and more engineers are turning to "in-the-box" DAW processing. Matrix, instead, offers a large, programmable virtual patchbay—a "matrix" from which to select and route your analog outboard gear for insertion into the Mix and Record buses and any of the 16 channels' signal paths. And Matrix's Total Recall (TR) system can store/recall console setups.

Conceptually, think of Matrix as two integrated products that operate as a single efficacious and powerful system with two concurrently running modes: Analog Focus and DAW Focus.

In Analog Focus, Matrix is an analog mixer with 16 dual line input channel strips, each with 100mm motorized faders. Typically, one line input would come from a recording chain's output (mic pre/EQ/compressor) while the other is for the DAW's track return. Channel controls include input level control, polarity flip and insert in/out switches, along with standard console controls for the cue/effects sends, solo and cut, and separate stereo recording bus selectors, plus a level control for the direct out.

In DAW Focus mode, all analog controls and settings remain intact except the physical faders, and solo and cut controls, which are "hijacked" for re-use in controlling the selected DAW. This mode adds more control with assignable V-Pots and Sel (select) keys, providing deeper access to any channel's settings. DAW applications run on any number of attendant computers networked over regular Ethernet connections and Cat-5 cables. For MIDI communications, the Matrix uses ipMIDI (www.nerds.de).

Hooking Up

Matrix provides XLRs for AES/EBU monitor in and stereo bus output and optical ports for S/PDIF digital I/O. A supplied RJ-45 Ethernet crossover cable connects Matrix to your DAW. You'll also need to connect a USB cable from Matrix to your computer and, if you own an SSL X-Logic X-Rack, connect its DB9 cable to the Matrix. Besides the headphone out, ⅛-inch mini jack for hooking up your iPod and XLR outs for small control room speakers, all analog connections are via 17 8-channel DB25 ports on the rear panel.

The Center Section

The top of the center section has analog master controls for the mix, recording and stereo cue buses. Each bus has a ±24dB gain trim pot, insert in/out, TR indicators (like most pots and switches on this board) and the Σ (sigma) symbol switch for mixing the pre-insert signal with the inserted processor's output. The recording bus and stereo cue have "To Mix" buttons that act as analog, stereo subgroups by routing their signals to the stereo mix bus/master level control.

Four effects send submasters and four effects returns can feed the recording, mix and stereo cue buses. The default solo mode is destructive Solo-In-Place, but there are AFL (after-

PRODUCT SUMMARY

COMPANY: SOLID STATE LOGIC
WEB: www.solid-state-logic.com
PRODUCT: Matrix
PRICE: $25,995

Pros	Cons
Control of up to four DAWs; cross-platform Matrix Remote software for easy DAW-to-Matrix configuration; SSL Total Recall saves console settings.	Processing and mic preamps are not included; rear panel SD memory card location is inconvenient; only four V-Pots available for Pro Tools plug-in parameters.

World Radio History

LOUD AND CLEAR

WORDS FROM THE WISE:

"The first monitors that I've ever had that you can set up and tune to any of my rooms in twenty minutes. I love 'em. When I want the music loud with lots of bass, the Q15's deliver. When I need to blend elements of the mix at a lower level, the Q15's are spot on. The Q15's sound great no matter where we use them."

Stephen Dent/ Managing Director/ Head Engineer Daddy's House Recording Studios

"I've become extremely dependent upon these monitors. I used my Q10's to mix and engineer the entire Mummy: Tomb of the Dragon Emperor soundtrack and most of the film score. I find the Equator monitors to be very transparent and true to the sound. With the Q10's, whatever I was working with in the control room was exactly what I ended up with on the screen."

Elton Ahi/ Music Scoring Mixer Rusk Studios

"If I listen on the Equators and then walk into the hall, the sound is remarkably like the performance itself. Both the Q8's and Q10's are very clean sounding and reproduce the music with excellent detail. I've also been very impressed with the spatial imaging these monitors deliver and the fact that they are very capable of handling wide changes in dynamic range, which is critically important when it comes to orchestral recordings."

Gary Gray/ President Audiolin Music/ Toronto Symphony Orchestra

"I love having the option of tuning the monitors to the room manually or via an automated process. It gives the more experienced audio engineer the ability to have an extremely high level of control while, for the less technically inclined engineer, the software can make the critical decisions."

Gerhard Joost/ Chief Engineer/ Mixer/ Producer Groove Addicts Studios

"The big test always comes when you go to what I like to call 'the cold light of mastering'—where all the scratches and dings become obvious. When we played my mixes back, they were exactly what I expected, with no surprises. Who could ask for more?"

Francis Buckley/ Grammy® Award Winning Engineer/ Producer

HEAR THEM FOR YOURSELF AT A DEALER NEAR YOU OR
VISIT BOOTH 1823 OR DEMO ROOM 112 AT AES OCT 2-5,
MOSCONE CENTER, SAN FRANCISCO

www.equatoraudio.com

equator™
audio research

World Radio History

Analog interfacing is mostly via 17 DB25 ports.

fader listen) buttons for the stereo cue, effects sends and returns.

Monitor and Cue Controls

Familiar to any SSL user is the Control Room Monitor section with volume level and Cut button, Dim button and level control, Mini speaker level, a Solo Clear button and a vertical column of source switches for monitoring: mix and recording buses, two external sources and the console's DAC output.

Onboard 24-bit AD/DA converters operate at up to 176.4 kHz. There are no BNC clock jacks, but the converters will clock to any incoming digital source; otherwise, they default to 44.1 kHz.

Artist's Monitoring is a cue system that will monitor the mix bus, the monitor mix, stereo cue, and external digital or analog sources. The "Σ" feature is used again to hear any of these sources summed together, such as for learning a guitar or vocal part from a connected iPod while on mic or recording and listen to a cue mix—cool! A simple HF/LF equalizer can contour the headphone mix for any kind of headphone or ear bud.

SuperCue provides latency-free monitoring during recording. During vocal overdubs, when Auto-Mon is selected and a DAW track is armed for record/playback, the stereo cue is sourced from the DAW track and the line input receiving the output of the vocal recording chain. You'll hear yourself and the DAW track

NO COMPROMISES

PRE420
4 Channel Mic-Pre/Mixer

ADC1 USB and DAC1 USB
2007 PreAudio Review
DAR Excellence Award

PRE420
2007 PreAudio Review
Reviewer's Pick

Benchmark
...the measure of excellence!

ADC1 USB
2-Channel 24-bit 192kHz A/D Converter

NEW DAC1 PRE
Stereo Pre-Amplifier / DAC / Headphone Amp

www.BenchmarkMedia.com/mix
800-BNCHMRK (262-4675)

Benchmark has developed a family of audio tools that never compromise: the **PRE420** microphone preamplifier; the **ADC1 USB** A-to-D converter; and the **DAC1 PRE** D-to-A converter.

Benchmark products set the standard for performance and reliability. Engineers have praised our mic-preamps for their breath-taking realism, true-to-life detail, and consistent performance - even in harsh RF environments. Our digital converter technology has become the benchmark of absolute accuracy due to the jitter-immune UltraLock™ clocking system, intelligent circuit layout, and pristine analog sections.

All **Benchmark** products are designed, assembled, and tested in Syracuse, New York, USA, by a team that is committed to quality craftsmanship and tireless customer support.

The **PRE420** is a 4-channel mic-preamp with a plethora of features, including built-in, independent stereo mix and solo busses.

The **ADC1 USB** is a reference-quality, 2-channel, 24-bit, 192-kHz A-to-D converter. The UltraLock™ clocking system delivers unvarying mastering-quality performance - regardless of clock source.

The **DAC1 PRE** is a reference-quality, 2-channel, 24-bit, 192-kHz D-to-A converter. The **DAC1 PRE** continues the legacy of the **DAC1**, which has become a staple of control rooms around the world. The AdvancedUSB™ input supports native 96 kHz, 24-bit operation without cumbersome or invasive driver software.

Superior performance, reliability, and indispensable features have made **Benchmark** products absolute studio essentials.

World Radio History

at the same time. Effects sends are sourced from the stereo cue so that on punch-in, Auto-Mon mutes the track's DAW playback, allowing you to hear only yourself while retaining all effects.

S-Cue, Auto-Mon and send-source selection are all controlled on the Master Channel section, which also affects individual or global switching across the 16 channels. The channel input source, the way the channel audio is monitored, channel output source, and sources for the stereo cue and effects sends are all switched here. In DAW Focus mode, this section's motorized, analog stereo mix bus fader also doubles as the master fader in DAWs that support it.

DAW Communication

Matrix DAW communication profiles include HUI (Human User Interface) for Pro Tools; MCU (Mackie Control Universal) for Logic 8 Pro, another MCU profile for Nuendo/Cubase and a MIDI CC (Continuous Controller) profile for controlling MIDI devices.

To expedite and integrate the DAW into the Matrix, SSL offers the cross-platform Matrix Remote software. Running on the DAW computer or any other computer on the network, the app determines Matrix's operating "personality" by configuring the networked DAW's HUI, MCU and CC functionality. Matrix Remote includes preprogrammed "starter" profiles for each of these protocols. Layers are toggled using the Layer keys, and personalized Profiles are edited, saved and selected using the Matrix Remote software. All configurations are saved locally and transmitted to the console for storage on a rear panel SD memory card. Matrix Remote data can also be saved along with the DAW files for recall on other Matrix consoles.

Programmable Soft Keys

Matrix's Soft Keys and Utility buttons keep the attention off the computer and on the music production by putting the most common keystrokes and modifiers right on the desk. Soft Keys can be programmed to send HUI and MCU commands, plus any combination of QWERTY keystrokes. More than 360 functions can be assigned to Soft Keys for each of the five Soft-Key sets; four user-defined collections retain the preferences for multiple Matrix users.

Also standard are Utility buttons that cover a variety of functions—such as cycling through DAW tracks or accessing modifier computer keys—and 10 Pro Tools–specific transport buttons for accessing markers, looping and more. The large buttons for rewind/FF/stop/play/record and a large jog wheel for scrubbing DAW tracks reside within easy reach.

Mixing on the Matrix

To start a 32-channel mix on the Matrix, begin by assigning the DAW channels you'd like in front of you on the motor faders, and which you'd like on the stereo cue mixer now sourced from the second 16 line inputs. I put all vocals, signature guitar tracks, solos and drum elements on the faders as I wanted to process them further using an attached SSL X-Logic X-Rack. The X-Logic's settings are also captured and stored along with the Matrix's TR data.

The stereo cue faders are at unity when fully CW. I used these for DAW effects returns and instrument tracks that require little or no gain riding, such as tambourines, shak-

World Radio History

ers and "one-time-only" events that I could set and forget. That left the four analog stereo effects returns for a Lexicon 480L. I could switch effects send sources as needed to post-fader or post-stereo cue. As I could only access two of the four sends at a time, I set up the 480L with two mono sends, one for each stereo machine.

The V-Pots can be easily assigned to automate the Pro Tools' effects send faders. The Plug-In mode allows Pro Tools plug-in parameters to be spread out over only four V-Pots with the scribble strip showing the parameters and settings. In DAWs with MCU profiles (like Logic), all 16 V-Pots and scribble strip are available—much better than setting a plug-in's compressor threshold with a mouse. Parameter values and resolution are identical to those seen on the Pro Tools GUI.

