TEC Awards Winners • Bill Putnam, Part 2 • In-Studio With Liz Phair • Nickelback

WWW.MIXONLINE.COM • NOVEMBER 2003

MIX

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

Audio Education

- Recording School Directory
- Computers in the Classroom
- What I Wish They Had Taught Me!

AES NYC

Product Hits From the Big Apple

Recording Piano

Inside Tips From the Pros

RADIOHEAD LIVE

**********AUTO** 5-DIGIT 91329
MIXM 147
F9
S0005
MARK GANDER
JBL PROFESSIONAL
8400 BALBOA BLVD
NORTHRIDGE CA 91329-1400

World Radio History

Take Control of Television Loudness

The first step to solve loudness variations between programs or channels of your television service is to take accurate and consistent measurements. The award-winning Dolby® LM100 Broadcast Loudness Meter includes design innovations to easily measure the subjective loudness of dialogue in terrestrial, satellite, and cable services. Once television loudness is measured, at last, you can control it to make both you and your viewers happy.

For more information, please visit our website or email us at *tvaudio@dolby.com*.

LM100 Features

Dialogue Intelligence™ is a revolutionary algorithm that analyzes the input signal and only measures during the presence of speech.

Multiple Inputs accept two-channel analog and digital, multichannel Dolby Digital and Dolby E, and, optionally, in-the-clear analog CATV and off-air RF signals (LM100-NTSC version).

Software Remote Control allows extended logging and enhanced analysis via PCs.

Comes in two configurations: LM100-LTC can log to external timecode; LM100-NTSC additionally measures NTSC CATV and off-air signals.

LM100 Software Remote Control

DOLBY®

www.dolby.com/tvaudio

Dolby and the double-D symbol are registered trademarks of Dolby Laboratories. Dialogue Intelligence is a trademark of Dolby Laboratories. © 2003 Dolby Laboratories, Inc. All rights reserved. S03/14793

World Radio History

SuperAnalogue Performance Now Measures 19"

XLogic Channel

With DC-coupled SuperAnalogue processing identical to the legendary XL 9000 K Series console from which it is derived, the XLogic Channel delivers a bandwidth greater than 192 KHz recorders and a dynamic range well beyond that of 24-bit A/D converters.

The perfect accompaniment to any high quality recording system, XLogic Channel features include:

- SuperAnalogue Pre-Amplifier with mic, line or instrument inputs, and switched gain for easy reset
- Twin-Curve Dynamics, selectable RMS or peak sensing for subtle to dramatic compression, including soft distortion at extreme settings
- High and Low Pass Filters, with routing into the dynamics sidechain, allowing frequency-dependent gating
- G series and E series 'Twin-Curve' EQ - 4 band parametric EQ, with variable Q on both mid bands, and shelving/Bell high and low bands
- Variable Output Level, with switchable metering
- Optional digital interface card, featuring high quality A/D conversion and externally synchronised AES output

XLogic Multichannel Compressor

A 2U rack-mounting, 6-channel device utilising classic SSL centre compressor design elements within a SuperAnalogue design topology. The unique Multichannel Compressor provides innovative controls for a true 5.1 solution.

XLogic SuperAnalogue Mic Amp

Provides 4 of the legendary XL 9000 K Series SuperPre Microphone Pre-Amplifiers in a 1U rack mounted unit, with optional remote control. Designed to work stand-alone, remote controlled or directly from a suitably configured SSL XL 9000 console, the XLogic SuperAnalogue Mic Amp places the acclaimed quality of these world-renowned mic amps right next to the source to be captured.

XLogic G Series Stereo Compressor

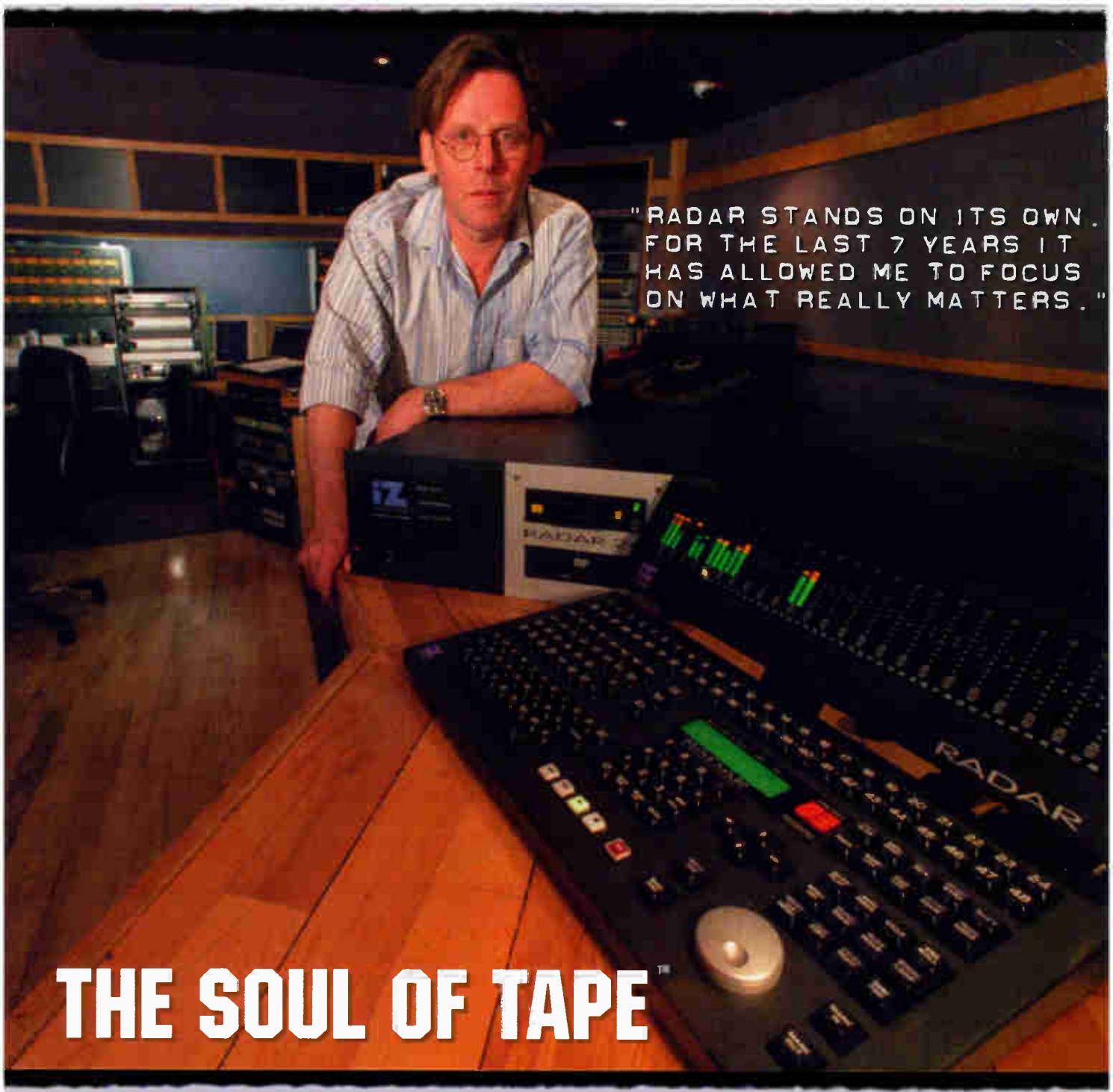
A 1U rack-mounting stereo device utilising the classic SSL G Series centre compressor design elements within a SuperAnalogue design topology. The G Series Stereo Compressor brings the dual benefits of spectacular audio performance with a universally acclaimed compressor characteristic.

XLogic SUPERANALOGUE

Solid State Logic

Oxford +44 (0)1865 842300 New York +1 (1)212 315 1111 Los Angeles +1 (1)323 463 4444
Paris +33 (0)1 3460 4666 Milan +39 039 2328 094 Tokyo +81 (0)3 5474 1144
www.solid-state-logic.com

World Radio History



THE SOUL OF TAPE™

HUGH PADGHAM

PRODUCER/ ENGINEER

DAVID BOWIE, PHIL COLLINS, PETER GABRIEL, STING

Get the rest of the story at www.izcorp.com/radarview

The world's best multitrack recorders™

RADAR® & RADAR® 24 are registered trademarks of iZ Technology Corporation

iZ technology

izcorp.com

World Radio History

Now Shipping with v2.5 Software!
- Near-Instaneous Program Change
- New Vintage Delay and Stereo Simulator Algorithms
- New Presets Including Voice Doubler and E.Z. Chorus

Make your mark.

The Eclipse Effects Processor.
The power to create magic
is closer than you think.

TEC AWARD WINNER

PAR REVIEWER'S PICK 2002

The supply of ideas in your head never seems to run dry But your supply of cash is a different story. That's where the Eventide® Eclipse™ comes in.

The only effects processor in its price range to offer 24-bit/ 96kHz resolution and true dual engine architecture, Eclipse gives you over 80 algorithms and 300+ factory presets. From reverbs, delays and choruses to our exclusive Harmonizer® pitch shifting to those uniquely Eventide presets, every effect you'll need is right at your fingertips...and incredibly easy to navigate. And for *way* less than you imagined.

Eclipse. From Eventide. Where the inventors of the legendary Harmonizer give you the power to invent the next killer sound.

Eventide®
Find your sound.

www.eventide.com • 201.641.1200

Eventide and Harmonizer are registered trademarks and Eclipse is a trademark of Eventide Inc. © 2002 Eventide Inc.

World Radio History

How I spent $1.2 million...

CONFIDENCE AND CASH

The financial and emotional investment in the NT2000 has been high.

The NT2000 is not just the result of a steady model progression. The NT2000 represents a quantum leap in studio microphone design. That required courage, innovation, and a lot of money!

This is not just another mic, its a WORLD FIRST!

PIONEERING SPIRIT

While RØDE can rightly claim to be pioneers in the modern microphone category, the NT2000 is destined to change how the industry views all studio microphones, regardless of category.

STARTING WITH THE HEART

The heart of the NT2000 is the Australian designed and manufactured HF1 capsule. Named in honor of my late father, Australian audio engineering legend, Henry Freedman.

These 1" transducers are hand assembled in the fashion of a fine Swiss watch using the best components money can buy.

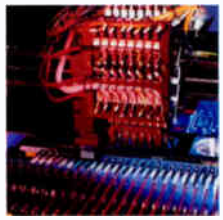
Machined by computer accurate lathes and mills to tolerances approaching the limits of modern technology.

Once processed the acoustic back plates are polished flat to within one thousandths of a millimeter then cleaned in custom made ultrasonic baths.

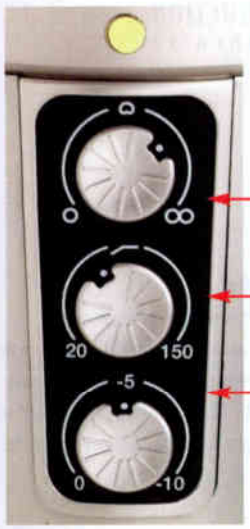
Diaphragms are 24K gold sputtered on 5 uM Mylar, and then hand tensioned and aged before being assembled and tested within our sub micron clean rooms.

Consistency from microphone to microphone is assured due to rigorous testing and our proprietary multi stage Quality assurance program.

World Radio History



WORLD'S FIRST!



THE SOUND OF LEGENDS

The frequency and transient response of this new transducer has been voiced to complement today's modern recording techniques, and yet still evoke the silky smooth character of the legendary microphones of the 50's and 60's. Everything we have learned over the years, every comment from industry leaders, has been taken into consideration when selecting the tonal character of this microphone.

TRANSPARENT ELECTRONICS

A superb transducer must be complemented by the best electronics. To ensure transparency and the highest fidelity, my brief to our engineers was, "I demand nothing!" RØDE's electronics designers set about designing a circuit that coupled the HF1 capsule in such a way as to add nothing. To pass the output of the capsule without coloration or distortion. I believe we have achieved that aim.

THE HF1, HEART OF THE 2000

DESIGNED WITH JUST THE RIGHT AMOUNT OF SCIENCE AND ART. WE DON'T NEED TO ELABORATE, WHEN YOU HEAR IT, YOU WILL KNOW.

A WORLD FIRST IN TOTAL CONTROL

The NT2000 is the world first superlative class 48 V FET microphone to have totally variable polar response, totally variable pad and totally variable filter all incorporated within the body of the microphone.

DEMAND RESULTS

All this information is meaningless unless it delivers the promise. In the end its all about the sound, I am putting my reputation on the line here.

I am saying without fear of contradiction, the NT2000 is the best sounding and most versatile 1" FET studio microphone on the world market today, regardless of cost.

We broke new ground in 1990 with the release of the NT2, the NT2000 will revolutionize the industry again.

Peter Freedman
President
RØDE MICROPHONES
Sydney Australia

INTERNATIONAL
RODE Microphones,
107 Carnarvon Street, SILVERWATER
NSW 2128 Australia
Ph: 61 2 9648 5855
Fax: 61 2 9648 2455
http://www.rodemic.com

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

TECHNICAL SUPPORT
For information and technical support questions -
In the Unites States and Puerto Rico, contact: usasupport@rodemic.com or call 877 328 7456 toll free or 310 328 7456

RØDE®
MICROPHONES

World Radio History

PAGE 30

PAGE 44

PAGE 36

PAGE 46

MIX
PROFESSIONAL AUDIO AND MUSIC PRODUCTION
November 2003, VOLUME 27, NUMBER 12

features

30 Recording Piano
Five Engineers Weigh In on Capturing the 88s
If it isn't broken, then why fix it? Though there have been numerous technological advances in recording equipment and mediums, five top-notch engineers rely on their "tried-and-true" piano-miking methods. While not giving away all of their trade secrets, Al Schmitt, Bill Jenkins, Tony Faulkner, Ed Cherney and Jay Newland share some insight into capturing the 88s.

36 AES Show Report
The *Mix* editorial staff scoured the show floor for all of the biggest hits and highlights. If you didn't make it to the convention in New York City, check out all of the newest gear here.

44 2003 TEC Awards Winners
Find out who took home the trophies from the 19th Annual Technical Excellence & Creativity Awards, *Mix*'s showcase event that benefits hearing-awareness charities and scholarship programs.

46 Bill Putnam: The Art of Engineering
Part Two: Building a Studio Legacy
In the 1950s, Bill Putnam built his dream studio in Chicago, then looked west, to Hollywood, for his next set of adventures. There, he built United Western Studios, recorded the likes of Bing, Frank and Sammy, and turned his boutique manufacturing wing into the venerable Universal Audio. Jim Cogan explores the later life of the father of modern recording.

Audio Education 2003

Our annual directory of audio schools, seminars and programs begins on page 58 and features more options than before. Budding engineers will also want to read "What I Wish I'd Learned In School" (page 55) by Sara A. Hughes, who details everyday studio etiquette and expectations that students won't find on a class syllabus.

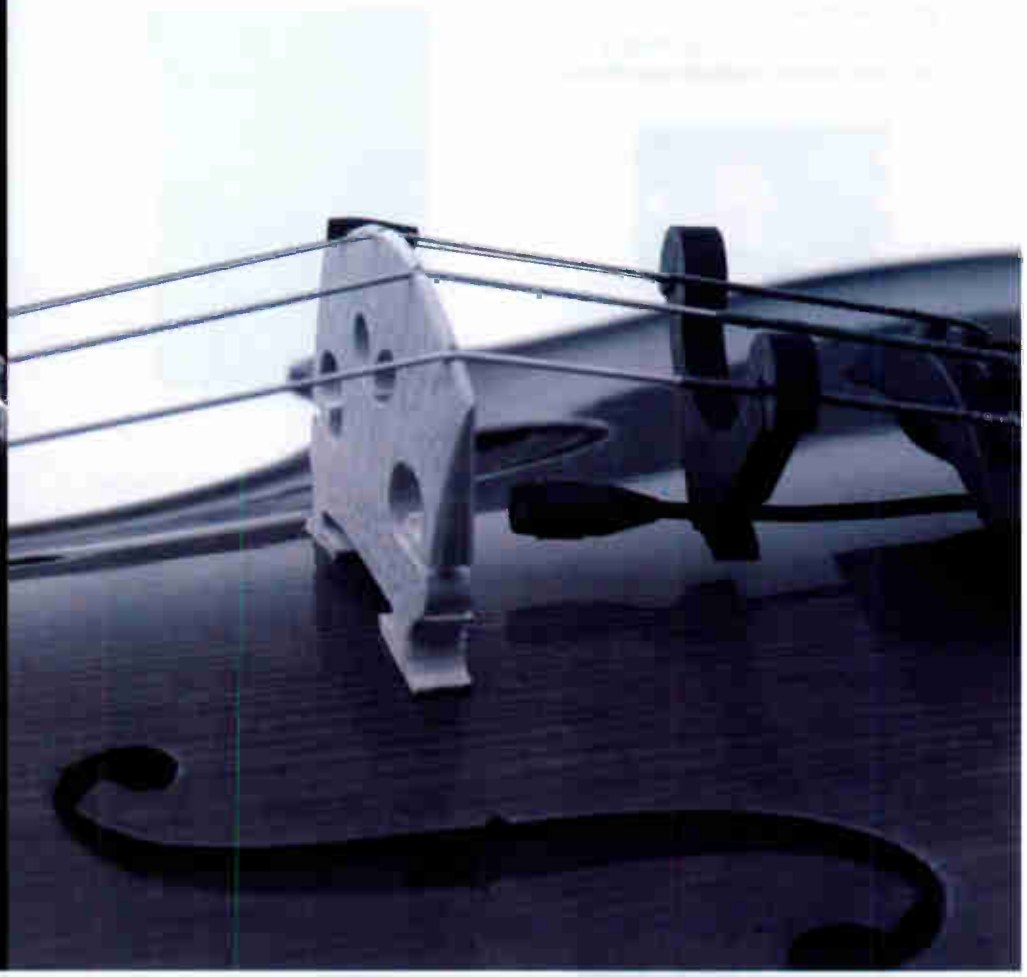
On the Cover: Audio Recording Technology Institute, Orlando, Fla., recently opened the country's first THX-certified room for an educational institution, based around an SSL Axiom console and Pro Tools HD|3. For more, see page 20. **Photo:** Lee McKee. **Inset:** Steve Jennings.

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

Mix (Volume 27, Number 12) is ©2003 by PRIMEDIA Business Magazines & Media, 9800 Metcalf Ave., Overland Park, KS 66212. Mix (ISSN 0164-9957) is published monthly except semimonthly in January. One-year (13 issues) subscription is $52. Canada is $60. All other international is $110. POSTMASTER: Send address changes to Mix, P.O. Box 1939, Marion, OH 43306. Periodicals Postage Paid at Shawnee Mission, KS and at additional mailing offices.This publication may not be reproduced or quoted in whole or in part by printed or electronic means without written permission of the publishers. Printed in the USA. Canadian GST #129597951; Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement #0478733.

World Radio History

Absolute accuracy -whatever you play



IMK 4061: DPA 4061 Miniature Microphone, XLR Adapter, Microphone holder for strings, Miniature windscreens, Self-adhesive miniature holder, Miniature magnet

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

The IMK 4060 Microphone Kit contains the DPA 4061 microphone plus mounting accessories for drums, wind and string instruments. So, with the DPA 4061, you're guaranteed absolutely accurate sound, -whatever instrument you play.

DPA MICROPHONES

JUST ADD TALENT

For more information call 1.866.DPA.MICS or click to www.dpamicrophones.com
DPA Microphones, Inc. Info-usa@dpamicrophones.com

World Radio History

sections

LIVE MIX

86 Live Mix News

90 All Access: Radiohead *by Heather Johnson and Steve Jennings*

92 Tour Profile: Ben Harper and Jack Johnson *by Sarah Benzuly*

96 New Sound Reinforcement Products

PAGE 92

RECORDING NOTES

128 Nickelback *by Bryan Reesman*

129 Liz Phair *by Chris J. Walker*

130 Classic Tracks: The Isley Brothers' "That Lady" *by Blair Jackson*

PAGE 129

COAST TO COAST

140 L.A. Grapevine *by Maureen Droney*

140 Nashville Skyline *by Rick Clark*

141 New York Metro Report *by David Weiss*

142 Sessions & Studio News *by Breean Lingle*

technology

104 Tools of the Trade

108 Field Test: Yamaha DM1000 Digital Console

PAGE 108

112 Field Test: Manley SLAM! Dynamic Processor

PAGE 112

116 Field Test: RØDE NT2000 Condenser Studio Microphone

120 Field Test: Focusrite ISA428 Pre Pack Preamp/Converter System

122 Auditions: Snapshot Product Reviews
- M-Audio Transit
- Yamaha Subkick
- Voxengo CurveEQ
- Primera Bravo

176 Power Tools: Pro Tools Free *by Laura Pallanck*

MIX ONLINE EXTRAS

Visit www.mixonline.com for bonus materials on select stories in this issue.

columns

PAGE 26

22 The Fast Lane: The Art of Noise *by Stephen St.Croix*

26 Insider Audio: Shrinking the Classroom–Computers Invade Audio Education *by Paul D. Lehrman*

82 Tech's Files: Getting Smart–In, Out and About Education *by Eddie Ciletti*

98 Bitstream: Everything You Need to Know About Open Source *by Oliver Masciarotte*

departments

10 From the Editor

14 Feedback: Letters to *Mix*

16 Current

20 On the Cover: A.R.T.I., Orlando, Fla.

152 Studio Showcase

156 Ad Index

158 Mix Marketplace

163 Classifieds

World Radio History

Pioneer
sound. vision. soul

PRO DJ

For all your product info,
dealers and more:
www.PioneerProDj.com
800.782.7210

"THE SEQUEL"

CDJ-1000MK2

DIGITAL VINYL TURNTABLE™

- Instant Scratching when cueing a song, looping, jumping to a hot-cue or playing a track in reverse.
- The Center Display Cue Marker shows the cue point in relation to the jog dial's location, much like pen or tape markers that DJ's might use on vinyl records.
- In addition to the +/-6, 10 and 16 percent pitch ranges, the CDJ-1000MK2 offers +/-100 percent "wide" pitch control range as well as 0.02 percent tempo step in the +/-6 percent range.
- The fully functional Digital Out ensures that all of the CDJ-1000MK2's digital features are carried over to any digital environment, even scratching and master tempo.
- Extra bright illuminated display ensures readability, even in the darkest environments.

World Radio History

Audio: No Experience Necessary!

To find work as a waiter or teamster, you need experience. However, to work in most other professions, whether it's as governor of California, or in the "craft" of creating audio, you don't need to know anything. It wasn't always this way: In the Paleolithic analog era, engineers actually had to *learn* something about gear (maintenance, alignment tones, etc.) for the equipment to even operate.

Tape hiss and noise were once a problem, so engineers learned to carefully set up gain structures to optimize recording levels and avoid a sea of hiss. But thanks to today's digital technology, everything's point-and-shoot: You don't need to know anything! Now, just record your tracks at -20dB or so (to nasty digital overload distortion), and digitally boost them later to a perfect 0dB. That is, if you don't mind making perfect 14-bit recordings...

Creating audio with today's affordable, advanced systems is like shooting pictures with an autofocus 400x digital zoom camera or a pocket DV camcorder with built-in stereo microphone. Whatever you create will look great! Your mom will even say that your productions seem "very professional." Pretty soon, you can even fool yourself into thinking you have talent. Why worry about all that composition/lighting/perspective stuff? Forget about it! What really counts is having a trendy *moderne* camera or a DAW with 900 virtual tracks!

Of course, if you're among that endangered species who still care how something really sounds (and not just to your mom), maybe a little learning is in order. Sure, rules are sometimes meant to be broken, but you gotta know the rules before you know you're breaking them. The sad part is, there's a lot of money wasted by those who take information out of context and leap to the wrong conclusion. Will an exotic preamp used by—insert famous engineer here—lead to better sound? Maybe. A hot preamp is a wonderful thing, but unless there's a decent mic in the chain, the effort and money are wasted. In this case, someone's setup would be improved with a better mic and a mid-line preamp.

Recently, I heard from some readers who complained after buying a compact 5.1 monitor system that I'd reviewed. One flaw in the system was that in a small room, it was very bass-heavy, even with the LF attenuator way down. However, moving the subwoofer away from nearby walls or corners, or raising the sub so it wouldn't load with the floor, took care of the problem. The solution was right out of Acoustics 1A. Alternatively, though, a 100kΩ resistor (perhaps with a switch to put it in/out of the circuit) in line with the internal amp feeding the sub would have done just as well. Maybe these days, understanding audio or electronic basics is a lost art...

...Or maybe I'm just a feisty old-school curmudgeon. After all, I did just turn 50. And I'm still learning...

George Petersen
Editorial Director

MIX®
A PRIMEDIA Publication

EDITORIAL DIRECTOR George Petersen *gpetersen@primediabusiness.com*
EDITOR Tom Kenny *tkenny@primediabusiness.com*
SENIOR EDITOR Blair Jackson *blair@blairjackson.com*
FEATURES EDITOR Sarah Jones *sjones@primediabusiness.com*
TECHNICAL EDITOR Kevin Becka *kbecka@earthlink.net*
ASSOCIATE EDITOR Sarah Benzuly *sbenzuly@primediabusiness.com*
EDITORIAL ASSISTANT Breean Lingle *blingle@primediabusiness.com*
LOS ANGELES EDITOR Maureen Droney *msmdk@aol.com*
NEW YORK EDITOR David Weiss *david@dwords.com*
NASHVILLE EDITOR Rick Clark *mrbluge@mac.com*
SOUND REINFORCEMENT EDITOR Mark Frink *mix@markfrink.com*
FILM SOUND EDITOR Larry Blake *swelltone@aol.com*
TECHNICAL PROVOCATEUR Stephen St.Croix
CONSULTING EDITOR Paul Lehrman *lehrman@pan.com*
WEB EDITOR Dan Cross *guitar.guide@about.com*
NEW-TECHNOLOGIES EDITOR Phillip De Lancie
CONTRIBUTING EDITORS Barbara Schultz Robert Hanson Michael Cooper Bob McCarthy Eddie Ciletti Oliver Masciarotte Gary Eskow Randy Alberts

SENIOR ART DIRECTOR Dmitry Panich *dpanich@primediabusiness.com*
ART DIRECTOR Kay Marshall *kmarshall@primediabusiness.com*
ASSOCIATE ART DIRECTOR Lizabeth Heavern *lheavern@primediabusiness.com*
PHOTOGRAPHY Steve Jennings
INFORMATIONAL GRAPHICS Chuck Dahmer

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

EASTERN ADVERTISING DIRECTOR Michele Kanatous *mkanatous@primediabusiness.com*
NORTHWEST/MIDWEST ADVERTISING MANAGER Greg Sutton *gsutton@primediabusiness.com*
SOUTHWEST ADVERTISING MANAGER Albert Margolis *amargolis@primediabusiness.com*
SALES ASSISTANT Anthony Gordon *agordon@primediabusiness.com*

CLASSIFIEDS/MARKETPLACE ADVERTISING DIRECTOR Robin Boyce-Trubitt *rboyce@primediabusiness.com*
WEST COAST CLASSIFIEDS SALES ASSOCIATE Kevin Blackford *kblackford@primediabusiness.com*
EAST COAST CLASSIFIEDS SALES ASSOCIATE Jason Smith *jasmith@primediabusiness.com*
CLASSIFIEDS MANAGING COORDINATOR Monica Cromarty *mcromarty@primediabusiness.com*

MARKETING DIRECTOR Christen Pocock *cpocock@primediabusiness.com*
MARKETING MANAGER Angela Rehrm *arehrm@primediabusiness.com*
MARKETING TRADESHOW COORDINATOR Megan Koehn *mkoehn@primediabusiness.com*

DIRECTOR, SPECIAL PROJECTS Hillel Resner *hresner@primediabusiness.com*

GROUP PRODUCTION MANAGER Melissa Langstaff *mlangstaff@primediabusiness.com*
SENIOR ADVERTISING PRODUCTION COORDINATOR Liz Turner *lturner@primediabusiness.com*
CLASSIFIED PRODUCTION SUPERVISOR Gina Wilkinson *gwilkinson@primediabusiness.com*

SR. DIRECTOR AUDIENCE MARKETING Susi D. Cordill *scordill@primediabusiness.com*
GROUP AUDIENCE MARKETING DIRECTOR Phil Semler *psemler@primediabusiness.com*
AUDIENCE MARKETING MANAGERS Jef Linson *jlinson@primediabusiness.com* Craig Diamantine *cdiamantine@primediabusiness.com*

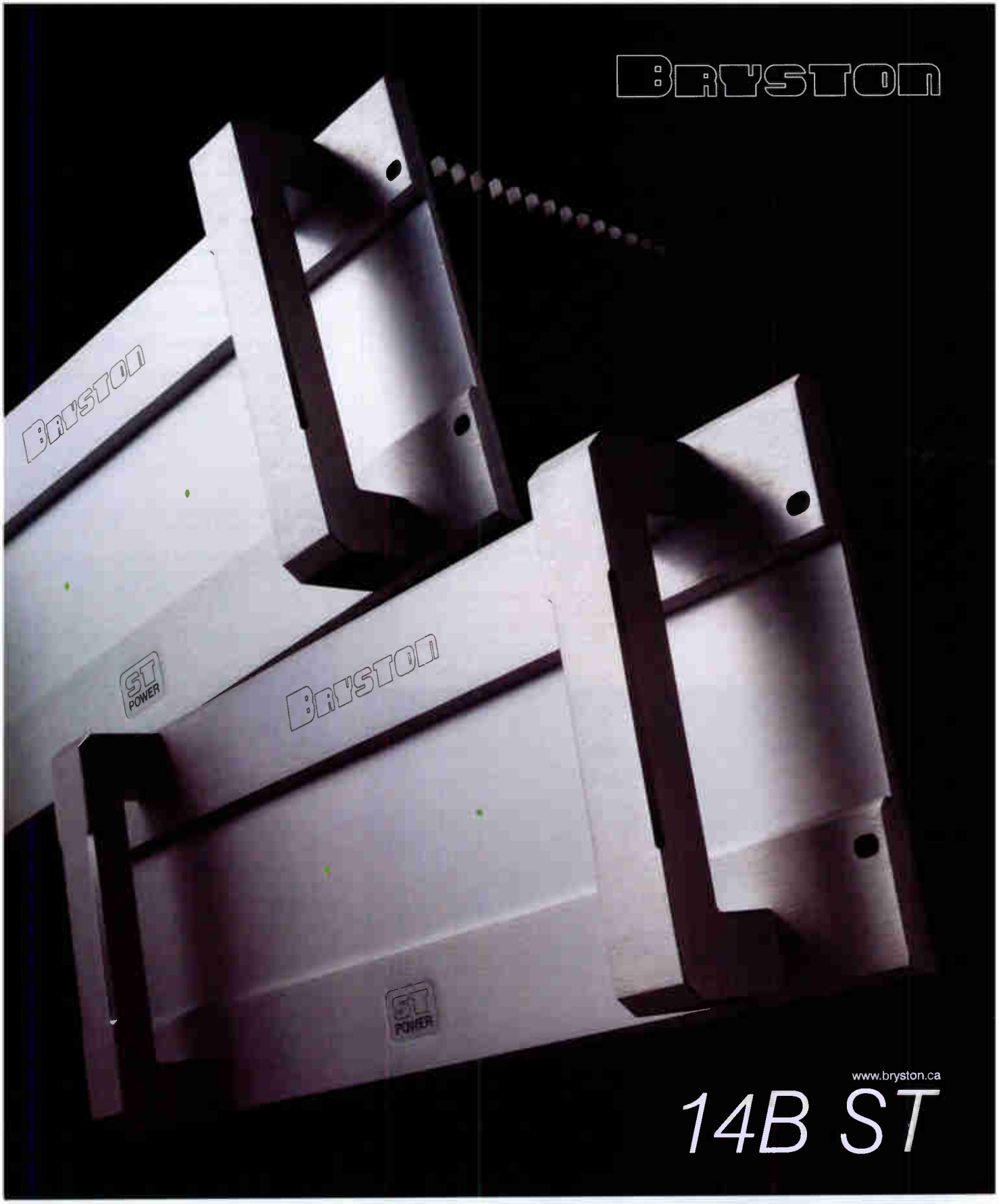
HUMAN RESOURCES MANAGER Julie Nave-Taylor *jnave-taylor@primediabusiness.com*
RECEPTIONIST/OFFICE COORDINATOR Lara Duchnick *lduchnick@primediabusiness.com*

COPYRIGHT 2003
PRIMEDIA Business Magazines & Media Inc.
ALL RIGHTS RESERVED.

FOUNDED IN 1977 BY DAVID SCHWARTZ AND PENNY RIKER

MIX® MAGAZINE IS AFFILIATED WITH SPARS AMERICAN ABM BUSINESS PRESS BPA INTERNATIONAL

World Radio History

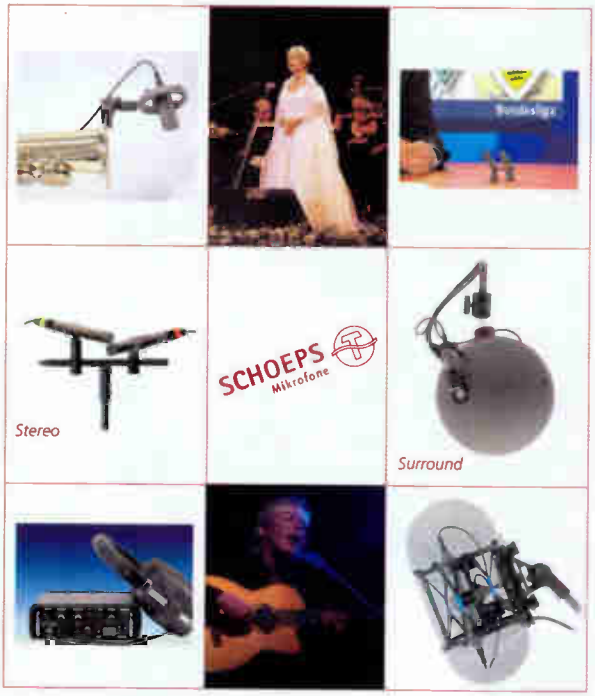


BRYSTON

Bryston Limited P.O. Box 2170,677 Neal Drive, Peterborough, Ontario Canada K9J 7Y4
1-800-632-8217 www.bryston.ca

TAKING POWER TO THE NEXT LEVEL.

World Radio History



CONDENSER MICROPHONES FOR PROFESSIONAL USE

Redding Audio, Inc. · 97 South Main Street, Unit 10 · Newtown, CT 06470
Tel: +1 (203) 270 1808 · Fax: +1 (203) 270 2934
E-mail: reddingaudio@aol.com · Web site: www.schoeps.de

"If your mixes don't translate quicker and easier with ADAMs... your ears aren't much less fried at the end of a long day... you can't hear when it sucks or when it's great while using these speakers...

...then you're either deaf or dead."

Phil O'Keefe, Sound Sanctuary Recording, Riverside CA

Distributed in the United States by ADAM Audio USA (805) 413-1133

Come meet the entire ADAM family at www.adam-audio.com

ADAM PROFESSIONAL AUDIO

WWW.MIXONLINE.COM

PRIMEDIA
Business Magazines & Media

Chief Operating Officer Jack Condon *jcondon@primediabusiness.com*
Sr. Vice President, Sales Operations John French *jfrench@primediabusiness.com*

Sr. Vice President, Business Development Eric Jacobson *ejacobson@primediabusiness.com*
Vice President, Content Licensing & Development Andrew Elston *aelston@primediabusiness.com*
Vice President, Corporate Communications/Marketing Karen Garrison *kgarrison@primediabusiness.com*
Vice President, Human Resources Kurt Nelson *knelson@primediabusiness.com*
Sr. Vice President, Chief Information Officer Kris Paper *kpaper@primediabusiness.com*
Vice President, Technology Cindi Redding *credding@primediabusiness.com*

Primedia Business-to-Business Group
745 Fifth Ave., New York, NY 10151
Chief Executive Officer Martin Maleska *mmaleska@primediabusiness.com*
Creative Director Alan Alpanian *aalpanian@primediabusiness.com*

Primedia Inc.
Chief Executive Officer (interim) Charles McCurdy *cmccurdy@primedia.com*
Vice Chairman & General Counsel Beverly Chell *bchell@primedia.com*

SUBSCRIBER CUSTOMER SERVICE: To subscribe, change your address or check on your current account status, go to www.mixonline.com and click on "Customer Service" for fastest service. Or, e-mail mixm@kable.com, call toll-free 800/532-8190 or 740/383-3322, or write to PO Box 1939, Marion, OH 43306.

BACK ISSUES: Back issues are available for $10 each by calling 800/532-8190 or 740/382-3322.

POSTMASTER: Send address changes to *Mix* magazine, P.O. Box 1939, Marion, OH 43306.

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 Wright's Reprints to purchase quality custom reprints of articles appearing in this publication at 877/652-5295 (281/419-5725 outside the U.S. and Canada). Instant reprints and permissions may be purchased directly from our Website; look for the Copyright tag appended to the end of each article.

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

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

LIST RENTAL: Primedia@statistics.com

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

CORPORATE OFFICE: PRIMEDIA Business Magazines & Media, 9800 Metcalf, Overland Park, KS 66212, 913/341-1300, primediabusiness.com

NATIONAL EDITORIAL, ADVERTISING AND BUSINESS OFFICES, 6400 Hollis St., Suite 12, Emeryville, CA 94608; 510/653-3307; fax 510/653-5142; Website: www.mixonline.com. **PHOTOCOPY RIGHTS:** Authorization to photocopy items for internal or personal use of specific clients is granted by PRIMEDIA Business Magazines and Media Inc., provided that the base fee of U.S. $2.25 per copy, plus U.S. $00.00 per page is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. The fee code for users of this Transactional Reporting Service is ISSN 0164-9957/2000 $2.25 + $00.00. For those organizations that have been granted a photocopying license by CCC, a separate system of payment has been arranged. Before photocopying items for educational classroom use, please contact CCC at 978/750-8400.

World Radio History

AKG STUDIO HEADPHONES

<< NOISE POLLUTION

NOISE SOLUTION >>

The K 271 Studio and K 171 Studio Headphones. These innovative closed-back headphones offer tons of ambient noise suppression and our new Varimotion XXL transducers deliver the most detailed sound for pro studio use. Filter out the noise, hear the music. **akgusa.com • 615.620.3800**

AKG

AS PASSIONATE AS YOU.

A Harman International Company

World Radio History

Letters to Mix

PHOTO: KAREN SAS/PROPERTY OF ARTISAN ENTERTAINMENT

BEHIND THE MUSIC

The DVD [*Standing in the Shadows of Motown*], with all its related significance to our industry, places a great burden on journalists to get things correct and give credit where it is due. This project was recorded by Kooster [McAllister], but he had nothing to do with the immense feat of the post-production and mixdown work that was done by my good friend Ted Greenberg with Clive Taylor. Ted received the Grammy™ for mixing and producing the soundtrack CD. Ted's Herculean efforts delivered something worthy from the Funk Brothers out of some very marginal material. Let's face it: These guys were way past their prime, some with serious medical conditions; Mr. Messina hadn't played since the early '70s.

Gary Myerberg-Lauter
Chief engineer/director, technical operations
Cello Studios L.L.C.

RONSTADT & CO.

Thank you very much for your kind mention of the Linda Ronstadt jazz-standards project for Verve Records [August]. I'd like to offer these corrections:

1. George Massenburg is co-producing the album with me, as well as providing his legendary engineering talents.

2. Although principal recording is complete, we have not yet finished the album. Tracking and some vocals were done at Clubhouse. The remaining vocals and selected overdubs were done at Georkel Studios in Nashville (George's studio), as well as at the Site (Marin County, Calif.) and at Jim Brady Recording Studios in Tucson, Ariz. Mixing was done in September at Georkel.

In addition to the stellar rhythm section you mentioned, such jazz luminaries as David "Fathead" Newman, Roy Hargrove, Joe Lovano, Steven Bernstein and Plas Johnson provided solos and horn parts.

John Boylan

THE DEAD: AHEAD

I was surprised that you did not mention my part in your "Recording the Band" article (July 2003). I was the first to regularly record shows for the bands I worked with. I diligently kept the very first work I did with the Grateful Dead in 1966 and covered every single band that stood in front of my microphones.

Back in the '60s, I bought and paid for my own recorder and all of the blank tape. Sometimes, I only had cassette tape—no money for reels—but still made my sonic journal on cassettes. Taping was not a part of my job as mixer. The Dead did, from time to time, listen to the tapes after shows in the early days—it helped us all get better at what we were doing—but they paid no real mind to it until *Bear's Choice* [a Grateful Dead live album recorded by Stanley in 1970 and released in 1973] showed that my diaries might have some commercial value. The Grateful Dead never helped store or keep my tapes safe until they later added the taping into the soundman's job description—after I was gone. Today, my tapes are stored in the Grateful Dead vault.

Owsley Stanley (Bear)
Queensland, Australia

CHIP WISDOM

The recent "Bitstream" column on the new crop of 64-bit processors from IBM and Intel raises a number of interesting and complex issues, especially for practical recording-industry types who are trying to decide whether or when to spend their very real money on a potentially beneficial, exotic new technology.

By coincidence, the August 18 issue of *InfoWorld* (www.infoworld.com) contains a detailed overview of the Apple G5 processor that will be extremely helpful to interested readers. To summarize its findings, as well as my own experience, consider the following.

First, while the Apple Power Mac G5 is certainly quick and elegantly designed hardware, its raw hardware computational capabilities and architecture are way ahead of current software packages' ability to make use of them. Mac OS X, in its Panther rev, is and will remain a 32-bit OS for some time, which tends to obtund some of the potential advantages of a 64-bit architecture. Application vendors such as Adobe have been even slower than the OS vendors to exploit multiple-processor workstation hardware. The full advantages of 64-bit data paths and addressing space may take three to four years to realize in practice, especially from vendors recently stressed by a costly conversion to OS X.

Second, all fast processors generate lots of heat. The "Bitstream" article might give the impression that heat was somehow an Intel frailty because of the company's focus on processor clock speed, as the writer abruptly departed this topic with a segue to a piece of PR puffery from Adobe about the glory of 64-bit data paths. In reality, just like any similar WinTel box, the G5 has several fans (reported to be mercifully quiet) and elaborate heat-transferring engineering, as the PowerPCs generate lots of BTUs, too.

Third, regarding performance, in the *InfoWorld* article, Apple states that *single* G5 processor systems are actually slower than the corresponding single-processor Pentium products. Much of the quoted 40% improvement in floating-point operations would disappear if Apple compared the dual-G5 to current dual-Pentium-based products from, for example, HP. These boxes, with current-generation chips and fast buses, use the same PCI-X, AGP 8X Pro graphics adapters, gigabit Ethernet, etc., that the Mac does. However, Apple's extension of fast FireWire to industrial-strength RAID arrays is certainly noteworthy and a technology to watch for audio producers, as are the implementation of its truly high-end memory buses and I/O adapters.

Apart from specs, the main thing to keep in mind is that general-purpose, mass-market, low-cost CPUs such as the Pentium and PowerPC are really not that well-suited for performing the vector or array computations that dominate the FFT filtering and convolving functions used in audio signal processing. Specialized processors will speed up these tasks, but almost inevitably, their performance improvements apply only to a very narrow range of applications. It's a frustrating situation. In the end, there's no free lunch.