To set up most of my automation moves, the DAW Focus mode let me quickly bank across all of the faders in Pro Tools, making a tweak here and there. The scribble strip automatically updates with the Pro Tools track names as you bank around, so keeping names short is a good idea. The collection of default Pro Tools Soft Keys and the Transport were very helpful, necessitating less input from the computer keyboard.

Automating Matrix's 16 channel faders is possible by adding MIDI faders in Pro Tools and assigning them to control the Matrix's. I just banked to the MIDI faders in Pro Tools and made tweaks to my mix while hearing my inserted analog processing.

Programming insert chains was super-easy. I liked being able to try different combinations of the same processors quickly. For example, I saved a chain comprising an SSL EQ followed by the SSL Dynamics module, and another chain using the same processors but in reversed order. I wish I had about six full X-Logic X-Racks.

Matrix Reality

Matrix overflows with more capabilities and features than I can fit in this space. It is an infinitely malleable controller surface for any DAW and an excellent-sounding analog mixer/summing system—all attributes that take square aim at the current (and future) workflow needs of the modern music producer. III

Barry Rudolph is an L.A.-based recording engineer/mixer. Visit www.barryrudolph.com.

World Radio History

Better with tubes.

What do you need to record a band?

Two tube preamps with analog limiters for vocals, bass guitar, guitars and overdubs, eight high-headroom preamplifiers for drums, six balanced TRS inputs for keyboards, drum machines, and sound modules, MIDI I/O, zero-latency monitoring, multiple headphone mixes and recording software with samples, loops and plug-ins.

INTRODUCING THE FIRESTUDIO™ TUBE.

PreSonus

www.presonus.com

World Radio History

By Jason Scott Alexander

Equator Audio Research Q15 Coaxial Monitors

Intelligent Control, Advanced Networking and Auto-Correction DSP

As co-founder and past-president of Event Electronics for years before starting Equator Audio Research, Ted Keffalo knows a thing or two about speaker development. His search for clarity in Equator's new monitor line took him outside of the typical near-field world and instead into coaxial designs. As a result, Keffalo and a team of engineers have developed the Q15, a two-way active monitoring system based on a custom coaxial design they call Zero-Point Reference: two drivers, one sonic point source.

The Q15's coaxial design helps focus stereo imaging and eliminate phase shift outside the sweet spot

Brawn With Brains

I reviewed Equator's top-end Q15s, each weighing 92 pounds and sporting a 15-inch woofer and 1.5-inch HF compression driver, backed by 1,000-watt and 200W amplifiers. The side and back panel of the cabinet are ¾-inch 13-ply Baltic birch; the sculptured front baffle is 1-inch HDF (not MDF).

The Q15s have no preset crossover slopes; instead, they have continuously adjustable ones—an approach that Equator claims reduces the midrange distortion often associated with conventional co-ax designs. A CPU inside each monitor digitally controls the drivers, matching and time-correcting audio on all three axes—horizontal, vertical and depth.

Power On!

Each monitor has a rear USB port and two RS-485 ports for daisy-chaining. I connected the left speaker to my computer via USB, and from the left speaker I connected the right speaker using a standard Cat-5 cable. Eight DIP switches on each monitor let you set speaker ID and other parameters. The Q15s accommodate XLR and ¼-inch cables—balanced or unbalanced.

The Q15's included management software let me make critical adjustments from the mix position instead of having to use controls built into the speaker, which typically force the user to leave the sweet spot. The proprietary Equator Control and Manual Room Response Compensation (RRC) applications are provided on disc for Mac OS 10.4 and Windows XP.

Beginning with the software's System Config tab, I addressed the left-speaker stereo setup and then used the "Scan for Speakers" button to find the other's unique speaker ID set with the DIP switches. A visual representation of your setup is shown at all times in the upper-half of the GUI, along with virtual solo, mute and select "switches" alongside each monitor icon. The software lets you create multiple listening configurations ("speaker groups") that you can name for easy reference—e.g., "stereo mains," "mains + sub," "surround," etc.

After I entered my room's dimensions, Equator Control calculated primary room modes and instructed the monitors to correct for three standing waves (front-to-back wall, left-to-right wall and floor-to-ceiling), using three parametric filters with user-adjustable frequency, Q and gain. Changes to the bass response were immediately noticeable, alleviating a nagging 50Hz buildup problem. My room is outfitted with substantial bass trapping, so I pulled the default attenuation back by a few dB to best suit the room in its treated state. I also manually adjusted the center frequency of the second mode to a higher harmonic of itself because it was stronger and more problematic than the fundamental. A response graph displays for each speaker exactly what frequencies are being treated in the 20 to 300Hz range.

I entered each speaker's relative location ("No Wall," "Wall," "Corner"), and the software

PRODUCT SUMMARY

COMPANY: EQUATOR AUDIO RESEARCH
WEB: www.equatoraudio.com
PRODUCT: Q15 Monitors
PRICE: $3,000 each
SYSTEM REQUIREMENTS: Mac OS 10.4 and/or Windows XP

PROS: Sophisticated room-correction software run from Mac/PC. Pinpoint imaging, high SPL and great sound.

CONS: May be too heavy for many meter bridges. Power supply is internally set at the factory for designated voltages.

World Radio History

SAE INSTITUTE

// AUDIO TECHNOLOGY
// FILM PRODUCTION
// MUSIC PRODUCTION
// POST PRODUCTION

creativity meets technology

Training for your Future

Over 50 campuses worldwide.
Individual studio and lab time.
Over 30 years in education.
Global alumni network of working professionals

www.sae.edu

Coming Soon: San Francisco
www.saesf.com

*programs differ by location. visit us on the web for more information.

New York 212.944.9121 • Atlanta 404.526.9366
Los Angeles 323.466.6323 • Miami 305.944.7494 • Nashville 615.244.5848

Over 50 Institutes in: USA FRANCE GERMANY HOLLAND SWEDEN BELGIUM AUSTRIA SWITZERLAND SPAIN ITALY SLOVENIA GREECE KUWAIT JORDAN AUSTRALIA NEW ZEALAND UNITED ARAB EMIRATES INDIA MALAYSIA SINGAPORE TURKEY JAPAN SOUTH AFRICA

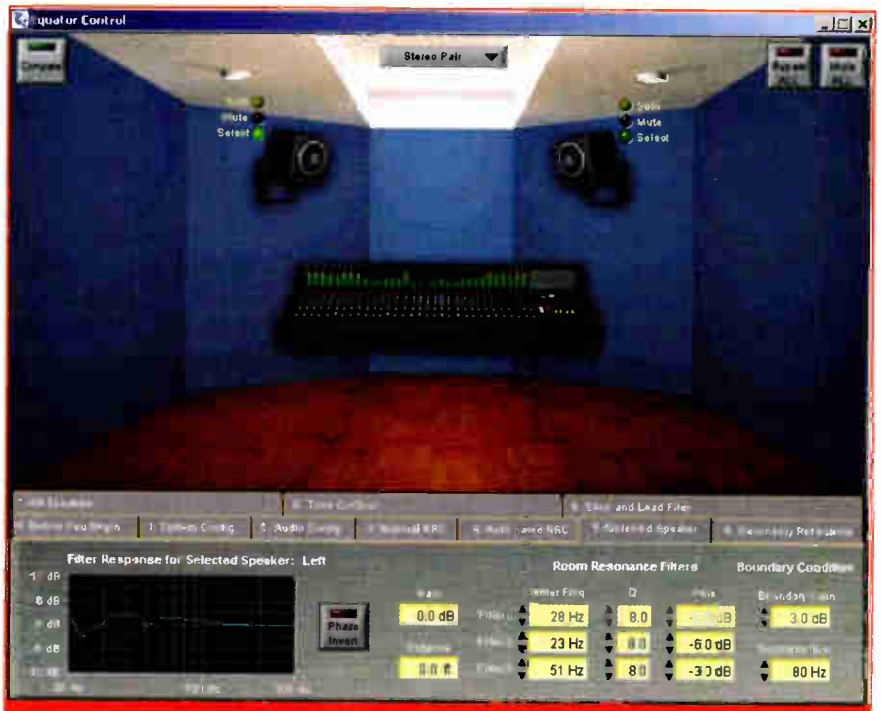
World Radio History

compensated for boundary/placement anomalies. A phase-invert button is provided for each speaker, as well as a sensitivity gain control, and the optional Q18 subwoofer can be delayed to align with the satellites. This flexibility is a godsend for surround installs and for doing stereo mixes in nonsymmetrical rooms.

The process of room analysis and compensation becomes automated when used with the optional Q Series Calibration Kit ($495), even allowing for optimization at specified listening positions within a room, such as the engineer's mix position, producer's desk, band couch, etc. The kit—unavailable in time for this review—includes a calibration mic and Secondary Reflection Correction™ (SRC) software, which, according to Equator, can also correct for comb filtering and phase cancellation.

Listening Party

The technical features are impressive, but how do these sound? Fantastic! With their high (121dB) SPL capability and wide dynamic range, recording with the Q15s was nothing short of a blast. Players sat beside me at the board and recorded



The Equator Control software calculates primary room modes and then instructs the monitors how to correct for room anomalies.

World Radio History

electric guitars and bass using DI boxes. They commented on how much more fun and inspiring it was to track to the loud vibe of the Q15s than on typical near-fields. The oversized bass ports displayed no audible chuffing effect, but ensured in-your-face sound and live excitement—a luxury that's typically found in big rooms.

The low frequencies are pronounced, natural-sounding and not overstated, yet were exceptionally accurate on urban and club tracks, which often have many bass elements. Here, the Q15s clearly identified where each sound lived, as well as which sounds were trying to steal space.

The midrange was clear and concise, possibly attributable to the "no-slope crossover." One song I mixed had three acoustic guitars, four electrics, two female counterpoint vocals and background harmonies. The Q15s made dynamics and EQ decisions on this midrange smorgasbord nearly effortless. I could easily differentiate between the subtlest attacks, balance and tame resonances, zero-in on conflicting tones and more. I never doubted the frequency range of a vocal or instrument, and could carve out my mix pockets more quickly. EQ problems in the tracks jumped out.

I expected that the Q15s would have wide high-frequency dispersion, yet the sweet spot was much larger than I could have anticipated—easily spanning my 8-foot desk. At first, I thought the highs were too pronounced, especially compared to my Mackie HR824s and even my ribbon-tweeter ADAM S3As. I concluded that the Q15s were flat, and I was likely just hearing a much better spectral balance from a single point source. Transients became more defined and frequency response was superior in both vertical and horizontal planes. The Q15's high-frequency compression drivers are silky smooth and articulate, capable of pushing "air" to an altitude of 22 kHz. I used these speakers on many day-long sessions and showed no hint of fatigue.

I was surprised at how much more conservative—and confident—my panning became. With the Q15s, soundstage placement becomes highly defined, as though the available stereo space actually opens up on you. Similarly, I began making smaller and fewer gain changes overall as it became apparent which changes were truly necessary, and my edge for subtractive mixing really came back. The result is that the Qs make you mix "smarter"—not harder.

When I moved the Q15s into my 10x10-foot edit suite and placed them only three feet apart, they still provided exceptional imaging. Ultimately, the Q15s are a one-size-fits-all solution: ideal as near-fields, mids and mains.

Impressive

Hands-down, these are the best-sounding, best-performing monitors I've worked with. I'm convinced the coaxial design is best for a two-way system. The Q15s let me hear what's right and what's wrong so I could make quick judgment calls, and they offer the power of mains in the footprint of near-fields.