In choosing a new computer, I'd start out with the lower-cost notebooks first and then wait until your workflow requirements prove the need for more performance. (And, of course, make sure that your OS and application software vendors have more than vaporware in place to take advantage of any new architectures.) Certainly, for those working in the DAW space, the range of choices is like never before. Even the best HP and Apple G5 workstations are still cheap by historical standards, and current notebook price-performance levels are truly remarkable.

Nicholas Bedworth
DigitalDirect Corporation (Maui)

World Radio History

SATISFACTION

There is an undeniable satisfaction when you're surrounded by those little things in life, like the right refreshment, the right company, the right sound...

Introducing the 1029.LSE™ PowerPak...the one surround system that will convince you that good things can be brewed into small packages.

Starting with the 7060A LSE™ subwoofer, which serves as the cornerstone to the system with its full-featured 6.1 bass manager, the PowerPak also includes five award-winning 1029A compact active monitors. Each system comes with our surround sound Setup Guide and Genelec Acousti/Tape™ making installation quick and precise.

This surprisingly compact system delivers healthy doses [29Hz to 20kHz] of accuracy, dynamics and emotion in stereo or multichannel mode while saving precious control room real estate.

Surround yourself with satisfaction! Discover why GENELEC continues to lead the way in active multi-channel monitoring with the 1029.LSE™ PowerPak and let your satisfaction get the best of you.

www.genelec.com

GENELEC®

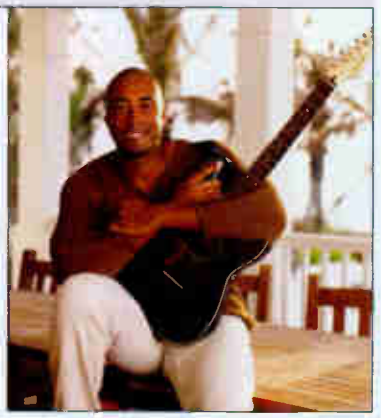
International inquiries: Genelec Oy, Olvitie 5, FIN-74100, Iisalmi, Finland T +358-17-83881, F +358-17-812267
In the USA: Genelec Inc., 7 Tech Circle, Natick, MA 01760 T 508-652-0900, F 508-652-0909 Email: genelec.usa@genelec.com

World Radio History

BERNIE WILLIAMS HITS ONE OUT OF THE BALLPARK

When your status as one of baseball's top players helps you land a recording contract that most full-time artists would kill for, expect critical listening. Bernie Williams, the Yankee center fielder for the past eight years, recently released *The Journey Within*, his debut smooth jazz CD on GRP. Rookie jitters and inexperience are evident: Bernie never quite lets loose the way a more seasoned player would, but, all in all, he hangs with the all-star cast that producer Loren Harriet surrounded him with.

"We put Bernie in a position where he'd have to rise to the level of his teammates' talent," said Harriet. Working out of Globe Studios in Manhattan, Harriet and a pair of engineers, Danny Bernini and Talley Sherwood, recorded and mixed the entire album in four weeks. "Bernie learned the recording and mixing processes very quickly," said Harriet. "He's the sweetest guy in the world, but he's also very intense. Once he realized how much fixing-up work Pro Tools can do, he wanted to edit out every noise he didn't like and move drum hits around. When we get around to doing the next album, he'll be even better."



"Just Because," a love note for his wife, is the first single off of the album.

—*Gary Eskow*

RICKY KELLER, 1952-2003

Atlanta-based Southern Living At Its Finest studio owner, musician/producer/composer/arranger and Emmy Award-winner Ricky Keller died from a heart attack on Saturday, June 21. His projects included string charts for Bruce Springsteen's *The Rising*, Train, Outkast, Papa Roach, Stone Temple Pilots and The Thorns.

Musician Bill Hatcher recalled, "Southern Living was ground zero for grass roots recording in Atlanta. Everybody passed through on their way to other things." Among those in transit was producer Brendan O'Brien: "I cut my teeth at Ricky's. Because he let us have a little more time, we had a chance to make independent records [for DB Recs] economically. We had a long, personal relationship."

MACKIE DESIGNS INC. NOW LOUD TECHNOLOGIES

Mackie Designs Inc. has changed its corporate name to Loud Technologies Inc. to eliminate confusion between "Mackie" the company and "Mackie" the brand. The brand Mackie will remain the same; there is no change in ownership, corporate structure or business operations.

Jamie Engen, CEO at Loud Technologies, said, "This change will enable us to more clearly communicate within the financial and business communities, while at the same time, allow all of the brands under the new corporate designation, Loud Technologies, to strengthen their own unique identities and market positions."

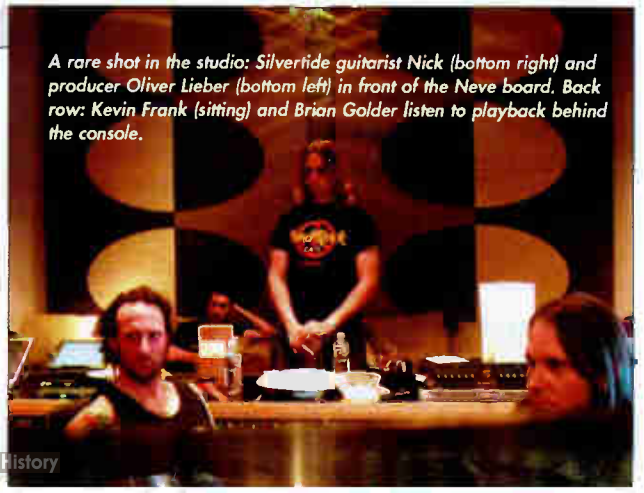
Currently, there are seven brands in the Loud Technologies portfolio: Mackie, TAPCO, EAW, RCF, RCF Precision, SIA Software and Acuma Labs. Loud Technologies will continue to be headquartered in Woodinville, Wash., at the current Mackie Designs Inc. headquarters.

For more information, visit www.mackie.com.

OCEANSIDE VIEW FOR SILVERTIDE

Alt-rockers Silvertide spent time tracking their new album for J Records at Ocean Studios (Burbank, Calif.). Oliver Lieber produced the effort with Brad Cook and Marc DeSisto engineering. Ocean's Jason Cupp and Dean Nelson assisted.

"I was looking for a studio to cut a young rock band in, a place with few distractions that we could just take over and make our own for the duration of the project," said Lieber. "Ocean proved to be ideal: relaxed vibe, amazing control room, great Neve, all of the right outboard gear, huge playing area with multiple iso rooms, and a crack staff from the manager to the seconds to the techs and beyond. Ocean really had it all! Oh, yeah, the snacks are good, too!"



A rare shot in the studio: Silvertide guitarist Nick (bottom right) and producer Oliver Lieber (bottom left) in front of the Neve board. Back row: Kevin Frank (sitting) and Brian Golder listen to playback behind the console.

World Radio History

COMPILED BY SARAH BENZULY

BUSINESS CHOPS GETS A ROCKET START

On September 15, at Sportsmen's Lodge in Studio City, Calif., nearly 100 top record producers, engineers and music business owners attended the first Business Chops for the Independent series. These interactive workshops provide attendees with the fundamental business tools to jump-start their careers as independent music industry professionals. Those who attended included producer Andre Fisher (Natalie Cole, Lalah Hathaway, Tony Bennett), John McEwen, engineer/producer Rafa Sardina (Angie Stone, Luis Miguel), Jimmy Haskell, Bill Dooley of the Record Plant, Francis Buckley, the Naked Eye's Peter Byrne, Robert Shahnazarian from Sony Music, engineer Matt Forger (Michael Jackson) and producer/engineer Leanne Ungar (Leonard Cohen, Laurie Anderson).

Pictured from left: John Stiernberg of Stiernberg Consulting and author of Succeeding in Music; Tom Menrath, director of business development for GC Pro/Guitar Center; Ron McCarrell, president and CMO of DH1 Studios Inc.; engineer/producer Al Schmitt, DH1's music director; David Schwartz, COO of Mpowered Ideas Media and co-founder of Mix magazine; and Claris Sayadian-Dodge, founder and principal of studioexpresso

ON THE MOVE

Who: Dr. David Ray, dean at Musictech

Main Responsibilities: to oversee Musictech College's Music Business, Recording/Production, Performance and Motion Imaging programs, including more than 70 faculty and 400 students

Previous lives:

- 1998-2003, division coordinator, Music Industry Division, at the University of Memphis
- 1997-1998, municipal court judge
- prior to 1997, managing partner at David M. Wray & Associates (Portland) entertainment law firm

Was there a special event that occurred to make you take the leap from a drummer in the '60s to an industry lawyer? From the beginning of my career, I was always more interested in the business side of the music industry. Eventually, I discovered that I looked forward to the meetings more than the performances.

The one profession that I would like to try other than my own would be...owning and running a bed-and-breakfast in the South of France.

The one piece of advice that I try to impart on audio recording students is...learn as much about the music as you do about the recording of it. I always encourage students to get to know the other sides of the business.

The last great book I read was... The *Beotles Anthology*.

The moment I knew I was in the right profession was when...I got an unknown Portland band a recording contract. It was a real high to see something I had spent so much time on, and a band with so much talent, reach the public in such a big way.

Currently in my CD changer: The Porch Ghouls, a band I represent from Memphis

When I'm not at work, you can find me...spending time with my wife, Jennifer. Going out in the Twin Cities and my old haunts in Portland and Memphis to see new bands. I also enjoy spending time at home listening to demos that are shopped to me. Outside of music, we love to travel as much as we can.

NEW SCHOOL OPENINGS

SAE INSTITUTE, AUSTRALIA

On July 25, 2003, the SAE Institute (www.sae.edu) brought together 400 guests from around the world for the grand opening of its 1 million-square-foot world headquarters in the resort town of Byron Bay, Australia. The new center, which will offer degrees in Audio Engineering, Creative Media and Digital Film, features student housing; performance spaces; 10 recording, mixdown and editing studios; 31 audio/video suites; and 96 workstations. The campus' main studio (shown) features a Solid State Logic XL 9000 K Series Superanalogue Console.

MIX ONLINE EXTRAS

UNIVERSITY OF MASSACHUSETTS LOWELL

The University of Massachusetts Lowell Sound Recording Technology program (www.uml.edu/Dept/Music/SRT) recently completed construction on a new recording/critical-listening space, featuring a main room, an iso booth and a small guitar closet. The main room (shown) features an SLS/Bag End 5.1 monitoring system with Stage Accompany amps and custom Klark Teknik EQ, and playback systems for both SACD and DVD; the room also includes 48 mic lines, a Furman 6-channel cue system and variable acoustics via sliding wall panels.

World Radio History

NOTES FROM THE NET

Take It to the Net

UK garage hip hop artists The Streets will release a "mini-album" of previously unreleased tracks and remixes that are available exclusively to online consumers via paid downloads.

DAW Buyer's Guide Updated

Offering more than 280 different hardware/software products for digital audio workstations, Sypha's updated online guide (http://syphaonline.com) is now available. The guide includes turnkey systems, desktop DAWs, audio hardware and software packages, DAW controllers, disk-based multitracks and portable tapeless recorders. Search criteria now includes manufacturer and product name, application, system type, host platform, audio quality, record and playback channels, AES31 and AAF support, and cost.

Canada Joins Download Frenzy

A Toronto company called Moontaxi Media Inc. has launched a Windows version similar to Apple's iTunes, dubbed Puretracks. At its start, the site will host 250,000 songs—including those from the Big Five, as well as Canadian indie labels. Puretracks will sell Windows Media Audio files. Moontaxi partner Derek Van der Plaat said that the company plans to launch a French version for the Quebec market and a U.S. version by the end of the year. http://puretracks.com

CORRECTIONS

In the September "Insider Audio," which detailed the making of the award-winning movie *Standing in the Shadows of Motown*, we left out the key player in the entire production: Ted Greenberg. Greenberg, who owns two studios operating out of Cello Studios in Los Angeles, mixed and co-produced the soundtrack, won two Grammy Awards in 2003, and spent more than a year on the project, which he termed a complete "labor of love." *Mix* regrets the omission.

In "Live Mix News" (October 2003), Jennifer Hanson's tour is not using a Sennheiser 94, but rather the new Evolution 935 mic.

Mix regrets the errors.

TEC SCHOLARSHIP RECIPIENTS NAMED

The Mix Foundation for Excellence in Audio has announced the recipients of the 2003 TEC Awards Scholarship Grant. The grants were awarded to April Cech and Laurie Covarrubins. Cech is in the Sound Recording graduate program at McGill University. She received her undergraduate degree in Music Production Technology at The Hartt School of the University of Hartford in Connecticut. Covarrubins is currently a student in the Sound Engineering/Recording program at the Los Angeles Recording Workshop. For information on the TEC Awards scholarship, visit www.mixfoundation.org.

SMPTE TECHNICAL CONFERENCE & EXHIBITION

SMPTE's Technical Conference and Exhibition will be held in New York City from November 12-15, 2003, at the Hilton New York. The four-day conference comprises 16 core seminars led by experts and pioneers in motion-imaging technology. Seminar topics include networking, MXF and AAF tutorials, multichannel audio, copy protection and rights management, digital broadcasting and many others. Companies will also be exhibiting their latest technologies, products and services. Sign up at www.smpte.org/conferences.

INDUSTRY NEWS

John Carroll

Following a two-year absence, **John Carroll** rejoins **TL Audio** (Herts, UK) as an associate director...**NMT's** (Torrance, CA) Board of Directors has elected **Joseph M. Cohen** as director of the company...New hires over at **Bay Area Sound Department** (San Francisco): **Mick Markham**, general manager; **Clint Bajakian**, music director/composer; and **Julian Kwasneski**, audio director/sound designer...**Paul Janocha** (Melba Moore, Glenn Jones, Berlin) returns to **Ken-Del Studios** (Wilmington, DE) as chief recording engineer...**Greg McLagan** has been promoted to **QSC's** (Costa Mesa, CA) global sales manager...**Cerwin-Vega** and **KRK** (Simi Valley, CA) promoted **Ed Mims** to director of worldwide sales, where he will oversee the internal sales force and independent reps for both brands...**PAD** (Rockland, MA) appointed industry vet **Chris Walsh** as the company's new director of West Coast sales...Working out of Arlington, Texas, **Phil Nelson**, **DPA Microphones'** (Lyons, CO) national sales manager, will be responsible for sales and distribution throughout the U.S. and Canada...**Mark Fitch** joins **Martin Audio** (Kitchener, Ontario) as national sales manager...**Jeff Mason** has taken charge of **Community's** (Chester, PA) Eastern sales region as contractor market manager...**Hermann Quetting** joined the **Salzbrenner Stagetech Mediagroup** (Berlin) as sales manager for the C.A.S. range of products...**Sennheiser Communications** (Old Lyme, CN) appointed **Shari Wilcox** as its new inside sales manager...**hsr/ny** (New York City) named **Lauren Valentin** broadcast business manager...**PRG** (New Windsor, NY) hired **Bruce A. McFarlane** and **Robert S. Kliegl** as national account executives...**Straight-Line Sales**, Neutrik's rep firm in Costa Rica, has promoted **Felipe Vargas** to general manager...New distribution deals: **Furman Sound** (Petaluma, CA) appointed **AMP Sales** (Scottsdale, AZ) as its exclusive sales rep for Arizona and Southern Nevada, including Las Vegas; **SEC** (Old Lyme, CT) will handle distribution of all **HHB** (London) products in the U.S., Mexico, Central and South Americas, and the Caribbean; and **Primal Gear** (Nashville) has been added to **Sonic Studio's** (Sutherlin, OR) U.S. reseller network for Tennessee, Kentucky, Alabama and Mississippi.

Mick Markham

World Radio History

Neumann Invents the Microphone

For the Umpteenth Time...

Solution-D
Neumann goes Digital

Introducing Solution-D: Neumann's Digital Microphone System

For more than 75 years, Neumann has been THE key innovator in the world of microphones: The first commercial condenser microphone. The first multi-pattern microphone. Phantom power. Remote pattern control. The first stereo microphone. Neumann stands alone with its peerless combination of technology and matchless sound quality.

Today, Neumann continues to lead with the development of the Solution-D Digital Microphone System. The first to adopt the AES42-2001 standard for the digital microphone interface. The first to provide dynamic range in excess of 130 dB. The first to use Neumann's proprietary A/D conversion process. And of course the first to have the *Neumann sound*.

Be sure to pick up a copy of the John Pizzarelli Trio's new Telarc release "Live At Birdland" and hear Neumann's Solution-D for yourself.

NeumannUSA 75 Years

The Choice of Those Who Can Hear The Difference

Tel: 860.434.5220 • FAX: 860.434.3148 www.neumannusa.com
Canada: Tel: 514-426-3013. Fax: 514-426-3953 • Mexico: Tel: (525) 639-0956 Fax: (525) 639-9482

World Radio History

Audio Recording Technology Institute

By Sara A. Hughes

These days, it seems like audio engineering schools are opening their doors in virtually every major market. While there used to be few programs to choose from, multitudes of facilities now compete for students' business—and education. In such a rapidly developing market, it is important to recognize those schools that have survived technology's changing face and maintained their reputations. Perhaps no one understands how to endure being in the field of audio engineering education like James Bernard.

The president and founder of the Audio Recording Technology Institute (A.R.T.I.), Bernard opened one of the country's first audio engineering schools in New Jersey in 1969. He started with a single studio and five students, but it wasn't long until he decided to expand his curriculum and move to New York in 1973. In 1990, he expanded again by launching a second A.R.T.I. campus in Orlando, Fla. This newest endeavor continued to build on A.R.T.I.'s solid reputation of quality, comprehensive, hands-on education and has already proven itself to be successful. "All our classes are filled, all of the time," says Bernard.

A.R.T.I. Orlando's campus hardly resembles Bernard's original 1969 facility. With three buildings and eight studios stocked with cutting-edge gear—including an SSL Axiom console, Pro Tools HD|3 workstation, and JBL 28P mains, M&K MPS2525 Tripole, JBL LSR 12P subs and Genelec 1029 monitors—A.R.T.I. Orlando was designed with an eye to the future of audio production. During an intensive 11-month course, students learn everything from tracking to mixing, MIDI to graphics and music to audio for Internet applications. For Bernard, the key to ensuring a quality education that covers such a diverse range of topics is class size. "Six is our maximum per class," says Bernard. "We keep it small on purpose to give them lots of hands-on experience."

The wealth of practicum-style classes and the intensity of the course work is what Bernard believes makes his program so valuable for graduates. "We try to sift out the people who aren't really serious," says Bernard. "We want the people who really want to do it, and who show the right initiative and attitude."

The A.R.T.I. staff in one of the eight studios: James and Marie Bernard (front); (L-R, back) Tammy Pietrofesa, Steve Pietrofesa and Keith LaBeau. Inset: the school's Faley room

For those students with the desired determination, A.R.T.I. has taken one more step toward offering quality education at a reasonable price. In March, A.R.T.I. Orlando opened a newly certified THX pm3 Mix Theater, becoming the first audio institute in the U.S. to offer a THX-certified educational environment. To Bernard, this step was inevitable. "In the THX pm3 Mix Theater, precise control of every aspect of the mix can be achieved through the incorporation of the highest standards of room design, equipment requirements and speaker placement," says Bernard. "The superior sonic experience in a THX theater environment is one you'll never forget."

A.R.T.I. committed to the process of becoming THX-certified over a year-and-a-half ago, before Bernard even began to design the new space. A.R T.I. Orlando's director, Steve Pietrofesa, took it upon himself to design the mix theater with THX standards in mind each step of the way. "It's a daunting process, simply because of the amount of time that went into it," says Pietrofesa. "There was a lot of math that went into getting it right." The design process took about three months, with construction completed in the fall of 2002. "We designed it and then [THX] recommended the placement of the loudspeakers, although that didn't necessarily guarantee certification," says Pietrofesa. "It's part of the nature of room design that you use software and all of your knowledge and understanding. When it's all said and done, you still have to tweak it. But in this case, we got it right out of the box. We were certified on the first try."

To Bernard, deciding to build the THX theater on the Orlando campus rather than the New York campus was simply a matter of market. "Most people who graduate from my studio in New York want to end up in a music studio," says Bernard. "But when our students graduate from the program in Florida, they have already been working and making contacts in the Orlando area. There are a lot of venues and attractions and post houses in Florida, so most of the people who graduate end up working in those facilities."

Building the THX-approved mix stage for students has been worth the effort. "We get a tremendous response from the students when they're in the room," says Bernard. "When students know they're going through a course that's recognized by such a prestigious company, it's a great feather in their cap."

MIX ONLINE EXTRAS

World Radio History

NEW! SX-1LE

The first truly *professional* integrated digital workstation for under $3000*.

Easy top panel access to: 16 mic preamps with switchable phantom power in banks of 4 chs., 16 balanced TRS inputs, 16 inserts, 2-tk. inputs and aux sends, and outputs for studio, large and small monitors, XLR and RCA stereo outputs and two sets of headphones.

On the back: S/PDIF & 8-ch. ADAT™ optical I/O, 2 MIDI inputs, 4 MIDI outputs, Time Code input, footswitch jack, expansion slots and XVGA out.

Digital encoders control full parametric EQ, six aux sends and panning (all automatable).

Record Enable, Ch./Tk. Select and Mute/Solo buttons on every channel.

100mm touch-sensitive motorized faders.

Powerful 128-track MIDI sequencer with built-in 64-ch. MIDI router and 4 MIDI outputs, quantize/diatonic transposition, realtime MIDI data filters, graphic piano roll editing and much more.

Intuitive software with ten tabbed, sizable lower screen sections including MIDI Track, Waveform editor and History.