When I drove these incredibly hard, they sounded as good and spectrally balanced as they did at lower levels, and nothing I can think of comes close to the Q15's pinpoint accuracy. You can turn your head, spin your chair around, stand up and lean over the board, and the image doesn't shift.

Equator's Q Series represents the state of the art in monitoring system design. For this level of sophistication, the price tag is about half of what it ought to be—a tremendous value. ■

Jason Scott Alexander is a producer/mixer/remixer in Ottawa, Canada.

World Radio History

By Barry Rudolph

Lexicon PCM96 Effects Processor

High-Resolution Ambience for Use Inside and Outside the Box

Lexicon has been making high quality audio effects processors for 35 years. Its latest release, the PCM96 effects processor, delivers great performance from more than 1,200 presets including 28 new and legendary Lexicon reverbs, delays and modulation effects. Although not a convolution-based reverb, all room presets use early-reflection impulses from well-known rooms as starting points for creating reverb. This hybrid approach retains the inherent realism of a convolution reverb but allows the precise control and manipulation possible only with reverb synthesizers. The PCM96 uses 32-bit floating-point processing, works at sample rates up to 96 kHz, and is HiQnet™-compatible.

The PCM96 offers analog and FireWire I/O for stand-alone or DAW use.

Intuitive Interface

The single-rackspace PCM96's front panel looks friendly enough, with a stereo input LED meter, large Select knob for scrolling through presets and menus, Tap/Tempo button, and a Compact Flash card slot for storing, loading and comparing up to 768 edited presets.

The A, B and C endless-rotary controllers adjust parameters in three corresponding rows within the highly visible OLED (organic LED) display. The unit is configured into four independent "machines"—each containing its own algorithm.

The rear panel features I/O via stereo analog XLRs (+4 dBu or -10 dBV switchable), digital AES/EBU audio XLRs, word clock input, a trio of MIDI jacks, two FireWire 400 spigots, and two Ethernet RJ-45 connectors.

Access and Control

There are many ways to control and interconnect the PCM96 to your studio or DAW. Connect and control it like any other outboard reverb by sending and returning to it from your console or DAW using Manual mode. System view is for recalling presets, setting clock sync and rate, and viewing machine configurations—a pictogram demonstrates how up to four machines are interconnected in six different possible combinations. However, the rear panel stereo I/O limits all machine configurations to a maximum of two inputs and two outputs. In plug-in mode, three more combinations are possible, and up to four inputs and outputs are available over FireWire.

Machine view shows the currently loaded preset in any of the (selectable) four machines. Once a machine has a loaded preset, the parameters become available for adjustment.

Remote control of the PCM96 is by either FireWire or the Ethernet connection using the unit's IP address. In fact, multiple PCM96s can be networked together and controlled from the same computer. This works well when the unit(s) are in a machine room and not in immediate reach of the engineer. A VST or Audio Units plug-in that runs as it would in any DAW computer comes with the unit. You can also control the unit and stream audio over FireWire. In this mode, the same plug-in now causes the unit to pass audio to and from your DAW like any of the other FireWire-based DSP units.

Reverb in the House

I connected the PCM96's audio I/O to my Pro Tools system using the FireWire, analog I/O and digital I/O paths. I could not hear any sonic difference. After installing the software that includes FXpansion's VST-to-RTAS adapter, a new Preference pane comes up in the Mac's System Preferences window, where you set: Communications Interface, either FireWire or Ethernet; buffer setting (three levels); whether FireWire will simply control or both control and stream audio; audio I/O, analog or digital; clock rate and source; and finally Locate, which when clicked, flashes the unit's front panel display to identify which PCM96 in the rack you're controlling.

With this out of the way, I started using the unit on every mix possible. I streamed over FireWire because I wanted to configure two mono reverbs and a single stereo reverb at the same time. The plug-in GUI is small but unfolds in two levels. The first level shows eight parameter faders with names like Pattern for selecting the room impulse. The second level below that offers programmability that is deeper than I can cover here (it gets as deep as you can dive)—but know that this reverb will become an essential tool for sound designers. I would have liked the ability to use the plug-in GUI to perform and

PRODUCT SUMMARY

COMPANY: LEXICON
WEB: www.lexiconpro.com
PRODUCT: PCM96 Effects Processor
PRICE: $3,499

PROS: Great effects; works stand-alone or in a DAW via FireWire and plug-in interface

CONS: GUI can't store hardware setup when used as stand-alone; analog is only 2 in/2 out (FW I/O is 4 in/4 out)

World Radio History

audio ease

plug-ins

SPEAKERPHONE

real radios
real guitar amp cabinets
real telephones
real ambiences

altiverb

real temples
real concert halls
real caves
real recording studios

Audio Ease plug-ins bring the real world to your tracks. Altiverb, the world's #1 convolution reverb, comes with real samples of hundreds of world famous concert halls, cathedrals, and recording studios. And the brand new plug-in Speakerphone comes with hundreds of samples of real megaphones, radios, toys, walkie talkies, guitar amp cabinets and telephones, together with 5 gigabytes of ambiences and 12 DSP modules such as distortion and a radio receiver dial.

Check out the guided tours at www.audioease.com and hear how real it all sounds.
Then call a Sweetwater Sales Engineer at (800) 222-4700 to find out
how Speakerphone and Altiverb can add the real world to your tracks.

Sweetwater
Music Instruments & Pro Audio
(800)222-4700 www.sweetwater.com

The Sales Engineers at Sweetwater put together more audio systems than anybody, and when it comes to convolution reverb, they recommend Altiverb.

World Radio History

The plug-in's GUI allows users to set and store parameters within their DAW.

store setups in the unit when using it as a standalone processor. As it is now, when used as a FireWire processor, the front panel goes blank.

I called up a mono reverb called Small Playroom and changed the early reflection type to Bandpass at 375 Hz and saved it. This unusual reverb tone was perfect for an urban contemporary mix. I copied it to another aux, panned the two mono reverbs' returns left and right and sent to them both using a stereo send. By "Linking Pan To Fader" in Pro Tools, wherever a track is panned in the mix, the PCM96 effect will always follow it.

I next wanted an expensive-sounding stereo reverb for strings. I called up that blast from the past, the Concert Hall preset. All presets have subsets under the Load button. This one had 20 different variants and I went with Large Perc Concert. I shortened the Reverb Tail to 1.97 seconds and adjusted the tail width to 115 degrees. The tail width control passes all synthesized reverb audio through a 2x2 matrix that encodes the reverb to give it a feel ranging from narrower (mono) to anywhere out to super-wide stereo. This effect/feature is dramatic and caused the string section to sit in a super-wide, panoramically wonderful space.

A Reverb for All Reasons

I've just started to scratch the surface exploring all the capabilities of the PCM96. Its versatility goes way beyond any plug-in reverb and most hardware units costing many times as much. Like the 480L and 960L before it, the PCM96 is a huge winner and future studio stalwart, and carries on the Lexicon legacy with its wonderful sound, simple operation yet deep programmability, malleable interfacing, and flexible control. III

Experience THE WORLD's LOWEST PRICES!
EVERY MAJOR BRAND IN STOCK!
Guitors • Amps • Drums • Keyboords • Sound Systems
Recording Equipment • Software • DJ Geor • Accessories - CALL TODAY!

Legendary producer Phil Ramone with West L.A. Music's Don Griffin
West L.A. Music's Rick Waite with scoring mixer Michael Stern
Legendary DJ Sir Jinx with West L.A. Music's Ryan Mason
Hit songwriter Steve Kipner with West L.A. Music's Mark Spiwak
Singer Don Dokken with West L.A. Music's Noel Gould
Commodores keyboardist Tom Dawson with West L.A. Music staff member

West L.A. Music 2008 Microphone Expo! Sept. 26 11am-7pm Universal City • Sept. 27 10am-6pm West L.A.
To RSVP and for more info, visit www.westlamusic.com/micexpo2008
Shop Where the Pros Shop • Call Us Today!
West L.A. Music
West L.A., 11345 Santa Monica Blvd, Los Angeles 90025 (310) 477-1945
Universal City, 3501 Cahuenga Blvd West, Los Angeles 90068 (323) 845-1145
We will beat any price from any authorized stocking dealer anywhere in the United States.

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

World Radio History

TOOLS FOR CREATION

MICROPHONES
INTERFACES
MIXERS
RECORDERS

© 2008 B&H Foto & Electronics Corp. JN8060111

Courtesy of
The Cutting Room - NY

Discover unlimited possibilities. Get customized solutions.

Imagine having everything you need, all of it under one roof. It's the audio professional's dream, and it all comes together at B&H. Offering a comprehensive line of pro audio gear, such as a wide range of microphones, mixers, vocal processors, studio monitors, and computers, B&H also provides you with the personal assistance of a knowledgeable and friendly sales staff.

Subscribe to our free B&H catalog
www.bhphotovideo.com/catalog

bhproaudio.com
Shop conveniently online

Visit Our SuperStore
420 Ninth Ave, New York, NY 10001

800-947-5508
Speak to a Sales Associate

B&H
PHOTO - VIDEO - PRO AUDIO
The Professional's Source

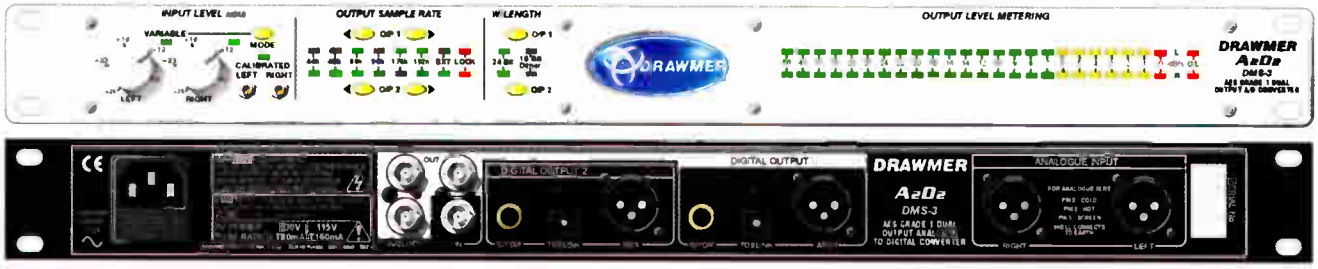
World Radio History

By Bobby Frasier

Drawmer A2D2 DMS-3 and M-Clock Plus DMS-5

AES Grade-1 A/D With Independent Dual Digital Outs, Master Clock With SRC

Drawmer has released an upgrade to its digital line with the DMS-5 M-Clock Plus and a new companion piece, the A2D2 DMS-3 A/D converter. The A2D2 is AES Grade-1, meaning that the internal clock has a drift of no more than ±1 PPM, providing a stable frequency source with minimum induced jitter. Clocking is paramount to proper operation of any A/D or D/A unit, and Drawmer uses the same clocking mechanism featured in its M-Clock Plus in the A2D2. Three word clock outputs on BNC connectors are provided for word clock distribution, as well as an external word clock input to reference to a house distribution system, such as the M-Clock Plus.



The Drawmer A2D2 DMS-3 uses the same clocking mechanism featured in the M-Clock Plus.

The Feature Presentation

Two balanced XLR analog inputs are located on the back of the A2D2, both using Burr-Brown analog input circuitry. Two input level modes are available: Calibrated and Variable. In Calibrated mode, two recessed, 24-turn pots allow precision adjustments for input levels in fixed installations where immediate adjustment is not necessary. In Variable mode, two additional potentiometers with external knobs are provided for left/right variable-input control—these being much more accessible when the operating engineer needs quick access to the input levels. Both input modes accept incoming signals from -2 dBU to +28 dBU. Factory calibration places 0 dBFs at -18 dBU.

Two digital output sections are also located on the back of the unit: an AES/EBU XLR, S/PDIF coaxial on RCA, and a TOSlink optical connection on both digital outputs; all outputs are active at all times. This is a great feature for doing remote recording or outside broadcast—multiple recorders with different formats can all be tracked simultaneously. Sample rates are selectable on the front panel between 44.1 and 192 kHz for each output. For example, a 192kHz recording to your DAW could be taking place while sending a 48kHz signal to your video camera. Backups can be recorded with identical sample rates, if desired. Word length is selectable at 16- or 24-bit for each output. The dual-output, selectable sample rate feature is a well-implemented idea. A great-looking, accurate 24-bar LED bar meter rounds out the brushed-aluminum front faceplate. One downside on the front plate: The black lettering against the silver faceplate along with the extremely bright LEDs made both units difficult to read in low light situations.

A2D2 In the Studio

I used the units on a tracking session recording a series of saxophones: baritone, alto, tenor and soprano. I love saxophones as test subjects: They're rich in harmonic overtones, which can be diminished or augmented through mic placement, and they bring out the best or worst of digital recording systems. I used an AKG C451B to record the various instruments. Taking the line output of a Digidesign C|24 mic pre and multing it to the input of a Digidesign 192 I/O interface and the A2D2, I could track the two A/Ds simultaneously. I chose 88.2kHz/24-bit as my median sample rate for this test. On every horn, on every track, the A2D2 would shine in the instruments' upper and lower registers. The low end on the baritone was more realistic than what was represented by the other converter, having a greater sense of power (lower harmonics were more accurately recorded and reproduced, and the percussion of the instruments' air output could be felt and heard on playback), whereas the upper end of the soprano was produced in like fashion: open with more of the surrounding room being represented and realistic. The upper harmonics were more accurately recorded and reproduced, heightening the sense of actually standing next to the instrument.

In the midrange of the instruments, the two converters were virtually identical. Clocking was performed from the 192 I/O for one

PRODUCT SUMMARY

COMPANY: DRAWMER (dist. by TransAudio Group)
WEB: www.transaudiogroup.com
PRODUCT: A2D2 DMS-3 and M-Clock Plus DMS-5
PRICE: $2,199 each

PROS: A2D2: great sound, outputs different sample rates simultaneously. M-Clock Plus: AES Grade-1 clock, 10 word clock outs

CONS: A2D2: panel hard to read in low light. M-Clock Plus: Dual SRCs regulated to same sample rate as master clock

World Radio History

Apogee, Apple, and Sweetwater... the Sweetest Sounding Symphony

The Symphony System
Up to 96 channels of I/O

Duet
Portable, Two channel
FireWire audio interface

Ensemble
Multi channel FireWire audio interface

From the Garage to the Studio, advanced audio for any application

Whether you're recording a simple guitar part or an entire orchestra, capture it all with the legendary sound quality of Apogee and with the power and ease of Apple. The combination of Apogee interfaces, Mac computers and Apple audio creation software offers unsurpassed professional recording solutions for any application.

Let the pros at Sweetwater configure your custom Apogee/Apple System.

Authorized Reseller

Sweetwater
Music Instruments & Pro Audio

APOGEE
SOUND AMAZING

(800) 222-4700
www.sweetwater.com/apogee

World Radio History

session, with the M-Clock Plus clocking a virtually identical session.

I performed a similar test with acoustic guitar and female vocals, this time using a Joemeek VC6Q British Channel as the front end. The results from the A2D2 were similar, with a greater degree of accuracy in the lower harmonics with the percussion separating the instruments in the lower end of the frequency spectrum, and air and realism on the top. When A/B'ing the two sessions, there was little that could be ascertained from the different clock sources. The results were unchanged. Even though no dramatic differences were noted, however, the M-Clock Plus has many features that can easily make it a permanent part of your installation.

M-Bop to the M-Clock

The M-Clock Plus offers unique features in the world of clocking. The bread-and-butter characteristics include an AES Grade-1 clock with 10 buffered word clock outputs on BNC connectors for ease of distribution in a large digital system (two outputs are on the front panel), with a selectable generator between 44.1 and 192 kHz. It can also be referenced to an external word clock generator or incoming AES/EBU signals. A blue display indicates your clock frequency, plus ±PPM or ± percent—handy if you happen to be performing pull-ups or pull-downs. A truly unique feature of the M-Clock Plus is the dual sample rate conversion. Both converters have simultaneous S/PDIF, TOSlink or AES inputs and outputs, which allow not only format conversion, but also sample rate conversion at the same time, with all outgoing signals reclocked to the selected master clock frequency. Sixteen- and 24-bit word lengths are selectable, with automatic dithering applied to any signal that is slated for possible truncation.

I used the SRC feature with a 24-bit/96kHz session that was mixed in Pro Tools, sent out of the AES/EBU digital outputs of a Lynx Aurora 8 interface to the M-Plus, where the signal was converted to 16-bit/44.1kHz and recorded to an Alesis MasterLink. Clocking for the Pro Tools session was accomplished internally from the Aurora. The signal was then reclocked to 44.1 kHz and dither added for the 16-bit reduction via the M-Plus. The MasterLink simply clocked off the incoming AES/EBU data stream as it has no external clock inputs available. As a comparison, I bounced the mix internally using the Bounce-to-Disk feature in Pro Tools, with the POWr dither as the last plug-in on the master output fader, bouncing at 16-bit/44.1kHz. The M-Plus did a fine job of SRC, sounding more like the original mix than the internal bounce. In both bounced and SRC'd files, I noticed a slight, edgy sibilance in the vocal "esses" and a decrease of depth and space in the reverb tails, as would be expected when using this process. These were not unusable bounces, by any means; they simply differed from the original 24/96 files, with the unaltered originals sounding better, as they should.

The M-Clock Plus offers an AES Grade-1 clock with 10 buffered word clock outs on BNC connectors.

Digital Conclusions

Drawmer has created a couple of easy solutions for the challenges of the digital recording engineer. With the A2D2, a fine-sounding stereo A/D converter includes the ability to output different sample rates simultaneously. The variable input levels make remote recording a little less harrowing, and the three word clock outputs give a smaller studio word clock distribution without adding an additional master clock generator. For larger systems, the M-Clock Plus will be a welcome addition for keeping all clocks dancing to the same drummer, plus the added features of highly functional, dual sample rate converters. If these are the issues you need resolving in your studio, then you've found a solution. III

Bobby Frasier is an engineer, consultant and guitarist who wishes he was a Beatle.

"Violet Design has a winner on its hands."

Randy Poole, *ProSound News*

the Amethyst

Violet DESIGN

violetusa.com

World Radio History

remix [hotel]

Atlanta 2008

Sept. 18–20
SAE Institute of Technology, Atlanta

Get ready for the third-annual Remix Hotel Atlanta!

- Industry panels
- Master classes
- Product demos
- iStandard producer battle
- Special guests
- Nighttime showcases

Go All Access & get into the Atlantis Music Conference & Festival for **FREE**!

ATL atlantis · B&H · DISC MAKERS · expression · Standard · PRO DJ · RANE · Roland · sae · serato

Details and event info at remixhotel.com! **REGISTER TODAY!**

World Radio History

By Eddie Ciletti

Turning Down the Heat

Dealing With Thermal Problems in Tube Gear

Everyone's energy-conscious these days, so turning gear off when it's not in use saves on the electricity bill and helps keep your toys healthy. To further promote equipment longevity, find the major heat sources in your rack, and add space above/below to improve ventilation.

Broken gear that's on 24/7 often has an obvious hot spot inside where you can't see. In a well-designed circuit, components can warm to the touch—with the lid off—but shouldn't cause first-degree burns. A short-term cure is to replace the damaged component; better still, fix the problem.

ILLUSTRATION: DMITRY PANUCH

Let's look at an early production run of a Drawmer 1960 stereo comp/limiter and a Jackson Apogee 50 guitar amp—two very different pieces of gear with similar problems. Both have four tubes of the 12A?7 dual-triode variety (where "?" is the wild card for T, U, V, X, Y or Z). Clean, quiet DC power is supplied to the tubes from an LM7812 voltage regulator rated at one amp. Four 12-volt filaments in parallel consume 600 milliamps (mA) of current. This is close to 75 percent of the 7812's "safe" capacity, which would be fine; however, tubes draw much more current when cold.

If you're hip to Ohm's Law (I = E/R, R = E/I) you can see that one 12V filament (or heater) consuming 150 mA has an equivalent hot resistance of 80 ohms. I measured about 15 ohms cold, so the startup current for *one* tube is about 800 mA (1,000 mA = 1 amp). That multiplied by four momentarily exceeds the LM7812's capacity, considerably decreasing its Mean Time Before Failure (MTBF). It was no surprise to find a normally green circuit board turned brown from heat.

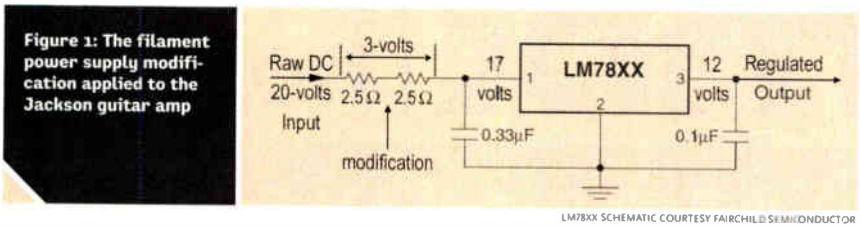


Figure 1: The filament power supply modification applied to the Jackson guitar amp

LM78XX SCHEMATIC COURTESY FAIRCHILD SEMICONDUCTOR

The Jackson Story

Voltage regulators need a few extra "raw" volts at their input so that their output can be constant—even if the AC at the outlet is shy of its 115V–125V window. On the Jackson, 20V of raw DC fed the regulator, which is within tolerance if the load is a half-amp (500 mA). With no internal ventilation to allow the heat sink to do its job, the 7812 got hot enough to eventually discolor the board and even melt the solder before failing entirely.

With no schematic, limited access to the PCB's underside and a stu-

dent audience, I opted for expediency—cutting the regulator's legs and de-soldering the remaining bits from the top. The regulator was relocated to the back panel, providing more surface area and "outside world" ventilation to facilitate heat dissipation.

Next, I inserted a resistor in series between the raw power supply and the regulator to reduce the 8V input/output differential to 5 volts. This same resistor would also limit the total current on power-up by taking the hit—allowing a greater voltage drop—so that the regulator wasn't strained on awakening. This is a simple, passive version of a *current source*, taking advantage of the fact that the resistor's value would increase with heat. I used a variation of Ohm's Law to calculate the resistor value based on the current required by four parallel filaments; I picked the voltage dropout of the air: It's R = E/I, where 3 volts/0.6 amps = 5 ohms. (See Fig. 1.)