6-channel dedicated surround stem recorder and 360° level/pan GUI.

Need yet even still more extra additional professional production features? Our top-of-the-line SX-1 adds SMPTE and video reference sync, TC Works™ and Antares™ plug-in effects, expanded RAM and Fast/Wide SCSI port for adding additional hard drives.

Compare our new SX-1LE Digital Production Environment with the competition and it's clear who has the most professional features for under $3K.

Like touch-sensitive moving faders, XVGA output, 16-track simultaneous 24-bit recording via 16 mic/line inputs, 6-ch. stem recorder and 128-ch. MIDI sequencer.

Demo the SX-1LE at a TASCAM dealer or visit our web site for more information.

New SX-1LE

- 40-input, 32 x 8 digital mixer with 100mm touch-sensitive faders and dynamic automation of all parameters
- 16 premium mic preamps with phantom power
- 48kHz, 24-bit, 16-channel hard disk recorder
- Waveform, MIDI and automation editing with XVGA output to optional monitor
- Complete 5.1 surround mixing capabilities
- 128-track MIDI sequencer with advanced editing modes
- Built-in CD-RW drive
- Expansion slots for 24 more channels of digital I/O

TASCAM

TEAC 50th anniversary

*Suggested U.S. retail price. Unit cost may vary. Meter bridge and monitors not included.

©2000 TASCAM. All Rights Reserved. All specifications are subject to change without notice. Dial lawyers must say that TC Works is a trademark of TC Electronic. Antares is a trademark of Antares Audio Technologies.

CONTRACTOR

www.tascam.com

DJ AND PRODUCER

PERSONAL CREATIVITY

World Radio History

BY STEPHEN ST.CROIX

The Art of Noise

Does Not a Note By Any Other Name Sound as Sweet?

IN THE BEGINNING...

I remember when I first began to write songs—it was all about the art. I did it my way (that would be somewhere between Frank Sinatra and Johnny Rotten's "My Way"). I wrote the music and the lyrics, played every part, did the vocals. I felt that the way I was doing it was *honest*, and frankly, I think I felt somewhat superior for doing it the *right* way, the artistic way.

No hooks, nothing that I felt was commercial. I believed that almost every hit on the radio was a sell-out—formula music that lacked a single original note, created solely to bring in the almighty buck, just half a notch above Muzak.

I knew I would never, could never, hit like the formula boys. But even that made me feel like I was taking the high road. I was an *artiste*, not a faceless factory.

Of course, I worked hard to make my melody lines and harmonies as interesting and compelling as I could. I would pore over arrangements, always searching for the best balance of concept against my abilities. Then the days spent getting mics right, and more days working on that slapped octave run on a Rick bass only to replace it with a Fender later. I had a deep Black Beauty snare made and ran insane tensions for that 9mm rimshot bang. I saved and bought a matched pair of U47s that had never smelled smoke. I spent all my time outside the studio programming synth patches for my next time in.

I continued to listen to Top 40 with disdain.

THAT WAS THEN

What a great, creative and totally stupid time that was. I mean, how can you go wrong if all you have to do is create music that you know will never have to compete to be heard because it is not that kind of music—it's art?

I eventually began listening to more and more jazz, as it was obvious that these people shared my views. Progressive jazz was so wacked that it too seemed beyond judgment, never meant to compete and probably never capable of it. Hell, the few reviewers who claimed to explain or quantify that stuff were incoherent when they scored and silent when the drugs were dry.

I even became educated and could sit in coffee houses and fit right in, discussing the finer points of why some guy had it all over some other guy because he pushed his 32nd notes past the next 16ths and got away with it, or some other guy who was so laid back that his downs were on everyone else's ups and Bunny Wailer thought it was normal.

But I didn't really get it, I guess. I was never sure if a slur or a sudden, unexpected key change or muted note was done on purpose or was a cleverly covered flub. Hell, the more *progressive* the jazz, the more it sounded like mistakes to me. Nah, I guess that stuff was never really my forte, though in later years, I actually ended up touring with a couple pretty extreme jazz groups.

But rock 'n' roll was my passion. And blues.

I knew I would never, could never, hit like the formula boys. But even that made me feel like I was taking the high road. I was an artiste, not a faceless factory.

Yeah, that's it—rock and blues and, oh yeah, ska. And...Oh, wait. I guess all I really needed was rock and blues.

So anyway, as the years went on, I unwittingly came to understand simple commercial concepts like hooks, and I moved ever so cautiously toward including them within my efforts. I even hooked a couple tunes just right and made some money.

This of course was devastating to my long-held edict of noncommercial art or nothing. So I found myself faced with the disturbing task of redefining my basic values.

You see, I was making music, pure original rock 'n' roll, while at the same time, I was making a little music that was, well, a bit more conventional, more conforming, a little catchy.

The three-minute commercial ditties were paying for the True Art. Mmmm. I was finally forced to examine my anti-commercial values one last time.

I mean, the successful commercialized guys were driving Ferraris. Well, actually, I was too, but theirs were running on all cylinders and not leaving puddles of oil in their garages.

AND THIS IS NOW

So how do you define a good song? Is it good when you are satisfied and maybe a few friends tell you it's good? Or, is it good when your first $100k royalty check shows up?

World Radio History

Any retailer can sell you a piece of music gear...

Why buy from Sweetwater?

When you call Sweetwater, you not only get great prices on our huge inventory of the latest music technology, you also gain access to a whole staff of experts who know that technology inside and out.

Unlike most retailers, our sales staff is filled with pro audio experts who have years of real world experience using the gear we sell. Plus, our award winning Service Department can handle everything from putting together custom configured music production systems to providing support and service for virtually every product we offer.

Talk to one of our Sales Engineers today, or visit our web site and discover why so many musicians rely on Sweetwater for a level of service that goes far beyond the gear.

Bigger Inventory. Better Prices. Best Service and Support.

(800) 222-4700
www.sweetwater.com

Sweetwater
music technology direct™

© 2003 Sweetwater, Inc.

World Radio History

I struggled with that one for a few years, as well. I finally decided that a song was good when I was satisfied, but that I would work on horrid little commercial songs to keep the toys coming. That worked for a while, but alas, in the end it was wrong, too.

By this time, I had come to know Oscar Peterson, who had, of course, always impressed me. In the middle of a period when I was doing more piano and keyboard work than guitar, Oscar and I were killing a few hours in my studio at my home in Maryland, on his birthday, I think. He was fooling around with some of my keyboards and invited me to jam.

Well, other giants have made such offers, and given my ego and confidence, I have jumped right in. Fun was usually had by all, laughter occasionally ensued, and these spontaneous outbursts of musical expression have produced everything from records to an overwhelming desire to hide under a house until everybody there forgot my name.

But not with Oscar. You see, I don't have many personal heroes—people I know who actually amaze me with their skill and raw talent. But Oscar Peterson and Stevie Wonder are at the top of that very short list.

Now with Stevie, I always felt there was something useful I could do, even if it was only to create some new sound or sign his autograph at an airport while his hand rested on mine.

But not with Oscar. So I reluctantly sat at a keyboard and joined in, feeling like a kid sneaking under the rope to the deep end, hoping I wasn't going to get in trouble or seriously hurt.

I had played three chords and five notes of melody when Oscar turned and told me (of course without missing a note) exactly where in Europe and the U.S. I grew up, precisely who I listened to when I learned to play, and the four artists I listened to the most now. In three seconds he had my number—a year before I had it myself. And he didn't let me get hurt, either. He slipped into

—CONTINUED ON PAGE 154

The game isn't to starve while you make music that you like. What the hell good is being a big fish in a little pond when you are the only fish there? No, the game is—the art is—creating innovative, expressive music that can also stand on its own in a commercially competitive environment and be heard and...Sold.

The z-Qualizer

(z-Qualizer, $1200 MSRP)

World-class digital EQ On a project-studio budget

Z-Systems Audio Engineering
www.z-sys.com
z-sys@z-sys.com

Introducing the z-Qualizer by Z-Systems Audio Engineering. For nearly a decade, the world's top mastering engineers have relied on Z-Systems digital equalizers for their daily work. Whatever the job -- pop, metal, country, jazz, or classical -- our digital EQs are known for delivering the soul of the best analog processors with the precision that only digital can bring.

Now you, too, can have the same glorious-sounding digital EQ algorithms in a small, affordable package. Break the plug-in habit and hear what a world-class outboard EQ can do for your projects.

ZSYS.

To locate a Z-Systems dealer near you, contact TransAmerica Audio Group at 702.365.5155 or sales@transaudiogroup.com

World Radio History

SONAR 3

PRODUCER EDITION

Inspiration > Speed > Precision

In today's fast-paced production world, it's not enough to have all the features at your fingertips. SONAR 3 offers a complete software-based production environment that expands your creativity with fast, intuitive controls that capture and excite your inspiration; and powerful, precision tools for true real-time editing. And SONAR 3 provides unparalleled customization, allowing you to fine-tune your studio to match your workflow. Take your music to new heights with SONAR 3 today.

- Completely redesigned UI
- Cutting edge mixing environment
- Advanced MIDI routing & synth layering
- Integrated per-channel EQ and assignable FX controls
- Universal Bus Architecture
- Smoother audio engine with gapless effects patching
- ACID™ loop & MIDI Groove Clip support
- DX, DXi, ReWire, VST, VSTi support
- Integrate MIDI-compatible control surfaces
- Import/export OMFI & Broadcast WAV
- VSampler 3.0 DXi multi-format digital sampler
- Ultrafunk Sonitus:fx audio effects suite
- Lexicon Pantheon Reverb
- ASIO & WDM compatibility
- Multi-port MTC transmission
- Confidence recording
- Full plug-in delay compensation

$719 MSRP

cakewalk

For more information: visit your local SONAR retailer
www.cakewalk.com | 888.CAKEWALK | 617.423.9004 (outside the U.S.)

World Radio History

BY PAUL D. LEHRMAN

Shrinking the Classroom

Computers Invade Audio Education

ILLUSTRATION: ADAM MCCAULEY

Back when I was in college, "audio production education" was something you did on your own. If you wanted to learn how records were made, you listened to them. If you were pushy and lucky, you hung around a local recording studio and watched the process, which was sometimes instructive and inspiring, and sometimes about as logical and enlightening as watching the California Election Commission design ballots.

It certainly wasn't anything you could get in school. Heck, the idea of combining music and electronics in one's class schedule was ludicrous, with the exception of a select few who were given the keys to the dusty, overheated, tube-filled basement closets where the rare schools with electronic music programs (open to graduate students only, of course) had their studios.

If you were a music major and wanted something as simple as, oh, having a recital recorded, you either contacted the school's A/V squad, who showed up with a $50 P.A. mic and a clunky Wollensak reel-to-reel tape machine or you made friends with a hi-fi nut in your dorm who had a Tandberg or a Revox, and maybe a couple of RE-10s. If you were an electrical engineering major, you studied amplifier and transducer design, but if you wanted to get involved with music, your best hope was to squeeze into a couple of elementary theory courses or play 14th clarinet in the marching band. Or, of course, you could form your own rock group, which was much more fun but didn't do much for your GPA. It was the same thing if you studied acoustical engineering or architecture: You might learn how to design a concert hall, but you couldn't perform in it, at least not for academic credit.

And did we like it? Hell, no. It sucked. My sophomore year at a liberal arts college, I managed to hustle my way into the electronic-music lab for a couple of semesters, but then I transferred to a conservatory. Although the musical education I got there was ter-

World Radio History

STRAIGHT FROM THE MOUTHS OF PEOPLE WHO KNOW.

WE TRUST THEM IMPLICITLY WITH ALL OUR MIXES. THEY'RE ACCURATE,

LOUD & PROUD

~Steve Parr
~Sharon Rose

"I USE MY M-00's A LOT AT HOME ON MY PRO TOOLS 001. NICE BOTTOM END AND THE TOP END IS JUST RIGHT." ~Steve Marcantonio

"EVERYONE THAT HEARS MY "M-00's" THINKS THEY ARE LISTENING TO BIG MONITORS BECAUSE THE FREQUENCY RESPONSE IS SO EXTENDED FOR SUCH A LITTLE GUY." ~Chuck Ainlay

"NBC OLYMPICS HAS USED NHTPRO SYSTEMS IN OUR MAIN AUDIO AND GRAPHICS AUDIO CONTROL ROOMS, PLUS OUR BROADCAST OPERATIONS CENTER FOR COVERAGE IN BOTH SYDNEY AND SALT LAKE CITY" ~Bob Dixon

"THE SOUND I HEAR FROM THEM IS VERY PERSONAL. NO COLORATION. A TRULY DYNAMIC NEAR-FIELD MONITOR." ~Jimmy Douglass

"I USE MY M-00's IN THE MOST SEVERE MIX TEST-AT LOW LEVELS WHILE EDITING WITH NUENDO ON MY MAC. IT TRANSLATES EXACTLY PLAYED AT HIGH LEVELS ON MY BIG MONITORS." ~Peter Frampton

"THESE LITTLE POWERHOUSES ARE CLEAR, CRISP AND PUNCHY AS HELL PLUS THEY HAVE BIG BOTTOM. THE ARTISTS LOVE THEM, TOO." ~Bob Ezrin

"I HEARD THESE SPEAKERS IN AUSTRALIA AND I LOVE THESE *#!* WAS BLOWN AWAY. SPEAKERS." ~Machine

"These speakers are just perfect. As in PERFECT. Period." ~Moira Marquis

BUY FACTORY DIRECT. DROP BY OUR SITE ANY TIME: WWW.NHTPRO.COM

NHT

© 2003 Rockford Corp

World Radio History

rific, the only things electronic in the building were the light dimmers.

I would have given anything to get into one of the numerous courses that are available today in recording, music production, film scoring and mixing, sound design, multimedia, music synthesis, live sound and so many other aspects of the audio world—had they existed. The rise of programs that relate what's in front of the mic to what's behind it is one of the best things that has happened to music education since the invention of the practice room.

Not surprisingly, probably the single biggest element in how audio production programs have changed is in the use of computers. Simply put, they're everywhere. At the Berklee College of Music this year, every entering student is required to own an Apple Macintosh PowerBook. And computers are, of course, replacing a host of other stuff. The lab where I was teaching a few years ago had a Mac, but physically, it was built around a 32-input analog console, a couple of racks of ADATs, synth modules and processing gear—and a huge television monitor. In my new "multimedia" space, there are no racks at all, no television, and the mixing console we use is no bigger than the computer keyboard. But there is a honking Mac G4 under the desk and two plasma displays on top. That's where the students' attention goes.

In my old studio, only a few students at a time could work in the lab—and on one project at a time—whereas in my current lab, there are *nine* identical stations, all of which can run simultaneously and independently. Although we have a lovely pair of Event powered monitors at the front of the room, they're only used when I'm teaching the class; when the students work on their own, they wear headphones.

I asked some other audio educators I know about how they are faring with the takeover of computers in their classrooms. As you might expect, they're generally pretty much in favor of the idea because of the power the newest systems have and the flexibility that they offer students.

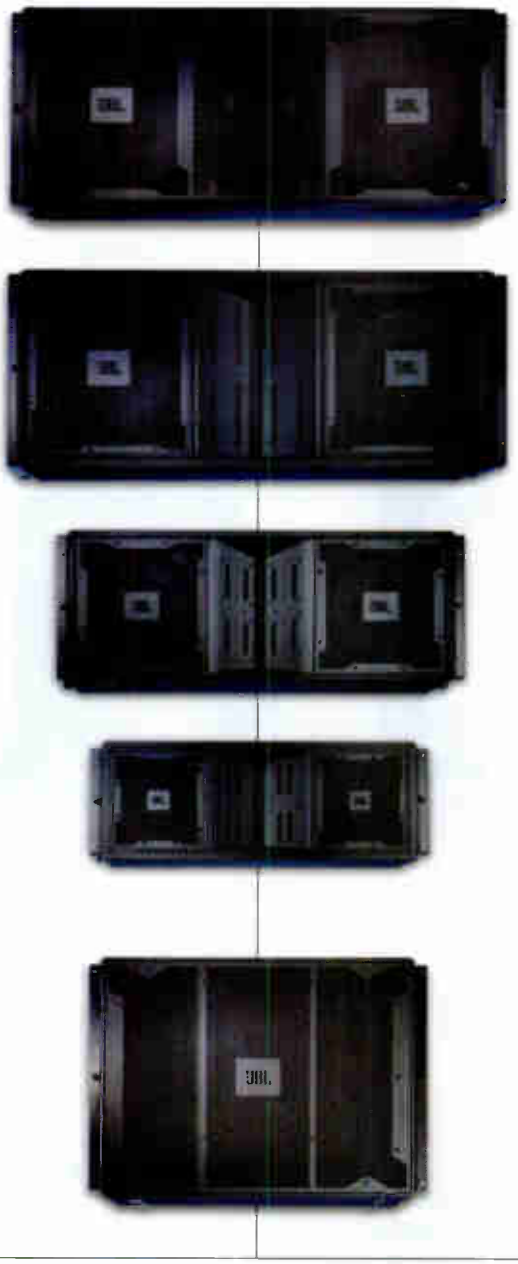
David Moulton, a pioneer in audio education who started the program at SUNY-Fredonia and has since taught at Berklee and the University of Massachusetts Lowell, says, "The DAW has become so ubiquitous that we spend virtually all of our time teaching about it or with it. The plug-in manufacturers have developed a real fixation on modeling and mimicking discrete gear, including mics, tape, outboard pieces. Loudspeaker models are coming, too, I understand. This makes it even more powerful for teaching."

Scott Metcalfe, chairman of the music production and technology program at the Hartt School of the University of Hartford, concurs: "The DAW has moved in as the centerpiece of the studio. There was a period when we relied on the DAW only for editing and mixing, but a few years ago, we gained enough confidence in the system to begin tracking on it, as well. It is my opinion that running a session to a DAW is a much more musical process than recording to tape."

Michael Bierylo, associate professor of music synthesis at Berklee, says, "Most of my students spend all of their time working on a computer in one way or another. In our program, the SSL board used to be the totem or icon that symbolized success: Get this down, and you're on track. That has changed. Everyone now believes that to get a gig, you need to be a crack Pro Tools op.

—*CONTINUED ON PAGE 155*

World Radio History



TEC 2003 NOMINEE

A Fine Line

The expanded VERTEC™ family of flexible, scalable, line array systems features lightweight enclosures, rugged yet simple S.A.F.E.™ suspension hardware, and legendary JBL components with advanced driver technology. With JBL's no-compromise approach to fidelity, power handling, and reliability, VERTEC is the premium audio toolkit that system operators and business owners demand in today's competitive environment. Remember. There's a fine line between rich, full sound, exceptional clarity and superb array control...and everything else out there.

VERTEC. Keeping you on the right side of the line.

VERTEC™ Series

Line Arrays With Lineage

www.jblpro.com

JBL PROFESSIONAL

H A Harman International Company

© 2003 JBL Professional

World Radio History

By Blair Jackson

RECORDING pian

FIVE ENGINEERS WEIGH IN

Periodically, we like to check with engineers to see whether technology or other considerations have changed the ways they record music. During my two decades at *Mix*, there have been so many technical innovations, revolutions and paradigm shifts that I'm always surprised to hear that, by and large, most engineers stick by the tried-and-true methods (and in some cases, equipment) that have worked so well for so long, with an occasional new wrinkle added here and there, of course. On the subject of piano miking, we spoke to engineers Al Schmitt, Bill Jenkins (along with pianist Mike Garson), Tony Faulkner, Ed Cherney and Jay Newland. Our thanks to all of them for their insights.

Al Schmitt

AL SCHMITT

Veteran engineer Al Schmitt believes that "piano is the most difficult instrument to record really well because it has such a wide dynamic range—it can be extremely subtle or very, very loud, often in the same song, so you really have to pay attention to what you're doing."

Schmitt certainly knows what he's doing when it comes to piano, having worked with some of the best players in the business over his storied career, including his recent Grammy®-winning recordings with jazz-pop chanteuse Diana Krall.

"The difficult thing with recording Diana is she plays and sings at the same time," Schmitt says. "Probably 95 percent of her vocals are live and 95 percent of the piano is live, so we have a little problem trying to keep the separation going. When we work here at Capitol, I have this foam-rubber padding that fits right behind where the music stand folds up, and then we will drape over the piano to get that isolation. Inside the piano I use a couple of [Neumann] M149s. On the vocal, I use a U67. I keep the piano wide open so I can get the mics up a little bit; they're probably up about 18 inches.

"With someone like Joe Sample, who is playing but not singing, I'd keep the piano open, use the M149s inside, and then outside the piano, right at that curvature at the top, I'll use some B&Ks most times to get more ambience, or I'll use a [AKG stereo] C-24. I have some really nice preamps that I like for piano—I'll use these Studer valve preamps that sound terrific. I also use the Mastering Lab [preamp] on piano. If I'm working on an old Neve board like I do a lot at Avatar, I use the preamps in the board, which sound great on piano."

Has Schmitt's piano recording technique changed through the years? "Not really. The microphones have changed a little bit. Before the M-149s came out, I used to use C-12s or B&Ks, and even in a couple of cases, I'd use a couple of Schoeps. But since the 149s have come out, I'm just crazy about those on piano."

Schmitt notes that many other variables

World Radio History

ON CAPTURING THE 88s

can affect the piano sound, including the piano itself, the room it's being recorded in and, of course, the player's style. "Usually, an artist has a piano they like or are most comfortable with," he says. "So if you can get that, so much the better. I've heard some incredible European Steinways. There was a German Steinway piano we used with Joe Sample on *Spellbound* and a couple of those albums that I think it was the best piano I ever recorded in the United States." Schmitt also raves about a $125,000 Fazioli piano at Plus 30 in Paris: "It was sensational; it really *spoke*."

Schmitt is currently working on yet another Krall album. "She's writing more of her own songs this time and really stretching out." And along with fellow engineering titans Ed Cherney and Elliott Scheiner, Schmitt has started a small jazz label called Bop City. Not surprisingly, there's going to be plenty of piano music coming out of that imprint; in fact, the maiden release is by 19-year-old piano prodigy Taylor Eigsti, recorded by Jeff Cressman and remixed by Schmitt.

TONY FAULKNER

Esteemed British engineer Tony Faulkner has recorded hundreds of albums of (mostly classical) piano music through the years: solo, in small ensembles, piano concertos with orchestra; just about every conceivable variation. He shared some of his thoughts on different aspects of piano recording:

Tony Faulkner

"I have two favorite mics I use for piano. For most classical recording, I'll use the Neumann M50c, which is one of the wonderful old tube Neumanns, as my main mics. But if I want a closer pickup for jazz or something, I like to use ribbons. I have some old RCA-type 44s made by AEA in California that are fantastic. The problem I have with modern transistor mics is, particularly when you go close on a piano, they sort of spit at you and rattle, and it's a rather ugly sound. It's like seeing too much nasal hair on a photograph; it's not what you want on a close-up. But ribbons have such incredibly low distortion, and because of the pattern, you can get a very present sound that you can actually recognize as something warm and friendly, and it doesn't squeak and scratch and spit at you.

"I don't really like the sound you get putting mics inside a piano," he continues. "A piano, particularly something like a Steinway with the lid up, was really designed to project in a place like Carnegie Hall. And if you have something designed to make a big noise in a big space, going in close usually doesn't sound quite right to me. The problem with close-miking is where are you going to put the [mics] without highlighting certain parts of the piano? You also tend to get a little more of the mechanics: the action noise, the popping up and down; not everyone wants to hear that, and it also makes the piano a much more percussive instrument. I like my

World Radio History

sound to have some space from the room in it, and, of course, in classical music, we're often recording in concert halls or very large studios."

So where does he put the mics? "Well, it depends. You might want to put the mics in the arc of how the lid of the piano is projecting the sound of the piano into the hall. You might come back eight to 10 feet with a pair and catch the sound there. Or, if you go down to the bottom end and look under the lid, you'll see three lines of the frame casting. If you align a pair of mics to look down the middle one—one in from the one closest to the back angled about 15 degrees—place one mic to the left and one to the right and come back three or four feet. That can make quite a nice stereo effect and can give you a different clear and weighty perspective than putting the mics at the front. It's a matter of taste.

"Piano concertos are difficult because if you just put up a couple of overall mics for everything, as you might for an orchestra, the piano can either overwhelm the other instruments or become too much a part of the overall sound and lack distinctness," he says. "You have to be careful to put the mics someplace where there's the right proportion of each; it's quite difficult. Then, if you take the lid off the piano to boost it, sometimes the room becomes too resonant and the sound goes all over the place. How I would deal with that is I'd use the M-50s for the orchestral pickup and probably have something like a pair of my [Neumann] M269s for my piano, and you just use enough of that."

Faulkner's preamp of choice is "Tim de Paravacini's EAR [Esoteric Audio Research] tube. Tim's a brilliant man and he's very special, in that he's got some experience in recording and professional broadcasting, and the gear he makes is not only very good-sounding, but it tends to last a long time and doesn't fall to pieces on the road. It's incredibly robust and well-made. That preamp has lots of head room and bottom end; he's paid a lot of attention to bandwidth."

On changes in recording piano: "When you did a record with a pianist 30 years ago, chances are he'd done a concert of the music two or three nights before the session, and he came in expecting to do a complete take of the first movement of the first piece. He'd come in and listen to it, have a cup of tea and go back and do another complete take of it, and if there was something very specific that he didn't like, he might cover a page of music where there was trill in the music he didn't quite get right, or whatever. But that would be the basis of the editing: a complete performance with a couple of small substitutions. There are many artists now—the next generation along—who may have done more recording than concerts and they're used to the idea of doing a complete take of the movement, but then they'll go back and play it maybe eight or 10 bars at a time, and then it becomes a creative process in which the producer, the artist and the editor make it something new rather than a slightly embellished version of a performance. I'm more used to the first approach, mainly because I think

The Player and the Engineer

THE DISKLAVIER ALTERNATIVE

In the pop world, virtuoso keyboardist Mike Garson is well known for his 30-plus-year association with David Bowie, as well as session work with the likes of Nine Inch Nails, Smashing Pumpkins and No Doubt, among others. In jazz, he's worked with Stan Getz, Freddie Hubbard and Stanley Clarke, to name a few, and also put out a number of discs under his own name and with the group Free Flight. Though adept at any kind of keyboard instrument, Garson says, "I've stayed true to the piano; it will always be my favorite instrument. At the same time, I also want to take advantage of what's out there, so I've been using a Disklavier a lot."

In his home studio in Bell Canyon, at the west end of the San Fernando Valley, Garson has three grands: two different models of Yamaha Disklaviers and a MIDI grand. On the road with Bowie, he plays a GranTouch Disklavier, "a 380-pound digital piano that has real piano action and it sounds really good. I also use a Kurzweil on some things and I use a Yamaha Motif [synth]. On the road, Bowie doesn't want to deal with tuning issues and feedback, so that's why we don't use a conventional grand piano."

Garson says that using the Disklavier system in his studio allows him to stay fresh as a pianist, because "it's essentially like a computerized player piano. When I'm working with Bill Jenkins, my engineer, I can go in and play some arpeggios—soft, medium and loud—and he can play that back in Repeat mode and set the mics however he wants them, depending on what we're going to record. That way, I don't have to play over and over again and burn out."

Of course, the Disklavier's other advantage is that it can play MIDI files. For instance, on the forthcoming Bowie album, Garson notes, "On this song called 'The Loneliest Guy,' I recorded it on synthesizer originally and then took home the MIDI file and re-recorded it on my 9-foot Yamaha Disklavier, recording it as it played back." Adds engineer Jenkins, "[Producer] Tony Visconti said he didn't have to do much to it when he mixed it, which is nice to hear."

Conversely, on a track called "The Disco King," Garson says, "[Bowie] called me in and all he played for me was a drum loop and his voice and he said, 'Show me the chords and play the piano over that,' and I came up with this whole arrangement, but it doesn't have bass or guitar on it. It's an eight-minute song and it closes the album. But there's an example where I took the MIDI file home, recorded onto my piano and, ultimately, he decided he liked the synth sound better—the Yamaha S-90 keyboard—so that's what's on there."

According to Jenkins, for the Bowie project, "What we've been using mostly is a pair of Groove Tubes GT67s run into a couple of the M-Audio TAMPA mic preamps. Then I use another pair of mics for distant-miking—the Oktava MC012, small pencil-style mics—into a pair of TAMPAS and then into an 02R and into Digital Performer from there. My own preference for piano mics and preamps is Neumann M149s to an Avalon M5; I've had great success with that. I've also used 414s for certain piano things through the years."

Jenkins says he "can get a pretty good piano sound in Mike's studio, but if I were at Schnee or O'Henry, I could get him a *great* sound, so at his place, I tend to close-mike a little more. But it also depends on the genre we're doing. With classical stuff, I like to back it off, obviously. With rock, you go closer in. Using the four tracks [two close, two room mics], we've mostly used the close-miking [in the mix] with just a little bit of the overheads to give it a little more depth." And though he, too, admires the sound and versatility of the Disklavier system, Jenkins notes that "It doesn't re-create some of the real finesse stuff in the playing. There's some difference when you play it back, which is unfortunate, because Mike plays so great. I'd like to hear it come back exactly as he played it. But it's very, very close."—*Blair Jackson*

World Radio History

that's how you make the best records of classical music. But if you're doing film scores or something like that, you can't expect these guys to learn every piece the week before, because chances are, it's still being written when they arrive in the studio!"

JAY NEWLAND

Jay Newland is probably best known these days for his engineering and production work on singer/pianist Norah Jones' multi-Grammy-winning *Come Away With Me*. But Newland already had a long, successful studio career pre-Jones, working with a wide variety of jazz, blues and pop artists, including Etta James, Kenny Baron, Charlie Haden, Randy Weston, Abbey Lincoln and many others. He's already started work on Jones' next album, but we started our piano recording discussion talking about the last one. "The piano sound on Norah's album was mostly a pair of B&K 4007s, which to me are always very clear, almost a little bright," he says. "So a lot of times, what I'll do is, I'll take a [Neumann] 87 and put it on a piece of foam and just lay it in the lower midsection of the piano as a third mic to get a sort of warm mono signal. I'll listen to it a little bit by itself, maybe EQ it slightly and put it on a separate track. It's a little bit dark and more old-fashioned-sounding. Sometimes I'll use it, sometimes I won't. It works best when you have a good stereo [image], but you sense a little emptiness in the middle and you want to fill it in slightly with a warmer tone.

"On Norah, I couldn't use any room mics because she's singing while she's playing. We've got the piano covered up; in this case, at Sorcerer Sound, we had a 1-foot-thick piece of foam rubber that was originally part of some gobo thing, and we put it where the sheet music goes, and then we placed piano blankets around the side. We probably had 90-percent isolation; maybe more.

"I did a few tracks for the new album at Allaire, up in Woodstock [N.Y.], and we used a C-24 a few inches behind the hammers, maybe 10 inches up. I don't like to get too close because it's still a jazz thing to me. If I were doing a more pop or even a hard-hitting bluesy kind of thing, I might get a little closer with two or three [AKG] 414s. I've been in many situations where an 87 is perfect. I made a Keith Jarrett record [*Bye-Bye Blackbird*] where I used Josephson mics and Demeter tube preamps. With Randy Weston, who plays a Bösendorfer and always has lots of low end in his playing, I used a [Neumann] 47 instead of the 87 as the third mic because it really emphasizes the low end, which is so important in his playing. You tuck a little of that into the mix and it makes it larger than life.

"There are a few preamps I like for

World Radio History

piano

piano. For years, I've used Millennias: the four-way high-voltage. I like GMLs, too, and if I'm in a Neve studio, the Neves always sound good to me, as well. The Sontec compressor is the best-sounding piano compressor I've heard, if a compressor is necessary or desirable.

"I did a record with Charlie Haden called *Nocturne,* which won a Grammy two years ago, and the pianist there was Gonzalo Rubalcaba, who is just unbelievable. On this particular date, it was a beautiful, brand-new Yamaha piano. It was little bright; they tend to be a bit brighter than Steinways. And on that I used a Neumann 149, which worked out great. One thing that helped me on that session down in Miami, though, was having a technician who worked on the piano during the *entire* session. He'd be in there checking things on every playback. And he voiced the piano in a much mellower way. The hammers can be softened or hardened a little bit and that can affect the tone and attack. It was outstanding. The harmonic richness of Gonzalo's playing really came out on that recording. There are a lot of sessions where they'll have a tuner on standby and that makes a big difference. When a piano starts to go out of tune, especially in the upper midrange before it's actually out of tune, it gets a little plinky. So if you can keep it in perfect tune, the recording will be that much better.

"In the end, though, a lot of what you hear has to do more with the musicians than the equipment you use; that's always the case. I did a record with [producer] John Snyder about 10 years ago and there were four piano players on it: Kenny Barron, Barry Harris, Tommy Flannagan and Hank Jones. We used the same piano, same mics, SSL preamps right to the console, and we came up with four absolutely, *totally* different piano sounds. It's really an individual player thing as much as anything. You can make your equipment choice based on something you've known from the past, but then when you hear somebody play, you might change that. You have to stay open."

ED CHERNEY

It seems as though every time I've spoken with L.A.-based engineer Ed Cherney during the past few years, he's either in the midst of, or just completed, some project for the Rolling Stones. This time, Cherney was deep into mixing *four* different Stones DVD projects culled from the group's last tour; truly, there is no rest for the weary. So it is with some measure of relief that he takes a break to talk about recording piano, first noting, almost wistfully, "It doesn't seem as though I record regular

Ed Cherney

World Radio History

acoustic pianos much anymore." But he has plenty of experience to draw from, having worked with such pianists as Michael McDonald, Billy Joel, Randy Newman and Elton John.

He agrees with his buddy Schmitt that the piano is a particularly difficult instrument to capture: "There are transients that the meters don't see, so you have to really use your ears, and every piano has a different personality and every player does, too. You record it a little differently for any kind of music you're doing. There are just a lot of variables.

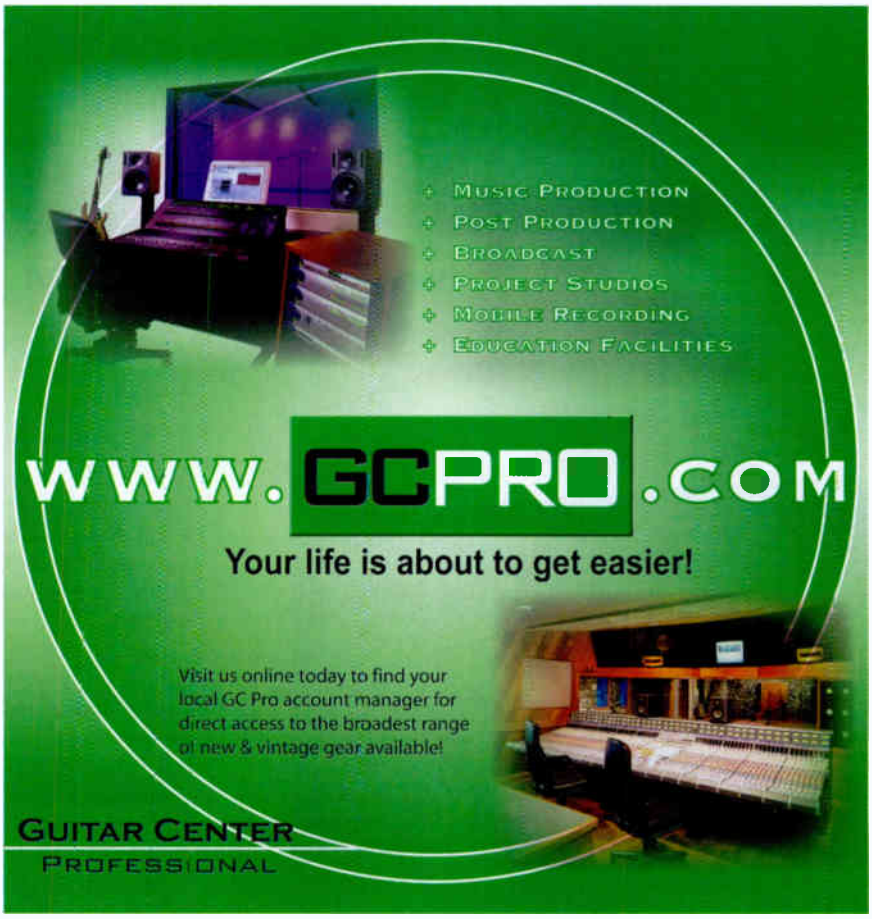
"But I do have a place I start from. I've been using two B&K 4011s in an X-Y pattern over the hammers of the C above middle C. Then I'll typically use an 87—or a FET 47 if I don't have an 87—down at the low end on the soundboard. I'll split the X-Y's left and right and I'll blend the low mic into both sides, maybe favor it on the left side a little bit. With the X-Y, maybe I'll have it to the right a little bit to bring [out] the higher strings and higher keys."

How far off the strings? "It depends on the music," he says. "Sometimes, you're forced to get in really tight because the piano is in the room with the rest of the instruments. Ideally, if you have the piano open, I'd like to be between eight and 12 inches off the hammers [for the B&Ks], and on the low end, I like to get that in tighter; just a few inches. I want plenty of proximity effect on it to blend it in. I don't like to use too much EQ." Cherney likes API preamps on piano, adding, "I carry some Neve 1073s with me. I like the sound of those: They've got a lot of headroom and a lot of body; they saturate nicely.

"You know what, though? Depending on what you're going for with a piano, you might want to just take a [Shure] 57 and beat the hell out of it with a Fairchild or some other limiter and really knock down all of the instantaneous transients and get the harmonics to come up. There are so many fun things you can do with it. Put pennies between the strings. I'm always up for experimenting."

No recording article would be complete without a touch of controversy: "The waveform and the harmonics on the piano are so complex that I don't think digital recorders can really capture all of it that well yet," says Cherney. "They will eventually, but it's not quite *there* for me yet. A lot of times, I can hear the holes, so any kind of action I can get in front of [the digital recorder] is a good thing." ■

Blair Jackson is a senior editor at Mix.



YOU WANT TO BE ABLE TO MIX YOUR DRUM TRACKS THE WAY *YOU* WANT. *YOU WANT* REAL DRUMS PLAYED BY A *REAL DRUMMER*. YOU *HAVEN'T GOT* A WORLD CLASS STUDIO. *YOU DON'T WANT* TO SPEND A FORTUNE.

DISCRETE DRUMS

NEW!!

- Series Two
- Craig Anderton's Turbulent Filth Monsters
- Eric Darken's One World Percussion (from Series two)

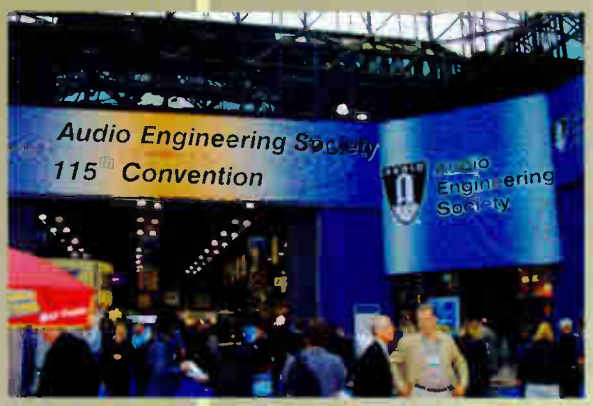
ACID PRO TOOLS LOGIC AUDIO DIGITAL PERFORMER CAKEWALK SONAR CUBASE NUENDO REASON RECYCLE ROLAND V-STUDIOS BOSS BR-1180 YAMAHA AW 4416 MANY OTHERS

Download demos and order at WWW.DISCRETEDRUMS.COM

World Radio History

AES 2003

BIG NEWS FROM THE BIG APPLE



Muse Research Receptor

SSL XLogic Series

The Chicago Cubs may not have made the World Series (just wait 'til next year!), but the Audio Engineering Society pulled off a miracle. AES NYC was packed with attendees, exhibitors and hot new products. Walking through the crowded aisles at the Javits Convention Center, the vibe was upbeat and alive. Many felt that this was the best AES show in a decade, and they were right.

Clearly, 2003 is not 1993, and today's AES show is an entirely different beast, with a whole lotta talking on non-vintage topics such as networking, FireWire, multiplatform connectivity and the external functionality of consoles as controllers. Meanwhile, the dealings of computer companies such as Microsoft and AMD have become major events in our lives, while talk about OS X compatibility peppers regular conversations. Certainly, Guitar Center stepping up as an Apple reseller speaks volumes about a changing industry. However, we're all audio hounds at heart, and if something makes stores or tweaks sounds, we wanna know about it. Here are a few AES debuts that caught our attention.

GOING STRAIGHT TO DISK

Digidesign (www.digidesign.com) Pro Tools users who have hit the DSP headroom ceiling will rejoice at the release of the HD Accel card, which allows for higher voice counts and features nearly twice the raw DSP power of HD Process cards (HD Core card doesn't change.) Accel is included with Pro Tools|HD 2 Accel and HD|3 Accel systems, and may also be purchased separately ($4,995). Digi's newest I/O box, dubbed the 96I ($2,195), operates at up to 24-bit 96kHz, with 16 analog inputs, two analog outs, S/PDIF I/O and more. Also shown was the Impact Mix Bus Compressor ($695). Digi's first TDM plug-in compatible exclusively with HD Accel, offering support for up to 7.1 surround at up to 192 kHz.

In addition to the Dream Constellation console, Fairlight (www.fairlightau.com) hits were the Station™ integrated mixer and editor and the Pyxi Non Linear Video (NLV). Station™ doubles the capacity of Station—taking the integrated mixer/editor from 56 channels and 24 buses to 144 channels and 48 buses—and provides control of Nuendo and Pro Tools record/edit platforms, and features the ability to add VCA-style fader groups. Pyxis NLV offers sync and transfer, touchscreen interface, network-ready project management, and support for 9-pin control.

The DR-100 digital recorder from Otari (www.otari.com) features 48-track recording at 24-bit 44.1/48kHz, and 24-track recording at 24-bit, 88.2/96k direct to a 72GB

BY THE MIX STAFF

World Radio History

Technology Spotlight

Mackie dXb Digital Console

Mackie (www.mackie.com) turned heads with the debut of its dXb digital console. The "X" operates with 72x72 of I/O at 96 kHz and lower, and is capable of 36x36 of I/O at 192 kHz. The desk features 24 channel strips with 100mm P+G moving faders, two integrated 15-inch touchscreens, and it will operate as a fully functional Mackie Control Universal offering control for Nuendo, Pro Tools, Cubase, Logic and more. It also comes fitted with one UAD-1 card, giving the user access to a long list of popular DSP processors. In addition, "X" boasts powerful automation and FireWire I/O option cards for streaming audio to and from a computer. I/O is truly flexible and can be configured any way the user wants. Other features include a tape-style transport with memory location recall, weighted jog/shuttle wheel, padded armrest with built-in mouse pad, and a control room section that allows for A/B monitoring, dual phones mixes and talkback. Pricing is targeted at under $20K.

SCSI drive. Up to 208 virtual tracks are available, with five editing layers totaling 256 tracks. The unit features MADI interfacing and a 48-track remote control.

Genex (www.genexaudio.com) demoed new accessories for the GX9000 Series, including the GXR948 Remote Controller. Also, GXP Edit is a plug-in waveform editor for Genex GXR PC control software that enables cut, copy, paste and erase operations on up to 48 channels of audio data. The GXRMB meter bridge provides 48 channels of metering. Also announced was file exchange capability with Merging Technologies.