Next, the Power formula determined the power (in watts) dissipated by the resistor; the wattage divided by 0.75 ensures that the resistor operates in a comfortable operating zone. P = IE = (0.6 amps x 3 volts) = 1.8 watts/0.75 = 2.4 watts. Remember, this is based on *post*-warm-up operation. A trip to the local surplus store yielded two exquisite 2.5-ohm resistors (rated at 5W each) to be wired in series. Post-mod, none of the components was more than warm to the touch, and the amplifier is alive and well.

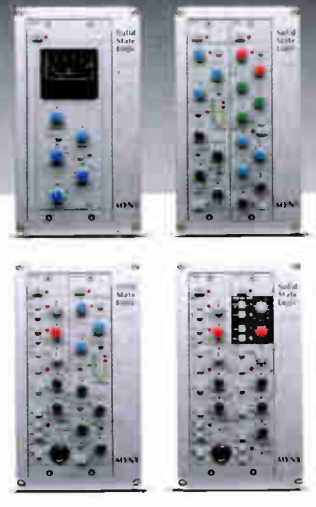
Sharing the Drawmer's Load

Interestingly enough, the Drawmer 1960 had a fuse on the filament circuit to protect both the power transformer and the tubes should the regulator fail. Not only was the LM7812's heat sink inadequate, it was inside the unit

World Radio History

www.sweetwater.com/mynx

Mynx
It's part of something bigger...



Mynx has a two X-Rack module capacity.
Modules are sold separately.

Sweetwater
Music Instruments & Pro Audio
(800) 222-4700

Based on our award-winning X-Rack system and using identical circuitry to our acclaimed Duality and AWS 900+ consoles, Mynx makes the hit-making SSL SuperAnalogue™ sound more accessible than ever.

Capable of housing two X-Rack modules, Mynx can be used to create a range of recording and mixing tools designed to dramatically enhance your DAW recordings. Combine the 'SuperAnalogue Mic Pre' and 'Dynamics' modules for a pristine front-end recording system for vocals. Slot in the 'EQ' and 'Dynamics' modules for classic SSL channel strip processing. Fit the Stereo Bus Compressor module for our legendary full mix compression. Or load the 'Master Bus' and 'Line Input' modules to create an analogue monitor & foldback system for your studio.

Call a Sweetwater Sales Engineer today to learn more about Mynx and the full range of X-Rack modules.

Mynx. This is SSL.

Solid State Logic
SOUND | | VISION

World Radio History

with *four* vacuum tubes, plus other overly hot regulators. No amount of top panel ventilation holes would suffice, especially as the 1960 would likely be sandwiched between two pieces of gear. The 1960 was eventually reborn as the 1969—sonically tweaked and redesigned for greater reliability.

Note: Tube-era designers concerned about heat literally thought outside of the box by mounting tubes (and later transistors and heat sinks) where ventilation was easiest to come by.

To improve heat management in the 1960, I chose a more elaborate "active" current source: a power transistor for each tube. Even better than the single resistor added to the Jackson amp, the transistor current source allows the filaments to draw only 150 mA, even during power-up. The tubes would take longer to warm up, with the added benefit of extending life. Each transistor had its own piece of chassis real estate and was barely warm compared to the concentrated heat of the single 7812 regulator. (See Fig. 2.)

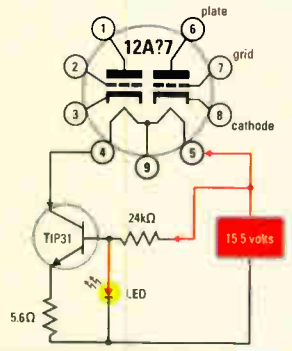


Figure 2: A current source modification to one of the four tubes in an early version of the Drawmer 1960

Currently Speaking

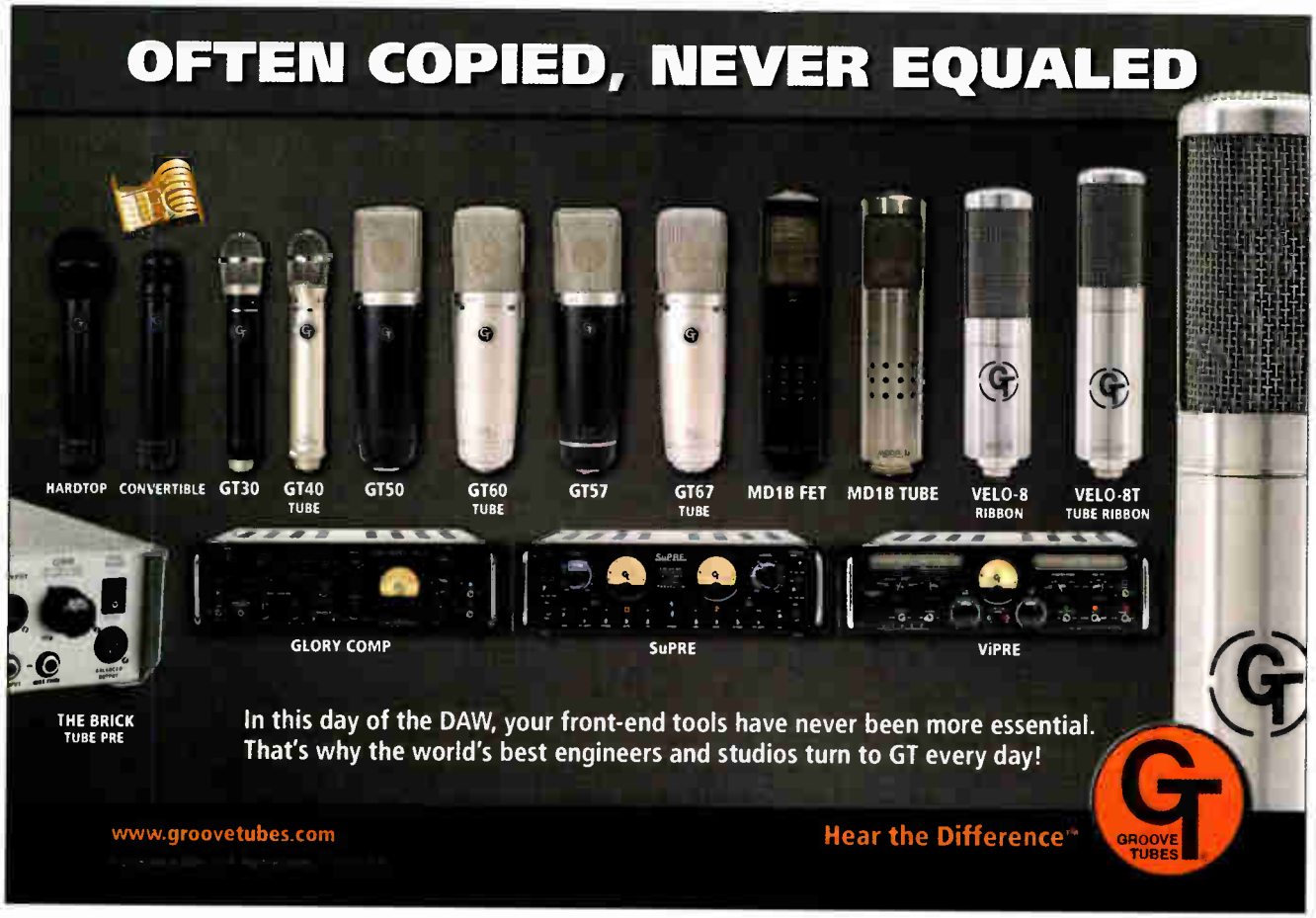
The current source has been around for a long time. One example goes back to the vacuum-tube era—the LA-2A output stage. I was first aware of it in the channel assignment section of MCI consoles, where driving all the LEDs in series required far less power than in parallel. I also found it more recently in aftermarket replacement power supplies for tube microphones. ■

Eddie Ciletti's kitchen is at tangible-technology.com, where the motto is, "If you can't stand the heat, get out the soldering iron and modify, modify, modify."

AUDIO SCIENCE

Tube Filaments Explained

Common to audio gear, dual triodes—such as the 12AT7, 12AU7, 12AX7, 12AY7 and 12AZ7—have two separate amplifiers. "Triode" refers to the three principal components: cathode, grid and plate. In a vacuum tube, the filament boils electrons off the cathode. These negatively charged particles are attracted to the opposite charge—in this case, the plate, which becomes positive when a high voltage is applied. Each amplifier within the dual triode has its own filament, and in the 12A?7 family the two filaments can be wired in series as a 12.6V tube (150 mA) or in parallel as a 6.3V tube (300 mA). Back in the day, an AC voltage was applied to the filaments. However, in many high-gain applications, our heightened sensitivity to noise requires clean, filtered DC, hence the use of regulators. —*Eddie Ciletti*



World Radio History

TOOLS FOR CREATION

MICROPHONES
INTERFACES
MIXERS
RECORDERS

© 2008 B&H Foto & Electronics Corp. JN8060111

Our knowledge comes standard.

When it comes to the B&H sales staff, knowledge and experience are a given. We offer unparalleled expertise and solutions for the Pro Audio professional.

Visit our SuperStore in the heart of NYC, give us a call, or browse our newly expanded web site featuring live assistance, and experience for yourself the most knowledgeable and helpful sales staff anywhere.

Subscribe to our free B&H catalog
www.bhphotovideo.com/catalog

bhproaudio.com
Shop conveniently online

Visit Our SuperStore
420 Ninth Ave, New York, NY 10001

800-947-5508
Speak to a Sales Associate

B&H
PHOTO - VIDEO - PRO AUDIO
The Professional's Source

World Radio History

BIG SOUND.
BIG STAGES.

THE INDUSTRY'S PREMIER LIVE-SOUND EVENT

Formerly ET Live

Bookmark us now: www.mixonline.com/ms/mixlive08

MAKE PLANS TO ATTEND MIXLIVE!
LAS VEGAS
OCTOBER 24–26, 2008

@ LIVE PRODUCTION INSTITUTE
2400 N. Tenaya Way, Las Vegas, NV

World Radio History

Come Hear What It Should Sound Like

LIVE

MixLive is a one-of-a-kind event featuring multiple stages showcasing the latest in sound-reinforcement technology. Leading manufacturers will demonstrate state-of-the-art touring and club systems. Top live-sound engineers will work the boards and discuss their techniques in exclusive expert workshops. And postshow afterparties and events offer prime networking opportunities. Come to MixLive and learn from the best engineers on the biggest systems.

GOING TO **LDI** AND **REMIX HOTEL LAS VEGAS**?

LDI 2008

REMIX [hotel]

All LDI and Remix Hotel Las Vegas attendees receive free entry to MixLive.

Free shuttle service will be provided direct from LDI to MixLive.

World Radio History

- Master Classes
- Training Sessions
- Tutorials
- Live Sound Seminars
- Broadcast Events
- Exhibits
- Platinum Panels
- Special Events
- Historical Events
- Tours
- Exhibitor Seminars
- Technical Papers
- Educational Events
- Workshops

www.AESshow.com

125th AES CONVENTION

MAKE THE RIGHT CONNECTIONS

Conference: October 2-5, 2008
Exhibits: October 3-5, 2008

Moscone Center
San Francisco, CA

Audio Engineering Society

PHOTO PHILLIP ANGERT

World Radio History

MARKETPLACE

CDs/DVDs MASTERING/EDITING GRAPHIC DESIGN MULTIMEDIA

WHERE SIGHT AND SOUND MERGE

PLAY-IT PRODUCTIONS

259 W. 30th Street, NY, NY 10001 TOLL FREE:1-800-815-3444 or 212-695-6530 WWW.PLAY-ITPRODUCTIONS.NET

JOSEPHSON ENGINEERING C700A

"... clear, realistic, noise-free and quite neutral without a hyped high end or midrange.