Tascam's (www.tascam.com) SX-1LE Digital Production Workstation offers 16-track, 24-bit hard disk recording with full editing capability (including 5.1 surround), a 40-input 32x8 digital mixer, 16 mic pre's, a CD-RW drive and a built-in MIDI sequencer—all for under $3,000.

Merging Technologies (www.merging.com) showed the new 16-channel DSD Pyramix system, also available in 2- or 8-channel options. Software enhancements include Scarlet Book specification authoring and the ability to monitor the 16-channel mixed signal path during DSD recording. Merging also showed the Vcube Video HD recorder/player and CEDAR Retouch.

MOTU (www.motu.com) unveiled the 896HD ($1,295), a two-rackspace FireWire audio interface for Mac and Windows PCs. The 896HD replaces the 896 at the same price and adds many new features, including 22 simultaneous outputs, 192kHz operation, 8-bus monitor mixing and stand-alone operation.

A few major application upgrades debuted. **Cakewalk**'s (www.cakewalk.com) Sonar 3 includes a redesigned interface featuring a Dynamic Console view with per-channel, 6-band parametric EQ and assignable effects controls; a Universal Bus Architecture, gapless effects patching; VST/VSTi support; and many MIDI enhancements. Sonar 3 includes Lexicon's Pantheon reverb, which has 35 factory presets, six reverb types and 16 editable parameters.

M-Audio (www.m-audio.com) and **Ableton** (www.ableton.com) announced Live 3, which, in addition to matching samples of any tempo and pitch, lets users dig into the samples themselves, modifying aspects like volume, pitch, pan and effects controls by drawing parameters as clip envelopes.

Two desktop workstations are ready for prime time: **Lexicon**'s (www.lexiconpro.com) Omega is a 24-bit computer recording system that includes the Omega 8x4x2 USB I/O mixer, ProTracks Plus 32-track recording software and Pantheon. Omega includes two dbx mic pre's, four TRS active balanced line ins and an S/PDIF combined with an additional DAC, plus MIDI I/O. Mackie's Spike (www.mackie.com) comprises an XD-2 2-channel USB, 24-bit 96kHz audio/MIDI interface with Mackie mic preamps and onboard SHARC dynamics processing, plus Tracktion multitrack audio production software with unlimited track count, VST plug-in support and the Nomad Factory Blue Tubes Warmer Phaser plug-in.

PLUG-INS!

Plug-ins made a strong showing. **Waves** (www.waves.com) introduced the granddaddy of all plug-in packages: the Diamond Bundle. With 35 apps from Waves' Platinum, Transform and Restoration Bundles in one package, the Diamond Bundle has plenty of software tools. And at $7,000 TDM or $3,800 native, it's a lot cheaper than buying them individually.

Eventide (www.eventide.com) showed two new TDM plug-ins, based on Orville technology: The Octovox Harmonizer allows eight voices of diatonic pitch shifting, in a "music notation meets step sequencer" interface. The Reverb plug-in has an integrated compressor, dual delay and pre/post 3-band parametric EQ.

World Radio History

Sony (www.sony.com) brings Oxford plug-ins to the masses with new Pro Tools LE versions of the EQ, Dynamic and Inflator, available individually or as a $700 bundle. A new Transient Modulator plug-in, which "revitalizes" track dynamic level by manipulating transient material, is available for LE and TDM.

TC Electronic (www.tcelectronic.com) has new PowerCore plug-ins: The VoiceModeler features Helicon voice processing technology, Intonator HS allows vocal intonation correction, Filtroid is a dual filter bank and Dynamic EQ offers four bands of processing.

BIAS (www.bias-inc.com) showed Peak 4 on the Apple G5. But the big news was SoundSoap Pro, a beefed-up version of its SoundSoap plug-in offering 512-band noise reduction via four restoration tools, including Hum & Rumble, Click & Crackle, Broadband and Noise Gate.

Native Instruments (www.native-instruments.com) and **Sonic Network** (www.sonicnetworkinc.com) are bundling the Kontakt Player Silver sample player and Sonic Implants libraries to provide a sample-playback sound library for **Sibelius** 3. NI also offered the NI Komplete bundle, including Reaktor Session, Kontakt, Battery, Absynth 2, Vokator, Ni-Spektral Delay, FM7, B4 Organ and Pro-53 for $1,499.

SoundToys (www.soundtoys.com), formerly Wave Mechanics, showcased the UltraFX line of eight plug-ins, two of which debuted at AES. FilterFreak uses a 48dB/octave analog modeling filter, with programmable rhythmic filtering, triggered envelopes and tempo-controlled LFOs. PhaseMistress combines analog phasing with tempo-locked modulation and programmable LFOs.

SADiE (www.sadie.com) demoed **CEDAR**'s (www.cedar-audio.com) Retouch Version 2, including an audio preview facility for auditioning the processed audio within the Retouch window without writing the process back to the playlist to determine the result. In addition, users can now load a full minute of audio.

In other plug-in news, **Steinberg** (www.steinberg.net) announced support of the DTS encoder for Nuendo. **Trillium Lane Labs** (www.tllabs.com) showed the TL EveryPhase phaser modeling plug-in for Pro Tools. **Arturia** (www.arturia.com) announced the CS-80V, a Yamaha CS-80 emulation. **SFX Machine**'s (www.sfxmachine.com) namesake plug-in added MIDI parameter controls and is now available for Mac and Windows.

Harrison (www.glw.com) unveiled its new DTC plug-ins, which run on any IKIS-based Harrison console and feature a BeOS GUI. The DTC package consists of a dedicated processing module, with a standard array of 32 bus limiters with "Look Ahead," "Anti Breathe" control and a suite of software plug-ins (sold separately) added to the digital.engine DSP core on an IKIS automation system.

Unique Recording (www.ursplugins.com) demoed new plug-ins modeled after two legacy designs. The URS 550B EQ features a Class-A digital algorithm plus four bands of EQ, each offering seven selected frequency centers. The URS 1084 EQ features a low band with four fre-

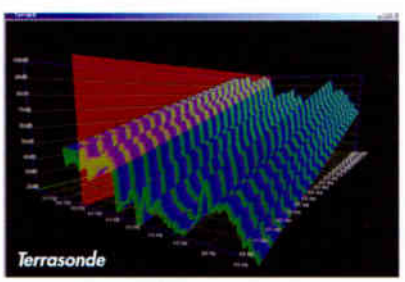
Technology Spotlight

JBL LSR6300 Series Studio Monitors

Five years ago, JBL (www.www.jblpro.com) unveiled its award-winning LSR (Linear Spatial Reference) monitors. Now with its latest LSR6300 Series, JBL addresses the problem of room acoustics caused by the physical properties the space itself. The new THX™-approved Series has three models: The LSR6328P is a bi-amplified system with 8-inch woofer and 1-inch tweeter; the three-way LSR6332 has a 12-inch woofer, 5-inch mid and 1-inch tweeter; and the LSR6312SP is a powered sub with onboard bass management.

Designed to counteract the boomy LF standing waves created by a room's geometry, the LSR6328P and the LSR6312SP feature JBL's RMC™ (Room Mode Correction) circuits. An RMC Calibration Kit (included with the sub, and optional with the LSR6328P) provides everything needed to measure the room response, identify the dominant room mode and calibrate system response. The kit also includes a test tone disk and simple SPL meter to set the integral 22 bands of 1/10th-octave, analog parametric filters (between 26 and 96 Hz) that notch out offending frequencies. The LSR6328P also provides boundary compensation filters for use when the speaker is placed/mounted on a wall, corner or large furniture surface.

Hits You May Have Missed



Audix (www.audixusa.com) has updated its SCX-1 small-diaphragm condenser mics. The new SCX-1PR bodies have multiposition pad and bass rolloff switches for more versatility.

Blue Sky (www.abluesky.com) showed a slick system of monitor stands, with quick height setting and full angle adjustment for precise placement.

CableTek (www.cabletek.ca) intro'd three new Jensen transformer-based interfaces: a 6-channel rackmount DI, perfect for 5.1 applications; an isolation box, the missing link for trouble-free interconnection of sound systems; and the J-PC, a computer audio interface.

Crown's free Pocket IQ application allows control of TCP/IQ-based networks with a PDA running MS Pocket PC 2002 on the ARM processor, like the HP 3855 or 5450 iPaq.

Groove Tubes' (www.groovetubes.com) "The Brick" is a brick-sized, mono tube mic pre/direct box/line driver for studio/stage use. Retail: $499.

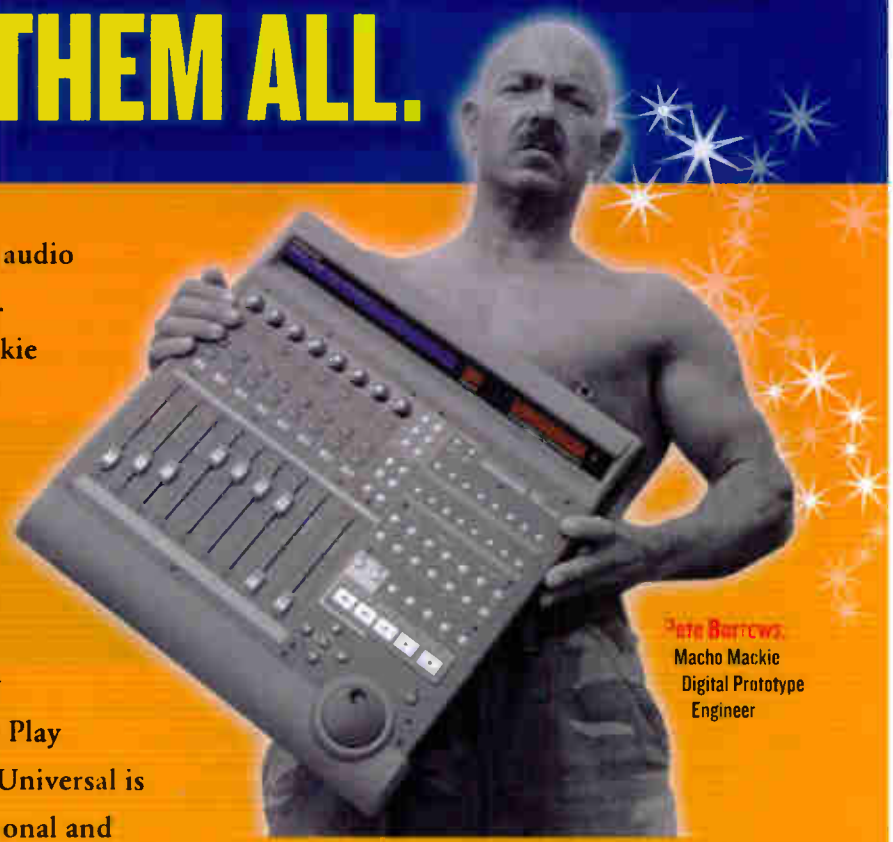
Littlelabs' (www.littlelabs.com) $600 Multi Z PIP works as an instrument preamp, re-amper, DI and mini instrument mixer.

Terrasonde's (www.terrasonde.com) $2,490 Digital Audio Toolbox offers some 20 digital domain tests in one unit. Also new? The $899 Studio Tool Box, with a bevy of useful studio functions, and the Analysts Firmware accessory, bringing sophisticated multiband RT60, STIpa intelligibility and time/delay waterfall measurements to any Audio Toolbox owner.

Whirlwind's (www.whirlwindusa.com) CobraNet-based digital E Snake can transport 32 channels each way over 100 meters of CAT-5 cable.

World Radio History

FINALLY, ONE CONTROLLER TO RULE THEM ALL.



Pete Barrows
Macho Mackie
Digital Prototype
Engineer

It's a wild and wooly world of audio production software out there. Thankfully, with the new Mackie Control Universal, you can manhandle everything from Pro Tools to Logic, Nuendo, Digital Performer, Sonar, Cubase and more. And we're not just talking about balancing levels and gradually wearing the silk screen off the Play button. Nay, Mackie Control Universal is a professional and fully expandable system with 100mm motorized by Penny + Giles touchfaders, multi-function V-Pots for faster control of panning and effects, a full meter display with track names and parameters, a bright LED timecode display and more. With the tightest software integration on the planet, Mackie Control Unviersal simply rules. Visit mackie.com to learn more.

PRO TOOLS
LOGIC AUDIO
NEW FULL IMPLEMENTATION
NUENDO
CUBASE
SONAR
SAMPLITUDE
COOL EDIT PRO
DIGITAL PERFORMER
AND MORE!

MACKIE CONTROL
U N I V E R S A L

- New full implementation of Emagic Logic Control
- Digidesign Pro Tools control via HUI Mode
- 100mm Penny + Giles Motorized Optical Touchfaders
- Multi-Function V-Pots for fast tweaking of plug-ins
- Full Meter Display w/ track names and parameters
- Comprehensive Automation controls
- Expandable via optional extenders
- Software-specific Lexan overlays
- 7-segment Timecode display
- Updates available at www.mackie.com

WWW.MACKIE.COM
800.258.6883

MACKIE®

World Radio History

quency centers, mid band with six frequency centers and high band with three selected frequency centers. Both plug-ins are ported for Pro Tools | HD and HD Accel on both OS X and OS 9. Pricing: TDM/RTAS, $899, non-TDM/RTAS, $449.

CONSOLES!

Present at the show and looking healthy, **Fairlight** unveiled the Dream Constellation console, boasting new automation functionality, up to 144 channels, 48 buses and 32 mono multitrack buses. Automation and audio can be edited simultaneously, enabling the user to move clips, tracks, ranges or entire projects with previously written automation. Able to accommodate up to four QDC cards and with updated Dream Series 3.1 software, the board features access to Creamware plug-ins, has an updated GUI and offers fader control of Nuendo and Pro Tools. Base price is $120K.

API (www.audiotoys.com) showed Vision, its high-end, multiformat Vision 5.1 surround mixing console that was profiled in last month's *Mix*.

Solid State Logic (www.solid-state-logic.com) showed enhancements to its C200 digital console, which include SSL Quad bus compressor emulation and a USB interface option. In addition, find enhanced third-party router integration, two new meter views and added information on mic pre and pan format status.

Sonosax (www.sonosax.ch) launched the SX-ST/VT portable film production console based on its popular SX-S model. The new mini-desk handles as many as 32 inputs and features eight main buses, four aux buses, a monitor section with five LED meters and a communication system with two discrete lines. Prices start at $12,900.

Logitek Electronic Systems (www.logitek.com) introduced the Route-XY ($1,250), an I/O selector for the Logitek Audio Engine. The unit converts analog or sample rate converts digital signals, then routes and mixes the signals in the digital domain.

TOYS IN THE RACK

Put former Opcode, Be, Passport and E-mu/Creative minds together and what happens? You get the Receptor, the debut from newly formed **Muse Research** (www.museresearch.com). Receptor is a software-programmable hardware interface capable of running VST synths, effects, processors and instruments. Receptor can control over 16 channels of audio (via digital or balanced analog I/O) or synths with up to 57 effects. A built-in

Top 10 AES Live Sound Picks

By Mark Frink

Apex (www.apex-audio.com) introduced its Intelli-X comprehensive 4x8 speaker management system, offering 256 EQ filters and 50 presets, employing 24-bit converters, with AES inputs, and USB and serial connections for laptops. Optional is the "Intelli-Sense" servo system, which continuously monitors RMS power delivered to the speakers and adjusts limiters.

Adamson's (www.adamsonproaudio.com) new Spektrix compact line array is a three-way, 62-pound enclosure that can be bi- or tri-amped. Innovative features include captive, hidden, revolving-disk interconnection and a unique sliding-point rigging frame. It employs two different purpose-designed 8.5-inch Kevlar drivers —one for LF the other for MF—plus a BNC DE900 compression driver on a 120-degree horizontal device.

Crest Audio (www.crestaudio.com) introduced its HP Eight, reaching an amazing price by employing modular input construction in blocks of eight channels. Ten aux sends and fader-flip provide monitor mix facility. Features include five stereo line ins with 3-band EQ and an 11x2 matrix.

DiGiCo (www.digiconsole.com) refined its D5 digital console for theater with a 124-bus engine instead of the 40 found on the D5 Live. In addition to the D5T control surface, there is a D5Tc Controller, a compact frame designed for running programmed events, with widely spaced master faders, macro keys, rugged Previous and Next "Go" buttons, plus script-tray and keyboard. The D5Trc Remote Control is useful for tweaking from various locations during rehearsals, having a single input and output control section.

First-time exhibitor **Magnetic Audio Devices** (www.getmad.us) showed its Planar Magnetic full-range transducers. Arrays are built from individual 6x9-inch, 4-pound "MAD-1" drivers, which employ neodymium motors with a "stretched" voice-coil strip on a flat, flexible membrane. Though this technology is in its infancy for live sound, it may be the next thing in P.A. speakers.

Martin Audio's (www.martin-audio.com) W8LM 53-pound, three-way, bi-amp or passive mini line array, employing two reflex-loaded 8-inch speakers, one direct-radiating and lowpassed at 300 Hz;the other employing a phase plug to reproduce up to 2.2 kHz. It also uses dual 1-inch horn elements, and 12-ohm impedance allows up to four cabinets per amp channel.

Meyer Sound (www.meyersound.com) finally released SIM 3, offering two mic and two line inputs in a compact 2U chassis; special introductory pricing is a quarter of SIM II's. It's quicker and has twice the previous LF resolution. Data is stored on a Fast Flash Disk (FFD)—faster and more robust than hard disk. SIM 3 displays multiple trace memories and is designed to accommodate the latency in today's digital consoles and processors. It comes with self-documenting user macros and preset procedures, making it simple to operate.

SLS Loudspeakers (www.slsloudspeakers.com) introduced several new speakers, including its RLA/3 compact line array. Each 20-pound LS6500 line array module employs the same 6.5-inch woofer and ribbon HF as the company's 6-foot LS8695 Line Column.

Xilica Audio Design (www.xilica.com) of Toronto made its first AES appearance, showing a new DLP-4080 4x8 speaker processor with 32-bit floating-point DSP.

Yamaha (www.yamahaproaudio.com) has new PM-1D input cards offering PM5000-quality mic pre's. One version has A/B inputs for two channels with 28-bit sampling, while the other has four channels with 24-bit sampling for higher rack-density. The PM-1D on display was being controlled remotely from a wireless RECO tablet from TEQSAS (www.teqsas.de). The 8-inch 800x600 touch-sensitive screen is a smart device running embedded Linux with a Flash Disk to make it extremely rugged in its rubber sleeve. It connects to the user's device-wired computer via Wi-Fi and can control many software apps, offering wireless control potential for other products.

World Radio History

hard drive is loaded with plug-ins.

Manley (www.manleylabs.com) announced eight new products, including a 24/192 A/D and D/A converter; FLuRB, a surround matrix decoder that creates 5.1/6.1/7.1 playback from a FLRB coincident array; a dual-channel (one tube/one discrete solid-state) preamp; the Mini Massive Passive 2-band EQ; a utility mic/preamp switcher for auditioning various mic/pre combinations without tedious repatching; and a slew of devices designed for mastering applications.

Focusrite (www.focusrite.com) announced The Liquid Channel, which is said to offer the ability to emulate any classic mic preamp/compressor combination by applying unique level-dependent impulse responses to every audio sample. This is enhanced by its high-end, variable-impedance mic preamp circuitry and a new digital EQ based on Focusrite's ISA110 sound.

Rane's (www.rane.com) new digital products include the PEQ-55 parametric; the DEQ-60L Perfect-Q cut-only, long-throw fader stereo graphic also has 3-band tone controls; and the G4, a full-function, look-ahead digital quad gate. Our fave? The MM 42 IEM processor, with 3-band compression, 5-band parametric, 3-band peak limiting and cue bus for multi-unit interconnection.

SSL's new Xlogic rackmount processors hail from its successful XL 9000 K console. The $3,595 XLogic Channel is a mic/line/instrument preamp with Twin-Curve dynamics, high/lowpass filters with routing to the dynamics sidechain, G and E series EQ and switchable metering; a digital interface card is optional. The 6-channel XLogic Multichannel Compressor ($6,995) has separate controls for the LFE channel and separate L/C/R and surround channel trims with different thresholds for each input. The unit can also be set up as separate four-channel and twin stereo compressors. The $4,345 XLogic Super-Analogue Mic Amp combines four XL 9000 K preamps with optional remote control. The XLogic G Series Compressor ($3,355) features compression and sidechain bypass and the familiar SSL auto-fade switch.

MICROPHONES!

You can never have enough mics. The 1965 **Sony** C-38 (www.sony.com) was the world's first FET mic, which after a few minor changes—windscreen shape (C-38A) and the ability to accept either 9VDC battery or phantom power (C-38B)—sold more than 65,000 units worldwide. Now, the famed dual-pattern (cardioid/omni) condenser C-38B is back as a faithful $2,200 reissue.

Telefunken North America's (www.telefunkenusa.com) Ela M 270 re-creates perhaps the rarest tube mic of all time: a stereo version of the Ela M 251. The handcrafted 270 is not for everyone, but listing at $19,995, it's nice to dream. The company also announced its Ela M 14 (a cardioid-only tube mic with CK12 capsule), priced at $2,995; the Ela M 12, a C12 replica priced at $6,495; and the U47M, which reprises the classic Telefunken U47 in several versions with various tube options from $5,500 to $7,500. Another U47 clone came in the form of **Wunder Audio's** (www.wunderaudio.com) $4,000 CM7, with an EF14 tube and 6-micron diaphragm on a German M7 capsule.

Dirk Brauner (dist. by www.transaudio.com) showed VMA, an upscale (!) version of his $5,000 VM1A tube studio mic. Priced about 30% higher than the original, the new model has a switch that kicks in alternate circuitry for a choice of original or a more "vintage" sound. Thinking stereo? **AEA's** (www.wesdooley.com) R88 puts a matched pair of large, figure-8 ribbon capsules (angled at 90°) in a single housing for Blumlein or M-S stereo recording. Price: $1,895.

Neumann celebrated its 75th anniver-

World Radio History

sary by unveiling a 300-page "coffee table" book with 500 color photos detailing its history. Neumann also showed the mid-priced, TLM 127 large-diaphragm, multipattern condenser mic with a remote pattern-switching option and impressive 7dBA self-noise.

PLM (dist. by www.independentaudio.com) unveiled the DT40 (five-pattern) and CT40 tube mics, based on Pearl's classic, large-diaphragm, rectangular condenser capsule, paired with Nuvistor tubes. The **Lawson** AIR mic (www.lawsonmicrophones.com) is a hypercardioid condenser model specifically for vocal recording, with a new large-diaphragm capsule designed by Gene Lawson. New mics at **SE Electronics** (www.seemics.com) include ICIS (a $999 tube model with fixed cardioid pattern) and Gemini, a $1,499 cardioid with dual 12AU7s.

The DigiMic? Not exactly—**BLUE Microphones** (www.bluemic.com) teamed up with **Digidesign** to offer a special-edition mic, supplied exclusively with future Digi product bundles. Dubbed the Bluebird, the new mic is a large-diaphragm, cardioid condenser with low-noise Class-A electronics, Blueberry hi-def cable, shockmount and pop screen.

ACOUSTICAL MATERIALS

Developed by producer Keith Olsen and engineer Anthony Grimani, StudioPanel from **MSR Inc.** (www.msr-inc.com) is an "Engineered Acoustic Solution in a Box," providing easy-to-configure systems with traps, absorbers, diffusors and complete instructions to optimizine project rooms. **Primacoustic** (www.primacoustic.com) expanded its studio solutions with the Polyfuser, a dual-function LF bass trap combined with wideband diffusion.

MONITORS

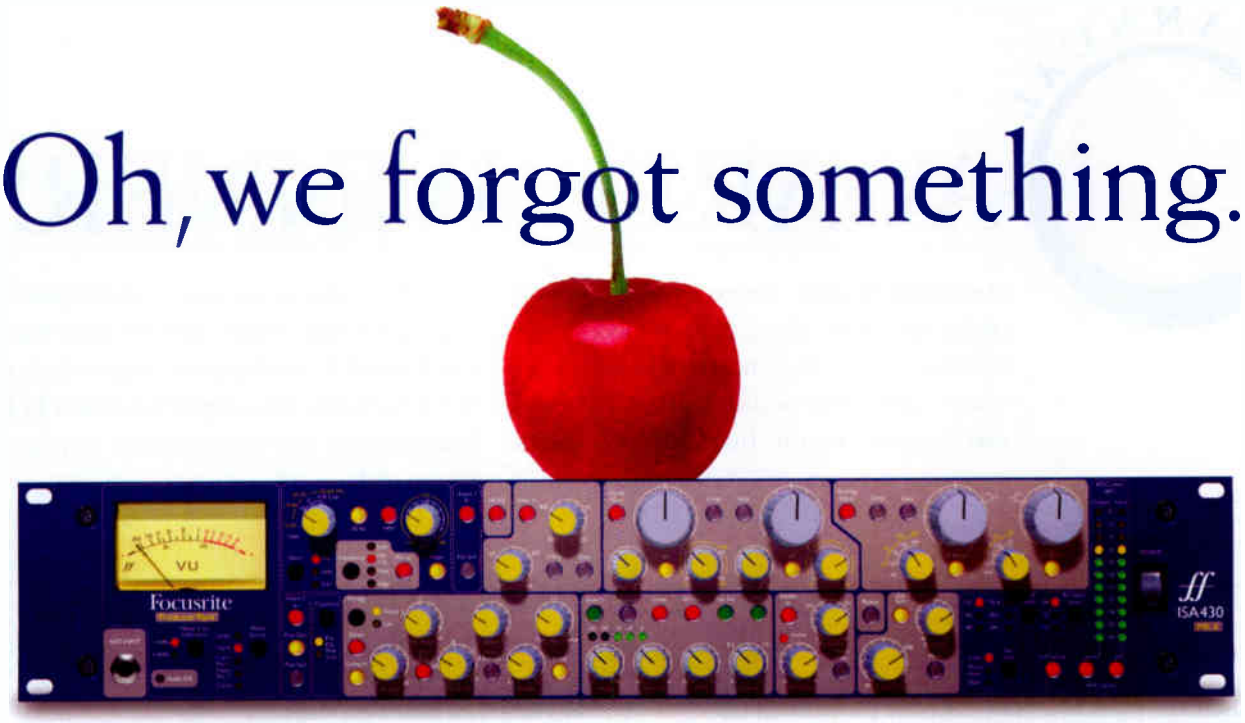
AES had tons of new monitors. Here are just a few: **Linn** (www.linn.co.uk) debuted its 318A four-way, powered nearfields, which feature 1,000 watts (total) of quad-amplification and a servo-controlled bass response system. Another quad-amped design, **Blue Sky** (www.abluesky.com) demoed its Big Blue, a 500-watt three-way with dual 8-inch woofers, 4-inch cone mid and 1-inch tweeter. **EMES** (www.xvisionaudio.com) unveiled a full line of conventional (non-Owl) active two-way near/midfield monitors, for use with/without optional powered subs. **Intelligent Audio Systems** (www.intelligentaudiosystems.com) launched its RADS™ line of "intelligent, adaptive" active subs that adapt to the listening environment. Now available in a complete 5.1 surround package, PMC's (www.pmc-speakers.com) DB1 is a compact two-way monitor, unpowered for your choice of amplifiers; an active TLE1 sub is optional. **Klein + Hummel** returned to the U.S. pro market by establishing K+H North America (www.khna.com) and a full line of active, high-res monitors.

Tannoy (www.tannoy.com) took a giant step with Ellipse iDP™, a new, intelligent active monitoring system combining its Dual Concentric™ and Wideband™ technologies with DSP expertise from TC Electronic. Besides the unique ellipsoidal enclosures, the system offers full bass management, instant recall of preselected crossover frequencies and delay/room compensation EQ—all storable/recallable from presets or a remote.

MORE TO COME!

There were lots of other cool products at AES, and we'll present these in our regular new-products columns in upcoming issues. Meanwhile, AES returns to Berlin from May 8 to 11, 2004, and the next U.S. AES swings into San Francisco from October 28-31, 2004. ■

Oh, we forgot something.



The New ISA 430MkII Producer Pack

When we designed the original ISA 430 Producer Pack we wanted to include all the best features and circuits from the Focusrite ISA product family since 1985. And so we did! However, in the past three years we have had a few more great ideas. So the ISA 430 MkII is born. Have we forgotten anything? All we can think to add is a cherry on top!

Principle feature set:

- Classic ISA transformer-coupled mic-pre; now with four switchable input impedances and inductor-induced "air". Extended version of the original ISA 110 EQ.
- Multi-format Compressor; a vintage optical circuit, as well as Focusrite's transparent VCA design.
- Unmatched flexibility with an incredible variety of insert points, "split" modes (for separating modules), and variable signal path arrangements.
- Superb De-esser employing optical technology for transparency and lower distortion.
- 'Listen' feature for precise control over compression, gating, expansion and de-essing.
- Soft Limiter to sensitively avoid digital overload.
- Optional Stereo A/D 24-bit, 192kHz.
- More features than the original and at a great new price.

digidesign
NORTH AMERICAN DISTRIBUTOR
www.digidesign.com

Focusrite

For a demo, call toll-free 1-866-FOCUSRITE
or visit **www.focusrite.com** for further information

World Radio History

19th ANNUAL TEC

AWARDS WINNERS

More than 650 audio industry professionals gathered at the Marriot Marquis in New York City on Saturday, October 11, to honor the nominees and winners at the 19th annual Technical Excellence and Creativity Awards. Highlights included the awarding of a custom Gibson guitar to Bruce Springsteen, who was presented with this year's Les Paul Award. Hall of Fame inductee Eddie Kramer was honored by the designer of Electric Lady Studios, John Storyk, and a surprise appearance by Jimi Hendrix's sister, Janie. For a complete wrap-up and photos of the event, see next month's *Mix*.

I. OUTSTANDING CREATIVE ACHIEVEMENT

STUDIO DESIGN PROJECT

Hit Factory Studio 6, New York City
Acousticians: Troy Germano, Hit Factory/Dave Bell, Whitemark Ltd.
Studio Owner: Janice Germano

TOUR SOUND PRODUCTION

Peter Gabriel "Growing Up" Tour
Tour Company: AudioTek (ATK)/Firehouse Productions
FOH Engineer: Jim Warren
Monitor Engineer: Bryan Olsen

REMOTE PRODUCTION/RECORDING OR BROADCAST

Standing in the Shadows of Motown
Remote Engineer: Kooster McAllister
Production Mixer: Teddy Greenberg
Music Mixers: Ted Greenberg, Clive Taylor
Remote Facility: Record Plant Remote, Ringwood, NJ

FILM SOUND PRODUCTION

The Lord of the Rings: The Two Towers
Supervising Sound Editors: Mike Hopkins, Ethan van Der Ryn
Sound Designers: David Farmer, Ethan van Der Ryn
Re-recording Mixers: Chris Boyes, Michael Semanick
Production Sound Mixer: Hammond Peek
Score Mixers: Peter Cobbin, John Kurlander, Michael Hedges
Audio Post Facility: The Film Unit-Wellington, New Zealand

TELEVISION SOUND PRODUCTION

Austin City Limits, PBS
Supervising Sound Editor: David Hough
Re-recording Mixer: David Hough
Production Mixers: Sharon Cullen, David Hough
Audio Post Facility: KLRU, Austin, TX

RECORD PRODUCTION/SINGLE OR TRACK

"Soak Up the Sun," *C'mon, C'mon,* Sheryl Crow, A&M Records
Recording Engineers: Trina Shoemaker, Eric Tew, Dean Baskerville
Mixing Engineer: Andy Wallace
Producers: Sheryl Crow, Jeff Trott
Recording Studios: Black Apple Studios, Portland, OR, Sunset Sound, Hollywood
Mastering Engineer: Howie Weinberg
Mastering Facility: Masterdisk, NYC

RECORD PRODUCTION/ALBUM

***C'mon, C'mon,* Sheryl Crow,** A&M Records
Recording Engineer: Trina Shoemaker, Eric Tew
Mixing Engineers: Andy Wallace, Jack Joseph Puig
Producer: Sheryl Crow
Recording Studios: Sunset Sound, Los Angeles, Clinton Recording, NYC, Avatar, NYC, Ocean Way, Nashville, Emerald Studios, Nashville, Black Apple Studios, Portland, Henson Studios, Los Angeles, Funny Bunny Studios, London, Sound Factory, Los Angeles, The Living Room, Los Angeles
Mastering Engineer: Howie Weinberg
Mastering Facility: Masterdisk, NYC

II. OUTSTANDING TECHNICAL ACHIEVEMENT

Ancillary Equipment	AKG K271 Studio Headphones
Digital Converters	Apogee Mini-Me
Amplifier Technology	Crown CTs Series 2-Channel Ethernet Digital Interface Amplifier
Mic Preamplifier Technology	Universal Audio 6176
Microphone Technology/Sound Reinforcement	Shure SM86
Microphone Technology/Studio	Telefunken Ela-M 251
Wireless Technology	Sennheiser SKM5000-N/KK105s
Sound Reinforcement Loudspeaker Technology	JBL VerTec VT4887
Studio Monitor Technology	Genelec 7070A Active Multichannel Sub
Musical Instrument Technology	Moog Music Minimoog Voyager
Signal Processing Technology/Hardware	Manley SLAM!
Signal Processing Technology/Software	Waves Platinum TDM
Recording/Storage Devices	Mackie SDR24/96
Workstation Technology	Digidesign Digi 002
Sound Reinforcement Console Technology	Yamaha DM2000
Small-Format Console Technology	Yamaha 02R96
Large-Format Console Technology	SSL XL 9000K Series

World Radio History

DISC MAKERS®

independent MUSIC WORLD SERIES '04

INDEPENDENT MUSICIANS!

Enter in Disc Makers' Independent Music World Series to win over $35,000 in prizes!

Billboard Magazine will choose the top six acts to showcase at the Knitting Factory in LA on January 15th, 2004!

Electronic Musician
Fender www.fender.com
REMO
mp3.com
Music 123
Billboard
dw
CD Baby!
SABIAN
TAXI
Numark
SHURE
MUSIC CONNECTION
ALESIS

FREE latest issues of the *Billboard Musician's Guide to Touring and Promotion* and *Electronic Musician* just for submitting! a $24 value!

Register online at www.discmakers.com/sw04 Online registrants can win a Fender Stratocaster guitar. Can't get online? Call 888-800-5796 to register

Submit your demo by Nov 13th, 2003 All styles of music welcome!

GRAND PRIZE includes: Rudio CD manufacturing package • 300 posters and post-production services • 24-track hard-disk recorder • Digital keyboard • Studio monitors and power-amp • Guitar and amplifier • Bass guitar and amplifier • 5-piece drum kit • Cymbals, sticks, and drum heads • Recording microphone package • Complete DJ system • And more!

World Radio History

Bill Putnam

The Art of Engineering

BY JIM COGAN

Like a lot of American cities at the dawn of the 1950s, Chicago was ready to swing. A young entrepreneur named Hugh Hefner thrust his ambition upon the marketplace with a new magazine called *Playboy*. Saul Bellow and Nelson Algren were re-inventing the great American novel. Chi-style Machine politics were making the leap from science to art, courtesy of the first Mayor Daley. Under the baton of Fritz Reiner, the Chicago Symphony played classical music with more *cojones* than had ever been heard. Blues recordings were undergoing a similar makeover at Leonard Chess' indie label, thanks to the thousands of African Americans who migrated from the Delta to the stockyards, slaughterhouses and steel mills of the South Side. The University of Chicago showed higher education that economics and sociology could be processed in an entirely new manner. Bauhaus architecture thrived, and an experimental form of group comedy was emerging, based wholly upon improvisation. Sam Giancanna and his mob were becoming the most powerful crew in the country. And the Cubs still sucked. Bill Putnam wanted in.

So many forces in play: the rise of the hi-fi consumer (the sort of man who read Mr. Hefner's mag), the emergence of the indie label (most notably Chess and Vee-Jay), the increase in sales and stature for Chicago-based Mercury Records; the networking with industry A&R men and producers, the recruitment of key technical personnel, such as Emery Cook and Jim Cunningham; and the increased exposure to a variety of record-

World Radio History

Some major session work at United Studios included, from left: Dean Martin in Studio B for "Everybody Loves Somebody Sometime"; Liza Minnelli in Studio A; Sammy Davis Jr. in B, from Sammy's Back on Broadway; and in Studio B, pre-1610 console, with Johnny Mathis over the shoulder. Below, Putnam with Bing Crosby on the last session Putnam engineered. At the time, Crosby had just lost a lung and Putnam had just come back from triple-bypass surgery. Bing allegedly said, "If you can still engineer, I can still sing." The two are seated on a Universal Audio/Bushnell console.

ing scenarios. All of this meant explosive growth for Putnam, Universal Recording and United Audio.

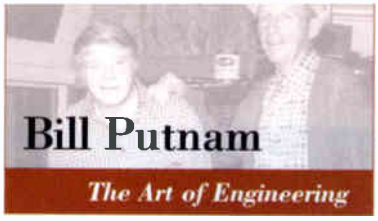
"People forget, Chicago became *the* place to record in the '50s," says New Yorker Phil Ramone. "All of these labels, like Vee-Jay and Mercury [and Chess], started coming around."

By the end of the '40s, Putnam had outgrown his tenure at the Civic Opera House, scene of his mega-smash "Peg o' My Heart." With the proceeds from this 1,500,000-selling single on Putnam's own Universal Records, a change in venues was inevitable. Putnam looked to the east—if only a few blocks—to the Magnificent Mile of Michigan Avenue, where there were more clubs, more action. He scouted a building on Ontario Street, a bustling thoroughfare on the near North Side.

He was juggling like a madman. Producer, lyricist, label owner, engineer, studio owner and technical designer were all titles to which he answered. It was at the Ontario Street space, and with the help of Cunningham and Cook, where Putnam began to make serious breakthroughs in isolation, mastering and reverberation. He built two rooms here, A (25x40x15 feet) and B (15x20x12 feet), along with two mastering rooms: one stocked with Scully lathe and Grampion heads, the other a "home-brew" belt-driven turntable with Olsen feedback cutting heads.

This studio, in operation from roughly 1950 to 1955, was a pivotal juncture in Putnam's career. As a result of meeting Decca Records A&R man Tutti Camaratta (himself a studio recording legend who went on to own and operate Sunset Sound in Los Angeles), he began producing "hillbilly" acts; London-based Decca badly wanted C&W acts, so Putnam recorded Hank Williams, and also wrote for and produced more artists for

World Radio History



Decca. Yet, he never strayed far from his first musical love, jazz: Stan Kenton, who likewise stretched the boundaries of his profession, became the first jewel in a crown of royalty that started to flood Universal.

When Kenton and his progressive, wailing band came in to record in 1951, the two hit it off immediately. "We had gone in to record with Bill, and Bill had everything set up," recalls Murray Allen, then a member of Kenton's band and the man who would one day own Universal Recording. "Kenton called in to Bill, 'Bill, how's everything in there?' and Bill replied, 'Everything's perfect until the music starts.'"

Thus began an association that would last until Kenton's death. These two mavericks were perfectly suited for each other. For these sessions, Putnam wanted the sound to be as fresh and bold as Kenton's arrangements. So he began to address several aspects that would have profound effects on how records *sound*.

Putnam devised a band shell for strings that was a mainstay for almost two decades. In addition, he built a drum shed for the isolation of drums to be used for the Kenton recordings. He conducted the first 8-track experiments, which featured a staggered head with a signal-to-noise ratio of 30 dB. But most significantly, perhaps, was the creation of another "home brew": a custom console, complete with rotary faders, 12 inputs, preamps and dedicated echo sends.

"Bill Putnam was the father of modern recording as we know it today," says Bruce Swedien. "The processes and designs that we take for granted—the design of modern recording desks, the way components are laid out and the way they function, cue sends, echo returns, multitrack switching—they all originated in Bill's imagination. That's pretty serious." The home-brew console was the precursor to the vaunted Universal 610 console, which is the precursor to whatever console you are using right now.

As mentioned in Part One, Emory Cook was a fellow pioneer who joined forces to make Universal the premier mastering house in the country. In the early '50s, folks such as Cosimo Matassa in New Orleans and Sam Phillips in Memphis shipped their tracks up to Chicago to have the hottest masters cut. In fact, due to the innovations with half-speed mastering that Putnam and Cook were employing (another first), Mercury contracted Putnam to master their remarkable *Living Presence* hi-fi recordings, featuring, most notably, some of the early stereo recordings to capture the powerful Chicago Symphony Orchestra as recorded by Lewis Layton.

The floodgates opened, and Putnam was thriving as the owner of the country's hottest facility. Universal's growth was made possible by the confluence of these factors: the road bands of Basie, Kenton and the like; and the home-grown labels such as Mercury and the nascent R&B/blues scene that was emerging on the strip known as "Record Row" on south Michigan Avenue, home of Chess and Vee-Jay. From these two labels, Putnam recorded the urban funk of Little Walter, Willie Dixon, Jimmy Reed and Muddy Waters, as well as the flash-in-the-pan "rock 'n' roll" thing with Chuck Berry and Bo Diddley. This was in addition to recording Hank Williams for Decca and Spike Jones for Liberty. "We were on a roll" was how Putnam put it years later. "With the extraordinary growth of Ontario Street, I decided to build my dream room."

Mel Torme

THE DREAM STUDIO

The '50s were a fertile era in the development of studio construction. Many of the most storied American studios were built at this time: Capitol Tower; Chess; Rudy Van Gelder's studio in Englewood Cliffs, N.J.; Sun in Memphis; and Criteria in Miami.

Universal Recording, at 46 East Walton, may well be the most mythical studio of them all. Swedien, who was hired by Putnam to work the "B" room, has never been able to contain his enthusiasm for that particular space. "This was a magnificent room," he says. "The dimensions of the 'A' room were 80 feet by 60 feet, with 30-foot-high ceilings. Floating floors, built on cork, suspended walls, variable acoustics with rotating panels. One of the best-sounding rooms in the world."

By 1955, the move to 46 East Walton was complete, and the studios were thrumming with jazz, swing, pop and R&B. Top producers from Mitch Miller to Quincy Jones were lining up to work with him at Universal. However, far from being too busy or too cool, Putnam was warm and inclusive. An example of his nature comes again from Swedien, who, after learning that Putnam created "Peg o' My Heart," would not stop bugging his parents with, "Bill Putnam *this*, Bill Putnam *that*." On a business trip from Minnesota, Swedien's parents decided to look up this Putnam fellow. Such was the openness of the man—the hottest producer/designer/engineer in America—that in the middle of a Patti Page session, he welcomed the young Swede's parents—strangers-off-of-the-street and into the control room as if they were old friends. They were sold; their boy could come down and work here.

Revenues were up 30% to 40% each year. Universal's staff was expanding. Again, in addition to the massive "A," the "B" rooms were cutting-edge mastering rooms, as well as state-of-the-art echo chambers. "Everything at Universal was first-rate, state-of-the-art, from the equipment to the staff," says the "Iceman" Jerry Butler, who would record one of the very first "soul" records ever, *For Your Precious Love*, with Putnam at Universal.