...

... allows you to explore and experiment with mic patterns and the subsequent shift in tune, *after* the recording, during the mix."

- **Barry Rudolph**, *Mix magazine*

JOSEPHSON

josephson.com

Studio Suite 8

STUDIO MANAGEMENT SOFTWARE

Simplify your Office Manage your Studio Organize your Tech with ONE Product!

1.800.450.5740

International: 1.818.752.3900

www.studiosuite.com alternedia

CRYSTALCLEAR DISC, PROMO & APPAREL

1000 RETAIL READY CDS ONLY $999!

25 WHITE TEES ONLY $99!

"TRUSTED EXPERIENCE FOR OVER 35 YEARS" TOLL FREE 1-800-880-0073 WWW.CRYSTALCLEARCDS.COM

CD/DVD MANUFACTURING • T-SHIRTS/APPAREL • STICKERS/POSTERS • ONLINE SALES • DIGITAL DISTRIBUTION

IN-HOUSE CD • DVD • VINYL MANUFACTURING

300 CD Package: $775.00 *Includes: 1-color booklet & 1-color CD label from print-ready film, jewelbox, shrinkwrap*

1000 CD Package: $1199.00 *Includes: 4-color booklet & 2-color CD label from supplied artwork, jewelbox, shrinkwrap*

12" VINYL PROMO

100 12" VINYL $849.00 *Additional LP's: $1.80 each*

500 12" VINYL $1,329.00 *REORDER $760.00*

1000 12" VINYL $1,939.00 *REORDER - $1369.00*

PACKAGES INCLUDE: WHITE JACKET w/ HOLE • MASTERING • FULL PROCESSING • TEST PRESSINGS • 2-COLOR LABELS (stock background) • SHRINKWRAP • QUICK TURN AROUND

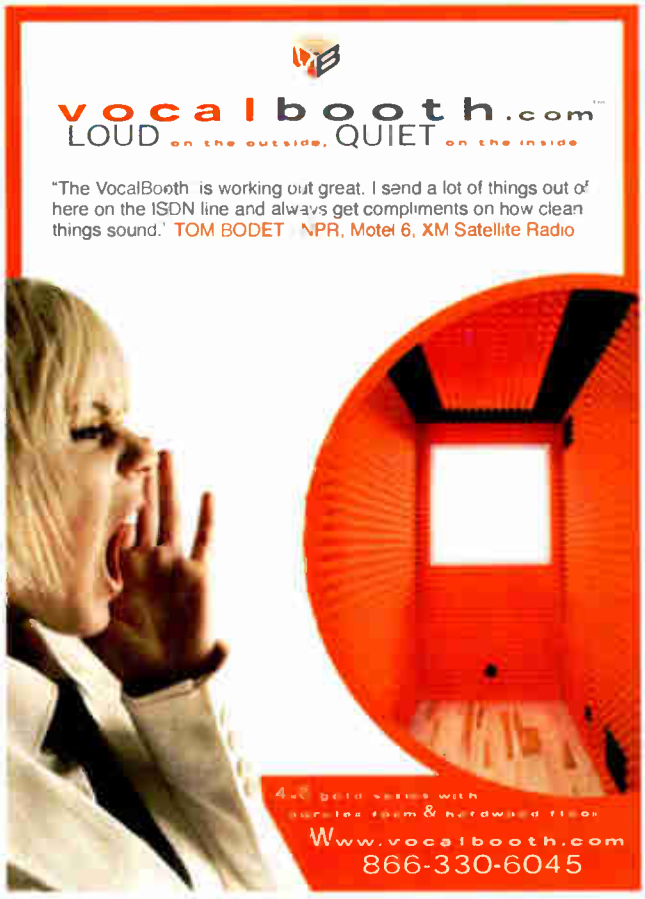
RAINBO RECORDS MANUFACTURING CORPORATION

8960 Eton Ave., Canoga Park, CA 91304 • (818) 280-1100

Fax: (818) 280-1101 • www.rainborecords.com • info@rainborecords.com

To place your ad into the Mix Marketplace, Classifieds please call Kevin Blackford at 510-985-3259 or email to kblackford@mixonline.com

World Radio History



World Radio History

ESPN, CBS and Late Night with David Letterman all use the SR5.1MKII.

Fold down to Stereo or Mono
Level Control tracking .05db
Balanced inputs & outputs

Coleman Audio
(516) 334-7109
www.colemanaudio.com
coley@colemanaudio.com

Accessible trims for all channels
Individual mutes for all channels
Classic analogue circuitry

SR5.1MKII Surround Level Control

ANTHONY DEMARIA LABS

ADL 660 MONO TUBE LIMITER

"FINALLY, TRUE FAIRCHILD COMPRESSION IS AVAILABLE IN THE NEW, SERVICEABLE UNIT. I WON'T DO A SESSION, WHETHER CUTTING OR MIXING, WITHOUT MY ADL 660."
PETE MATTHEWS

845-255-4695
WWW.ANTHONYDEMARIALABS.COM

World Radio History

TUNE INTO ZERO's SOUND SOLUTIONS

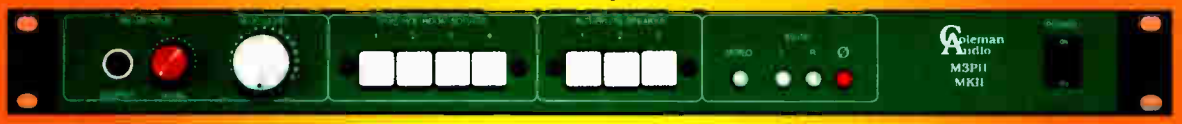
ZERO is a world-wide leader in high-performance acoustical control for doors, windows and walls. Nobody does sound control better — we use advanced technology and testing to master the challenges of creating an effective barrier and preventing gaps in that barrier for the life of the assembly. Our systems are rated up to 55 STC, for use in sound and recording studios, music halls, theaters, etc. Let us help you close the door on noise — contact us for a copy of our 20 page Sound Control brochure, and our 72 page Product Catalog, or visit our website.

1-800-635-5335 / 718-585-3230
Fax 1-800-851-0000 / 718-292-2243

ZERO INTERNATIONAL

zero@zerointernational.com
www.zerointernational.com

When you power up the monitor controller do you wonder where the stereo image went ? Maybe your DAW monitor isn't working properly? This one is built to last.



M3PH MKII DAW Monitor

Passive Stepped Attenuator
Tracks to .05db
Left and Right Mutes
Engineer's Headphone
Mono sum & Phase Reverse

Coleman Audio
(516) 334-7109
www.colemanaudio.com
coley@colemanaudio.com

Four Balanced Stereo Inputs
Three Balanced Stereo Outputs
Fixed output for meters or cue
Handcrafted in the USA
Built to last a lifetime

fast - *real fast*

The MA-2.2 True Class A Microphone Amplifier sports a lightning fast slew rate so you can capture every last transient in flawless detail. But it does not end there, the firm bass response and juicy midrange ensure your recordings retain their natural character and never sound harsh or sterile.

buzzaudio

UK Call 207-231 9661
USA Call 866-235-0953
Canada Call 450-227-3818

visit www.buzzaudio.com and read what our users say

SUCCEED IN MUSIC WITH THIS FREE SEMINAR DVD.

Contact us today and we'll send you our FREE Seminar DVD *Achieving Success With Your Music.* It's full of hard-hitting tips on marketing, A&R, and more – only from Disc Makers.

Call us at (866) 677-7912 or visit www.discmakers.com/mix to get yours today.

DISC MAKERS®

World Radio History

Progressive Media & Music

CD & DVD Replication
Full Retail Ready Packages
State of the Art A/V Facilities
Mastering • Editing • Authoring
Award-winning Art Department
The Best Customer Service

FREE T-Shirt from your album art with CD package
www.progressivecds.com
Toll Free: (800)421-8273
THERE'S A REASON WE'VE BEEN HERE 30 YEARS!

Read Watch Listen

Go to
www.audioinsider.net
to become an exclusive member today and get the best information about music production technology and recording!

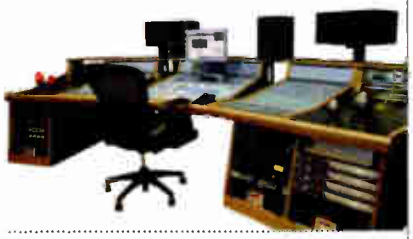
Think Outside The IsoBox

You know us for our critically-acclaimed IsoBox, now check out our desks and racks. Our products feature superior design, construction, materials and a variety of available options.

CUSTOM CONSOLES
- API
- Yamaha
- DigiDesign
- Toft
- Solid State Logic
- Tascam

ISOBOX
- Studio, Flight and Post

RACKS
- Slant Racks
- Lowboys
- NEW Craftsman Series Racks



"Sound Construction designs and builds the best studio furniture available, period."
– Brian Tankersley

www.custom-consoles.com
Above: Custom Console for DigiDesign D Control

Sound Construction & Supply, Inc.

THE NEW PELUSO VTB
VACUUM TUBE BOTTLE
MODERN SOUND, CLASSIC LOOK
HAND BUILT IN VIRGINIA

DEMO BOTH TODAY!

this and much more available from your pro audio experts:

sound pure

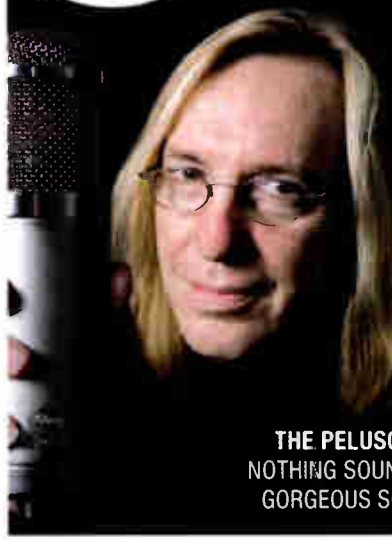
BEST GEAR BEST PRICES BEST ADVICE

www.soundpure.com / sales@soundpure.com
call toll free 888.528.9703

Toft Audio Designs · Pro Tools|HD · MOGAMI · Charter Oak · Pendulum · Sebatron · RME · Great River · dynaudio · SCHOEPS · Gefell · LE LAVRY · FOCAL

NEW PRODUCTS IN STOCK NOW!

Peluso



"What a stunning microphone, the build quality is amazing. You've gotta hear it to believe it!"
-Chuck Ainlay

THE PELUSO 2247 SE STEEL TUBE
NOTHING SOUNDS LIKE A STEEL TUBE
GORGEOUS SOUND, ENDLESS VALUE

World Radio History

Mercury
'Plug Into Reality'

"Vintage modules can now retire ... the M72s is the New Kid in Tone."

Mercury M72s
Studio Microphone
Amplifiers

Mercury Recording Equipment Co. - (510) 581-3817 - MercuryRecordingEquipment.com

What's your need for an 8 channel balanced audio switcher ?
Switch to the backup DSL output and save the show
Send a 5.1 plus a stereo mix simultaneously
Compare 7.1 surround mixes for films Switch sources for DVD authoring

7.1SW

AES in NYC
Oct. 5th - 8th
coley@colemanaudio.com

Coleman Audio
(516) 334-7109

Join us at the AES in NYC
Booth #1023 get a free pass @
www.colemanaudio.com

SUCCEED IN MUSIC WITH THIS FREE SEMINAR DVD.

Contact us today and we'll send you our FREE Seminar DVD *Achieving Success With Your Music.* It's full of hard-hitting tips on marketing, A&R, and more – only from Disc Makers.

Call us at (866) 677-7912 or visit www.discmakers.com/mix to get yours today.

DISC MAKERS®

CLASSIFIED ADVERTISING:

Get your company's name into the minds of thousands of customers!

remixclass@PENTON.COM
www.remixmag.COM

emclass@PENTON.COM
www.emusician.COM

mixclass@PENTON.COM
www.mixonline COM

emclass@PENTON.COM
www.emusician.COM

mixclass@PENTON.COM
www.mixonline.COM

www.livedesignonline.COM

For classified advertising rates & deadlines call:
(510) 985-3259

World Radio History

ATLAS PRO AUDIO
ATLASPROAUDIO.COM

Buzz Audio REQ2.2
Now Shipping!!
The ultimate stereo or dual mono true Class A Resonance EQ for Recording, Mix, or Mastering

Great River

Peluso Mics

Purple Audio

www.AtlasProAudio.com
US Toll Free 1.866.235.0953
Open 'til Midnight EST - 7 days

Telefunken USA

Lavry Digital

Over 80 brands of NEW gear!
Mics - Preamps - EQs - Compressors
A/D Converters - PlugIns - Speakers

THE NOW SHIPPING!!
JUGGERNAUT

Also from **Atlas Pro Audio**

The Revolver Rack
2 Slot 500 series rack
400 mA internal supply

See our website for details and special bundle pricing

Shown left with
dual Juggernauts installed
The Ultimate Portable Rack

FEATURES INCLUDE:

Fully Discrete and Class A design

Switchable custom input transfomers - Iron or Nickel

Switchable custom output transformers - Iron or nickel

Variable mic input impedance ranging from 300 ohms to 10,000 ohms (works like a tone knob!)

All Potentiometers on high quality detented Alps brand (approx 1db steps on gain)

Gain range from 12db to 70db - perfect for ribbons

+THD is 10db pad on OUTPUT

Boost/Low input gain function to allow for modern hot output mics on high SPL sources(without the tonal degredation of an input pad)

Mute button (Auto mute when switching input transformer)

Heavy duty fluted metal knobs

Multicolor LED's on buttons for on off functions

Fully API™ 500 series compatible

300 - 10,000
ohm impedance
(works like a tone knob!)

World Radio History

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* ***(510) 985-3259****.*

ACOUSTIC PRODUCTS

CASES/ COVERS

EQUIPMENT FOR SALE

World Radio History

EQUIPMENT FOR SALE

NEW & VINTAGE MICS
FROM RUSSIA
TEL/FAX: 007-495-9115565
E-mail: aeg210268@mtu-net.ru
www.valvemics.webzone.ru/

VINTECH AUDIO
CLASS A MIC PREAMPS MADE WITH

NEVE™ 1272 COMPONENTS
www.vintech-audio.com
call toll free: 1-877-4-mic-pre

ADL 600
2-ch high voltage tube preamplifier

PreSonus
www.presonus.com

RECRUIT › RETAIN › EXPLORE
It's so much more than a job bank.

Entertainment Technology's JOBzone brings you the most user-friendly, network-wide online job bank that is exclusively dedicated to serving professionals in the Audio, Video, Broadcast, System Integration, Lighting, and Performance industries. With job recruitment as the next biggest growing area online, JOBzone ensures your company is part of this momentum!

Start your search today. Hit the JOBzone link at any of our magazine websites:

emusician.com | remixmag.com | mixonline.com
svconline.com | livedesign.com | digitalcontentproducer.com

World Radio History

CLASSIFIEDS

EQUIPMENT FOR SALE

Vintech

The Vintech X73i!

"I used five X73i's and one X81 to record all of Carlos Santana's guitar tracks for both the 'Shaman' and 'All that I am' albums." Jim Gaines Engineer for Carlos Santana, Stevie Ray Vaughn

The Vintech X73

"I use the X73 for recording Patti Scialfa and Bruce Springsteen in their home studio." Toby Scott, Engineer for Bruce Springsteen

THE "X81 CLASS A"

The Model 473

1-877-4-MIC-PRE

www.vintech-audio.com

STEDMAN

Keep your headphones convenient and safe. Clamps to music stand or mic stand.

NEW!

888-629-5960

www.stedmancorp.com

Lifetime Warranty

Made in USA

MASTERING

MASTERING

Guaranteed to give you that "Big Label" sound.

$475. Complete Album Deal!

1-800-692-1210

Located in New York... Serving the US! ... Since 1989

www.musichousemastering.com

KICKASS MASTERING

BIG! FAT! LOUD!

Tube Analog Compression

$350.00 Album Deal

559-251-1516

prs@pyramidrecording.net

FREE TEST MASTER

Professional Mixing and Mastering Services

Nathan Eldred

www.AtlasRecording.com

US Toll Free 1.866.235.0953

Subscribe to MIX

www.mixonline.com

HIGH FIDELITY HIMFI MASTERING

Offering the finest facilities for all your audio needs, restoration, 5.1 conversion, film

www.highfidelitymastering.com

FURNITURE

Studio Transformation

800.315.0878

furniture

ARGOSY

www.argosyconsole.com

OMNIRAX Studio Furniture

Quantum Series

Aveon

pictured in Satin White 5D Laminate

800.332.3393 +15.332.3392

www.omnirax.com

INSTRUCTION

BE A RECORDING ENGINEER

TRAIN AT HOME

Easy Home-Study practical training in Multi-track Recording. Join our successful working graduates or build your own studio. Career guidance. Diploma. Registered School.

FREE INFO:

Audio Institute of America

814 40th Ave. San Francisco, CA 94121

www.audioinstitute.com

MASTERING

DRT Mastering

the Analog Specialist

You will have the fat, slammin' major-label sound that sells discs.

Or the work is free...

Custom gear. 1st-class results. Free broch

800-884-2576 www.drtmastering.com

COMPUTER MUSIC PRODUCT GUIDE

THE ESSENTIAL GUIDE FOR DESKTOP MUSIC PRODUCTION

MIX BOOKSHELF

To order *Computer Music Product Guide*, or any of our other publications, please visit www.mixbooks.com, or find it on newsstands wherever *Electronic Musician* is sold.

For details on how to place your ad in the classified section, contact the Mix Classified Department at (510) 985-3259

World Radio History

MICROPHONES

REAL ESTATE

POCONO MTNS, PA - FULLY EQUIPPED PROFESSIONAL PRO TOOLS STUDIO with large plug in library Built in 2006 Located in 5000 SF Log Home Indoor pool 5 Car garage Along pristine Pocono Mountain Trout Stream $1,100,000 Call James Knowles, Realtor, BETTER HOMES AND GARDENS REAL ESTATE WILKINS & ASSOCIATES 570.421.8950 Ext. 384 or Direct 570.801.3260 james.knowles@bhgrealestate.com

SOFTWARE

Subscribe to
REMIX
www.remixmag.com

sweet studio?
get
Studio Suite 8
Studio Management Software
www.studiosuite.com
See our ad in MarketPlace

RECORDS TAPES CD SEVICES

CRYSTAL CLEAR
DISC, PROMO & APPAREL
"TRUSTED EXPERIENCE FOR OVER 35 YEARS"
TOLL FREE 1-800-880-0073 WWW.CRYSTALCLEARCDS.COM
1000 RETAIL READY CDS ONLY $999!
25 WHITE TEES ONLY $99!
CD/DVD MANUFACTURING · T-SHIRTS/APPAREL · STICKERS · POSTERS · ONLINE SALES · DIGITAL DISTRIBUTION

emusician XTRA!
Electronic Musician's weekly e-newsletter delivers the latest news direct to your inbox! Subscribe today at
www.emusician.com

Progressive Media & Music
CD & DVD Replication Duplication
and much more!
www.progressivecds.com
Toll Free: (800) 421-8273
THERE'S A REASON WE'VE BEEN HERE 30 YEARS!

em AND THOMSON COURSE TECHNOLOGY PRESENT
PERSONAL STUDIO SERIES

Featuring Steinberg Cubase™
MIX BOOKS
To order the *Personal Studio Series, Mastering Cubase*™, or any of our other publications, please visit www.mixbooks.com, or find it on newsstands wherever *EM* is sold.

World Radio History

The MOTU studio — compact and powerful

Run DP6 and all your virtual instruments and plug-ins on the latest MacBook Pro for unprecedented compact processing power, then customize your desktop studio with all the latest gear.

Apple MacBook Pro

The mobile creative powerhouse

Powered by the most advanced mobile processors from Intel, the Core 2 Duo-based MacBook Pro is up to 74% faster than the original Core Duo-based MacBook Pro — perfect for DP.

MOTU Digital Performer 6

Award-winning audio workstation software

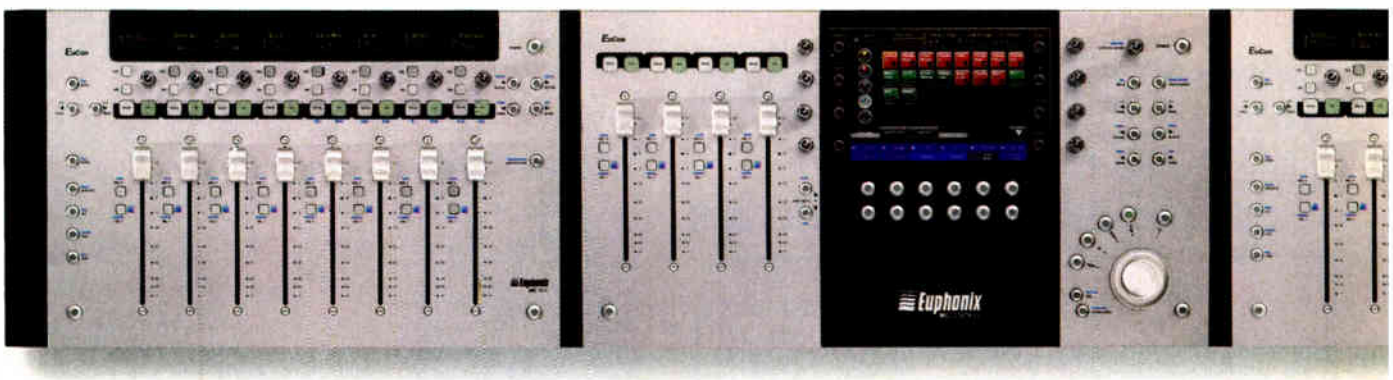
An inspiring new interface, track comping, XML file interchange with Apple Final Cut Pro, MasterWorks Leveler™, ProVerb™ Convolution reverb, plus many more advanced new features.

Euphonix Artist Series

High-end console for your MOTU studio

Euphonix brings high-end console technology to your MOTU personal studio in a revolutionary ergonomic, slim-line design that fits perfectly in front of your Mac. Use MC Control and MC Mix independently or together as the ultimate unified desktop console with up to 36 faders.

MC Mix *MC Control*



www.sweetwater.com MOTU

World Radio History

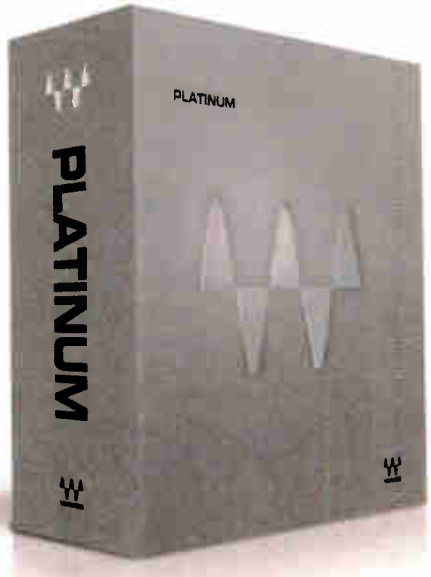
©2008 Sweetwater, Inc.

NI KOMPLETE 5 and KORE 2
Legendary virtual instruments with hands-on control

For Digital Performer users who want it all: 11 legendary instruments including KONTAKT 3 and the award-winning MASSIVE, combined with instant hands-on control. Choose from 7,500 presets in seconds and instantly tweak with real knobs.

NI Guitar Rig 3 Kontrol Edition
Guitar Effects & Amp Models

The ultimate all-in-one guitar and bass solution for your MOTU studio. Simply connect your guitar to the enhanced RIG KONTROL foot pedal and you are ready to go. Includes an incredible array of expertly modeled classic amps, cabinets, mics and effects.



Waves Platinum Bundle
Waves and DP together on Intel

The Waves Platinum Bundle delivers across-the-board Waves processing to Digital Performer on the MacBook Pro, Mac Pro tower and today's other latest Intel Macs. Waves processing is absolutely essential for any DP-based MOTU studio.

Sweetwater
Music Instruments & Pro Audio
(800) 222-4700

World Radio History

The MOTU studio — compact and powerful

Novation Nocturn

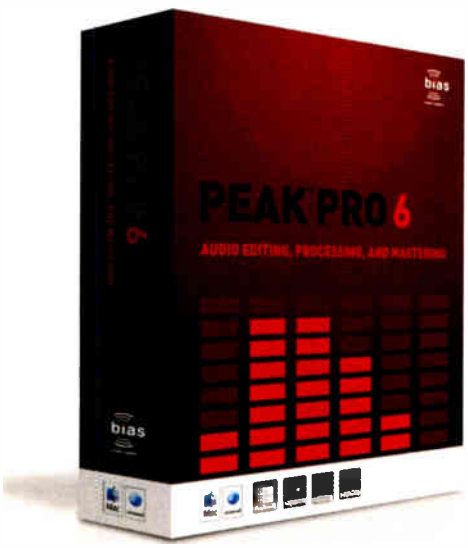
Dedicated intelligent plug-in controller

Featuring touch-sensitive rotaries and Novation's exclusive Automap Universal 2.0 software, the Nocturn provides instant, intelligent, bi-directional control of plug-ins within DP. Easy to use "learn" feature makes customizing any of the Nocturn's controls a breeze. Unique "Speed Dial" controls anything directly beneath your mouse.

Shure KSM 44

Multi-pattern condenser mic

The flagship of the KSM line — and the new must-have mic for any MOTU studio. The KSM 44 has extended frequency response specially tailored for critical studio vocal tracking. Includes flexible polar patterns: cardioid, omni & bidirectional.



BIAS Peak Pro 6

Evolution of an award-winning standard

Whether you're a musician, composer, sound designer, audio editor, podcast/multimedia producer, or mastering engineer, Peak Pro offers more creative potential than ever before. Reliably mature, yet always inspired. Feature rich, yet flexible and friendly. Used side by side with DP6, Peak Pro streamlines your workflow with industry-renowned sonic quality and precision.

PreSonus Central Station

Control room monitoring with remote

The missing link between your MOTU recording interface, studio monitors, input sources and the artist. Monitor from among 5 sets of stereo inputs (3 analog and 2 digital) and manage your sessions with hands-on control room features like talkback and listenback.

www.sweetwater.com MOTU

World Radio History

Mackie Control Universal Pro
Automated control surface for Digital Performer

The ultimate hands-on control for Digital Performer. Nine motorized, touch-sensitive Penny + Giles faders, eight V-Pots and more than 50 master buttons let you tweak to your heart's content. Apply the included custom overlay for Digital Performer for dedicated labeling of DP-specific functions.

Mackie HR824mk2
Active studio reference monitors

These high-resolution monitors sound as smooth as they look. The new Zero Edge Baffle™ minimizes diffraction for a crystal-clear image and controls sound waves for wide, even dispersion. Acoustic Space, LF roll-off and HF controls let you tailor the sound to suit your MOTU studio space — and your taste.

Monster Power Pro 900 / 5100
Conditioning and surge protection

The Monster Power Pro 900 provides high-performance, optimized Monster Clean Power and surge protection for AC power lines. For even more complete protection, the Power Pro 5100 features Monster's Clean Power filtering, color-coded outlets, and audible and visual indicators for ground and protection status monitoring.

©2008 Sweetwater, Inc.

Sweetwater
Music Instruments & Pro Audio
(800) 222-4700

World Radio History

Q&A

By Tom Kenny

Troy Germano

The former Hit Factory CEO returns with a new high-end, artist-centered recording studio. What does this say about the future of the New York City studio business?

It's been a long time coming. Five years ago, the Hit Factory, arguably the world's leading studio, shut its doors and gave way to condo development, initiating the city's slide in the commercial studio business. Quad soon sold its Penthouse, Sound on Sound merged with Right Track, and not long after, Sony Studios closed. Rates were too low, leases too high and artists had options at home. Doom and gloom settled into the local market.

But now, some former Sony employees are opening rooms under Seven Seas Entertainment, Quad announced the revamping of two studios, and in June, Troy Germano, former Hit Factory New York CEO—who'd been operating in and out of Europe since 2003—opened the new two-room, high-end Germano Studios in NoHo, pictured on this month's cover. Last month, *Mix*'s New York editor, David Weiss, covered the opening in his "New York Metro"; this month, we ask Germano about the business.

After five years, what led you back to New York?

I had a lot of time to think and prepare, to build the kind of facility that might replace Hit Factory in today's world. The concept was to work inside and outside the box, with a depth of gear available to clients—high-end outboard gear, a sizable Pro Tools system, a huge selection of plug-ins and choices in monitoring. One of the main reasons I went with the SSL Duality is the simple reason that it interfaces so sweetly with Pro Tools.

You committed to two Duality systems pretty early.

The only other choice I could have made was the [Digidesign] ICON D-Control ES. It's a great tactile worksurface, and if I'm in a position to build another room in the future, I'll look very seriously at it. But I think Alicia Keys [who bought a Duality] and her engineer, Ann Mincieli, saw something that nobody else here saw—how the Duality interfaces in a way that the J or K Series cannot. The path is shorter, the console is punchier and I don't need the 80-plus channels we were used to. I didn't want to be completely digital—it made sense to do something different. Not to sound cliché, but I really did want the best of both worlds.

So far, what's been the reaction in the community?

Well, the studio has officially only been open about six weeks. We've had Alicia Keys in, Matisyahu, Mary J. Blige, Jennifer Hudson, Bruce Springsteen, LeAnn Rimes. The engineers like it, and so do the clients. Once they negotiate a rate with me, there are no other charges. It's not going to be inexpensive. I want it to be the best studio in the country, and I've equipped it that way.

Is it risky to maintain that high end?

Doing something on a mediocre level makes no sense. There are enough ways to massage the numbers that you can reach about any type of client. A lot of people spent a lot of money with me at the Hit Factory, and I don't forget about that. I hope new studios open because of what I'm doing. But it seems like my competitors on the West Coast are more my friends than my competitors here in New York, with the exception of Steve Rosenthal at the Magic Shop. The Rick Stevens, the Rose Manns, the Jeff Greenbergs—they get up in the morning and are happy to go to the studio. They're happy to be in the recording business. They're looking for ways to expand and do things differently and have a niche.

With the closings and all, New York's had a lot of negative press. How can the community be revitalized?

Quite honestly, it would take people following my lead. Studio owners need to step forward, take a chance, power-pack their rooms and reinvest in the future. If you have a console you spent $600-grand on a few years ago and it's now worth $50k, you have to suck it up, sell the console for $50-grand and put it into your Pro Tools system, your outboard gear or a new console.

Artists don't want to go to studios with filthy bathrooms, dirty couches, ripped carpets and control rooms that smell. There are a lot of studios in this town. There's a reason they're not busy and there's a reason they're now fighting over pennies. Why would anybody want to pay a rate for something that's not been kept up? I'm being very honest here. You have to give people a choice in how they want to make *their* record. Recording needs to be a special experience. You have to offer a bit more. ■

Tom Kenny is the editorial director of Mix, EM *and* Remix.

World Radio History

GRACE design

m801 eight channel microphone preamplifier

With vast headroom and ultra-wide bandwidth, the m801 8 channel mic preamplifier is musical, detailed and pure. It will effortlessly resolve even the lowest level ambient information, resulting in recordings of astonishing clarity and realism, which reveal the essence of the music being recorded. Regardless of your application, the m801 will faithfully capture what your microphone hears, allowing you to **focus on the sound.**

fully balanced, transformerless design • fast, musical transimpedance amplifier architecture • ribbon mic mode • precision gold contact rotary gain controls • no electrolytic capacitors in the signal path • sealed gold contact relays for all signal switching • regulated linear power supply with custom wound toroidal transformer • highest quality components used throughout • five year warranty

Power • Detail • Grace

www.gracedesign.com • 1.303.443.7454

World Radio History

Introducing the

UltraLite mk3

Compact FireWire audio interface with on-board effects and mixing

Modeled analog parametric EQ

Classic reverb with five room types

Leveling amplifier modeled after the LA-2A

- **Compact size** — fits easily into a backpack. Sits nicely next to a laptop.
- **Bus powered** — via FireWire with no power supply needed. Includes power adaptor for stand-alone operation.
- **Plenty of I/O** — 2 mic/guitar inputs with preamps, 6 TRS analog ins, 10 TRS analog outs, S/PDIF & phones for a total of 10 inputs and 14 outputs.
- **On-board mixer with effects** — 10 input by 14 bus mixer with hardware DSP effects, including reverb, EQ and compression on every input and output.
- **CueMix FX software** — Advanced graphic control for on-board mixing and effects with tabbed design and precision peak/RMS metering.
- **Vintage compression** — Automatic Gain Control faithfully modeled after the legendary Teletronix® LA-2A® optical leveling amplifier.
- **British console EQ** — 7-band parametric EQ modeled after legendary British analog consoles.
- **Classic Reverb** — five room types and length up to 60 seconds.
- **Sample-accurate MIDI** — connect a MIDI controller and/or sound module with no separate interface needed. MIDI I/O is sample-accurate with supporting software.
- **SMPTE time code sync** — resolve to or generate time code via any analog in/out with no extra synchronizer.
- **Stand-alone operation** — a complete mixer with effects. Adjust any setting quickly with intuitive LCD menus.
- **Drivers for Mac and Windows** — Works with all of your favorite software.

MOTU
motu.com

World Radio History