One artist who had enjoyed the room—and its designer—was the immortal Duke Ellington, the greatest composer/arranger in American music history. Putnam, who recorded a total of 250 tracks for him, described a session with Duke as, "like the last act of a Russian opera. It was no doubt the most organized musical chaos that you ever heard until all of the pieces got glued together. It then became musical ecstasy. To be around this great man was its own reward."

So this was Putnam's world in the mid-'50s: Mahalia Jackson to Hank Williams,

World Radio History

TANNOY®

ellipse | STUDIO MONITORS

Expand your Bandwidth Horizon

Featuring the Tannoy Dual Concentric™ and WideBand™ transducer technologies, the fully time coherent three way active Ellipse establishes the new quality standard for reference monitoring.

Tannoy's unique drive unit technologies enhance harmonic detail to reveal the extended bandwidth of today's modern sources.

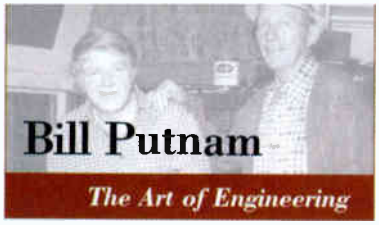
For more information, GO to www.tannoy.com

DUAL™ CONCENTRIC ((WIDEBAND)) TECHNOLOGY

T: (519)745-1158 F: (519)745-2364 E: inquiries@tannoyna.com

tannoy.com

World Radio History



Spike Jones to Bo Diddley. Erasing and re-penciling the boundaries of acoustic design, console design, isolation, mastering and miking. Still, he was not the first, nor would he be the last, engineer to put things such as home and health on the back burner. Smoking, drinking and long hours were exacting a toll. Putnam's marriage was not in good shape. But now he heard new whispers: "Come out to Los Angeles, the Mecca of recording. You'll mop up."

"Things were really moving along: Many of our clients, who were owners of record labels, urged me to start a studio in Hollywood," recalled Putnam in the early '80s. "I had to make a decision whether to remain the 'big frog in the small pond' or take the giant step. This meant I would be going head to head against the legendary Radio Recorders, who were the giants of the independent recording studios. I was about to take a step to find out where I *really* stood in the pecking order."

So, after an unprecedented 10-year run in Chicago, Putnam sold his interest in Universal in 1957. He handed the baton and his Rolodex of clients to his protégé, Swedien, in a manner that was characteristic: "Bill had worked this out beforehand," says Swedien. "He told me to sit at the console and record Kenton's band while he stood in the back of the control room and smoked. He told me that he was going to the john and left me alone in the control room. The next time I saw him was five years later in Los Angeles."

Universal in Chicago would be a force for a decade to follow, with Swedien recording a slew of hits such as "Big Girls Don't Cry" by the Four Seasons, "Duke of Earl" by Gene Chandler, "It's in His Kiss" by Betty Everett and "Higher and Higher" by Jackie Wilson, not to mention the incredible Chicago soul records of Curtis Mayfield & The Impressions.

It was 1958. Putnam, who worked regularly with Basie and Ellington, was doing a session for a couple of *kids*. "I was 18 at the time," says Butler. "Curtis [Mayfield] was only 15. We came in with a song that Curtis had written called 'For Your Precious Love.' Because of some contractual obligations, it was decided that union musicians were gonna play on the track. Well, we ran the song down to show the musicians, and Putnam turns to Curtis, who had been playing the guitar, and says, 'That's the heart and soul of your song right there in that guitar.' So right there, Curtis' guitar became the glue. Putnam spotted that."

L.A, UNITED AND THE RAT PACK

1958. Putnam begins construction on the former Douglas Fairbanks soundstage at 6050 Sunset Blvd. He'd brought along Curt Esser, the architect behind his innovative Universal studio in Chicago, to go one better in Hollywood. Together, and with the assistance of another Chi-cronie, Jim Cunningham, United became this massive space in which Studios A (60,000 cubic feet) and B (approximately 35,000 cubic feet) share a roof with a 3,000-cubic-foot stereo echo chamber, maybe the best-sounding stereo chamber ever in an American studio. This 15,0000 square feet of audio Valhalla—comprising three studios, a mixdown room, three mastering rooms and a manufacturing plant—would bring together the best of the West Coast engineers, and a team of managers and designers to topple the once dominant Radio Recorders. But Putnam wasn't finished. By 1960, he acquired the former Radio Center Theater, at 6000 Sunset, to form Western Recorders. As with United, there were two large rooms, Studio 1 (approximately 65,000 cubic feet) and the slightly smaller Studio 2. "Studio 3 was made from what was left over," Putnam would recall with a touch of irony. "As fate would have it, this was the studio that became legendary, to the extent that this room would be copied by Wally Heider [he even named it Studio 3, which was very flattering] in the '70s, as well as two other studios in the U.S. and Canada, each publicizing that it was a replica of the famous Studio 3 in Hollywood." Although many of the classic '60s groups such as The Turtles, The Mamas & The Papas, The Lettermen, The Association, Johnny Rivers, Glen Campbell and Jan & Dean made stellar tracks there, it's the timeless work of engineer Chuck Britz and auteur Brian Wilson (in particular, one of the most revered pop albums in history, *Pet Sounds*) that give the room its tiny shrine-like aura.

PUTNAM'S TECHNOLOGY LEGACY

It's ironic. Bill Putnam, who recorded the bedrock of the American soundtrack, the guy who brought recording into its own realm, is probably best known for limiters and mic pre's.

In 1958, while United Recorders (now Ocean Way) was just coming into shape from its previous incarnation as a soundstage, Putnam moved the fledgling Universal Audio operation upstairs to 6050 Sunset Blvd. Here, assembled by hand, Universal Audio produced the 100 D Preamp, the 101A Line Amp and the 50BA Equalizer, along with the legendary 610 Universal consoles. Through an acquisition of a company called Studio Electronics Corp. came the patent rights for the LA-2A, the LA-3A and then the LA-4A tube limiters. Universal morphed into UREI and, yes, expanded its operation. He acquired Teletronix and in his "spare time" worked on the development of gear that would be as ubiquitous as a Shure 57 in studios around the country and around the world: the 1176 FET limiter and the series of large monitors, such as the UREI 811s and 813s. These were the standard for large-scale studios from the late '60s to the '80s, as common as the NS-10s are today for near-field monitors. In addition to these warhorses, UREI also introduced the 1108 FET Preamp and some innovations—such as the Cooper Time Cube and the Electrostatic Reverberator—that are best known for...well, actually, they are best *not* known.

The irony crystallizes in a prediction Putnam made in 1983, just as the digital age was coming into being. "The compact disc is an important and vital development that can revive the industry the way stereo did in the late '50s. It means that the hardware market for professional studio gear will be revitalized. *Existing analog studio equipment will not be acceptable, and its life expectancy therefore has been reduced dramatically.*" He would probably have a good laugh were he alive to witness the grease pencil marks on the myriad 1176s and LA-2As in control rooms at this moment.

Today, with a range of gear that includes plug-ins for the digital domain, Universal is a brand that represents history and family. Two sons, Bill Jr. and Jim, now run a company that their pop started in Evanston, Ill., in the late '40s with a simple premise: to solve problems in the recording studio.

—Jim Cogan

World Radio History

As the '60s began, Putnam became an unofficial member of the Rat Pack. Legendary arranger Nelson Riddle made an introduction that would completely transform Putnam's world. In 1960, Frank Sinatra was arguably the most powerful man in show business. At first meeting, Sinatra instinctively sussed that Putnam wasn't merely a techie, but a fellow leader, a fellow swinger, becoming the only "technician" Sinatra ever became true pals with. Coincidentally, Sinatra's contract was up with Capitol. He started his own label, Reprise, which would record all of its seminal tracks at United's A and Western's 1 rooms, including monster hits like "It Was a Very Good Year" and "Strangers in the Night." United's kingdom housed the Reprise offices for Putnam's new buddy; in fact, Sinatra, who epitomized the evolution and excellence of modern recording like no one else, soon depended on Putnam to do all of his sessions, becoming pissy if Putnam was busy with another artist. So he put Putnam on retainer to handle virtually all of his sessions from 1960 to 1964. More importantly, the chairman of the board introduced him to his assistant, Miriam, or "Tookie," as she was known by friends.

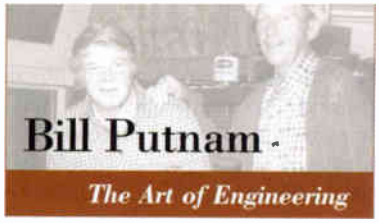
Putnam, who had been recently divorced from his first wife, was suddenly in sync on every level of his new West Coast life. Demonstrating how a recording facility could be built and run, he'd gone head-to-head with Radio Recorders, the biggest independent studio in Los Angeles, and won. He finally found a woman who "understood what my business was about and what I was about." (They married and produced two children, Bill Jr. and Jim, both of whom would continue the Universal brand to the present day.) And, he was making cool records. Examples of Putnam and Sinatra collaborations at United/Western include *Sinatra: Basie* and *Sinatra & Strings*. They're textbooks on how strings, horns, brass, rhythm and vocal should be laid down.

As good as those early '60s tracks with Francis Albert are, Putnam's most iconic recording from the post-Chicago days was with another maverick on par with Sinatra, Kenton or Basie: Ray Charles. Brother Ray, who, like Sinatra, had left his longtime label (Atlantic) for ABC (Impulse), was itching to do something new. *Modern Sounds in Country and Western Music, Vol. 1* was new. Cross-pollinating country with the blues, Rays' mournfully jazzy "I Can't Stop Loving You" skyrocketed to Number One on *Billboard*'s Top 100. With Sid Feller overseeing proceedings and Putnam perched behind his newly minted Universal 610 console, the LP was not only a commercial smash, but it also garnered the "Record of the Year" Grammy. Putman, now the king of Hollywood's recorders, snagged a "Best Engineered Song" Grammy nomination for the ring-a-ding-ding year of 1962. It lost out, alas, to another genre-bending act: The Chipmunks.

These were the good years: UREI and Reprise upstairs, humming along; Nat, Bing, Dino, Frank and Ray in United (now Ocean Way), while the newer breed of hitmakers, like the Beach Boys and The Mamas & The Papas, were locked into Western 1, 2 or 3 (now Cello); and the finest engineering staff ever assembled with Bones Howe (the Fifth Dimension), Lee Herschberg (Sinatra), Heider (Crosby, Stills and Nash), Chuck Britz (the Beach Boys) and the young Allen Sides; the sweetest echo chambers on the planet, so deigned by Brian Wilson, cunningly crafted by Putnam and Jim Cunningham; and, rooms so acoustically marvelous, that they have gone virtually untouched by the present owners some 40 years later.

"To show you how shrewd he was," adds Ramone, who renovated his own

World Radio History



classic studio, New York's A&R studios in the '60s and '70s, "if you put your hand on the walls at United Western, you could tell it was not very expensive material. But, obviously, it got the job done."

Talk about shrewd. In the early '60s, stereo was roughly at the same evolutionary spot where 5.1 is today. Label owners finally got hip to marketing and releasing stereo product, except that they had none. Or did they? Like Swedien, Ramone and Tom Dowd, Putnam had surreptitiously been running simultaneous stereo mixes along with the expected mono masters for a couple of years. When the labels got wind of this, they offered to pay for the tape. No dice, said Putnam. "However, I will let you pay me for the studio time."

During the late '70s and into the early '80s, Putnam slowed down, due somewhat to ill health, but also to the changing nature of the business. He explained, "Making records in the 2- or 3-track era was a heck of a lot of fun. In those days, when you walked out of the control room after a date, what you heard was what you got!"

As the recording environment evolved, no one stuck his finger into the air and forecast the winds of change more ably than M.T. Putnam. "When the independent producer became prominent...the old guard saw its demise. Then came the artist/producer-owned studio-style operation and the evolution of new technology, which brought the 'whiz kids' out of the woodwork, not just in Hollywood, but everywhere in the world. It became more and more difficult to compete in a fragmented market."

One of those whiz kids who carries the torch is George Massenburg, who tells of the time when he met with Putnam during this era of transition. "I had this console design that I went to show him. He was intrigued. He looked at the specs and said that he loved the design. Now, here is how he saw things: not, 'how long will this board take to amortize' or any of that stuff. Just 'how good does it sound, how well does it work?'"

In his twilight years, Putnam enjoyed the roles of mentor and elder statesman, appearing at a SPARS, NARAS or AES function. He'd had a pretty cool run: almost single handedly brought a bastard industry into its own realm; recorded the zenith of American music icons; and adored by literal and figurative offspring. Yet, it was always—*always*—about music.

"My dad took me to a Kenton memorial concert at the Hollywood Bowl," says his namesake, Bill Jr., who now heads Universal Audio. "All of the old guys showed up." When Bill Putnam, who just about cut his teeth on Kenton's music—before Hollywood, before Sinatra and all the money—heard the band's theme song, "Artistry in Rhythm," he broke down and cried.

BONUS TRACK

During the course of this article, we spoke to many recording heroes. Each was asked what Putnam's legacy might be to today's mixers and engineers. The answers were often vague, probably because they hadn't time to think of a proper reply. So, here is what the man's legacy is: If you are *involved* with the bass line, and its *player*, and its *sound*, and its relation to the *song*, more than how it is being processed by Bill Putnam's 1176 limiter, its creator would probably nod approvingly. And shake out a new smoke.

MIX ONLINE EXTRAS

Jim Cogan is the co-author of Temples of Sound *(Chronicle Books, 2003). He is also an engineer/producer and educator.*

MESA RECTIFIER® RECORDING PREAMPLIFIER

RECTIFY YOUR TRACKS...

In the world of recording things move fast. Session time speeds by, technology races faster than the sounds we craft, and the only thing that seems to slow are the learning curves. Wouldn't it be great to invest your precious green stash in something that won't be obsolete next month or need new software the day you bring it home. There's only one cure. Demand a born-classic piece of old world, all-tube hardware that will stand the test of time.

The Rectifier® Recording Preamp is a bodacious hunk of pure old-school magic that sounds huge and feels amazing to play. Six 12AX7's feed the dynamically active dedicated recording circuit to produce an inspiring vibe that will have you wanting to play for hours...direct through the board! So get down to your pro shop and check out a Recto®Pre. These guys were impressed and you will be too. Anchor your sound to gear that will be sticking around...and get on the fast track to timeless great tone.

"Channel 1 offers up classic sounds from the Beatles to the Bluesbreakers, with all the punch and presence of a well mic'd amp. In Channel 2's metal zone, the Rectifier serves up a low-end chunk that I have yet to hear in a digital modeling unit."
Michael Ross
Home Recording - Dec 2002

"For disciples of that elusive Recto sound, this is a serious tool that provides that tone (and a few others, as well) in a convenient recording package."
George Petersen
MIX Magazine - May 2003

"the Recto's value lies in its uncanny ability to reproduce the authentic timbres of a tube based guitar amp in a direct recording environment. If that's the sound you want, the Rectifier Recording Preamp delivers in spades."
Michael Cooper
Electronic Musician

MESA ENGINEERING

Get our 60 page full color catalog. Call us or send your name and address to the following address:

Mesa Boogie, 1317 Ross Street, Petaluma, CA 94954 707-778-6565 on the web at www.mesaboogie.com

World Radio History

Introducing Nuendo 2.0 - The professional solution

Nuendo 2.0 forms the core of a complete solution for today's audio professional. Nuendo's superior audio quality is combined with advanced mixing, routing, editing, and networking capabilites as well as professional components such as the new ID Controller, Time Base Synchronizer, 8 I/O 96k AD/DA Convertors, and DTS and Dolby Surround Encoding Plug-ins. A system so scalable - from laptop to installation - the choices are endless.

Nuendo 2.0:

- A new configurable mixer, toolbar, and transport control
- Multiple 12 channel busses for "stem" monitoring up to 10.2
- Multiple output configurations for multiple speaker set-ups
- Plug-in delay compensation throughout entire audio chain
- Flexible routing: any input to any output at any point
- Hyper-threading support for optimum performance
- Automation that moves with the audio data
- Support for Microsoft's WMA Pro (audio and video)
- Multiple time-lines and multiple VST directories
- VST System Link and TCP/IP networking
- Unlimited Rewire 2 channels
- Comprehensive MIDI functionality

Nuendo 2.0

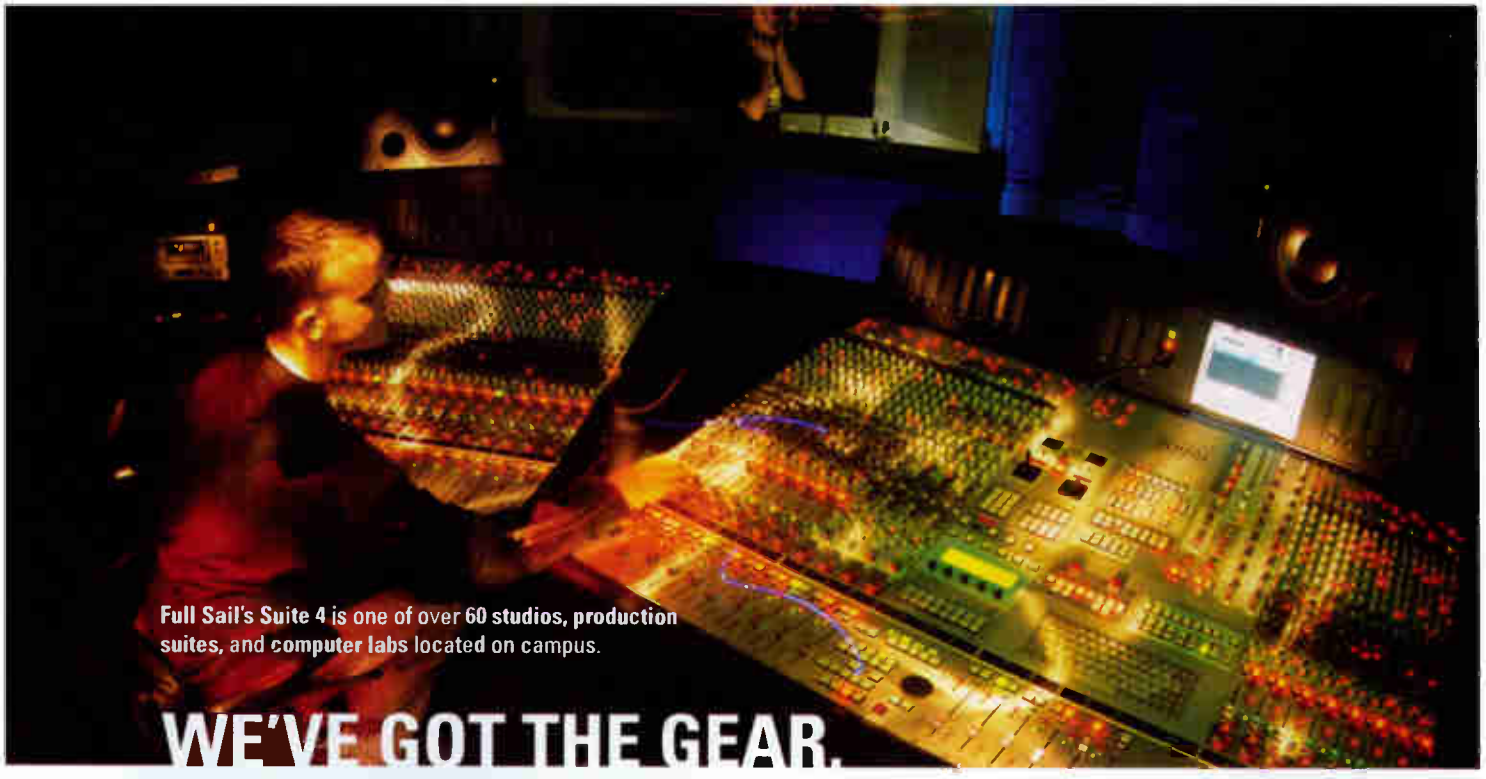
The solution is clear. The choice is now yours.

Nuendo and Steinberg are registered trademarks of Steinberg Media Technologies GmbH. All other product and company names are ™ or ® of their respective holders. All specifications are subject to change without notice. © 2003 Steinberg Media Technologies GmbH. All rights reserved.

steinberg
Creativity First

US 818.678.5100 - Canada 416.789.7100 More Information on www.steinbergusa.net

World Radio History



Full Sail's Suite 4 is one of over 60 studios, production suites, and computer labs located on campus.

WE'VE GOT THE GEAR.
BRING YOUR PASSION.

FULL SAIL
Real World Education

school of
- Recording Arts
- Show Production & Touring

If you're passionate about pursuing a career in the recording industry, **Full Sail is the place to start.**

To find out why:

800.226.7625
fullsail.com

YOU CAN GET THERE FROM > HERE

3300 University Boulevard • Winter Park, FL 32792

Financial aid available to those who qualify • Job placement assistance • Accredited College, ACCSCT

© 2003 Full Sail, Inc. All rights reserved. The terms "Full Sail," "You Can Get There From Here," "Full Sail Real World Education," and the Full Sail logo are either registered service marks or service marks of Full Sail, Inc.

World Radio History

What I Wish I'd Learned In School

Advice for the Entry-Level Engineer

During the summer before my final semester of college, I managed to talk my way into a highly sought-after internship at one of the biggest studios on Nashville's Music Row. I was excited because I was sure that meant I would find hundreds of opportunities to sit in on sessions with major-label artists and top-notch engineers working on cutting-edge gear. Imagine my surprise one day when I was handed a tube of cookie dough, a spatula and instructions on when to bring treats to the in-session clients.

I remember standing there, utensil in hand, thinking about how only moments before, I'd been invited by one of the aforementioned clients to sit in on an orchestral tracking session. I protested the assignment to the studio manager, pointing defiantly in the direction of the main control room and asking why one of the other interns couldn't handle the odious task of baking and serving. I pointed out that the whole purpose of internships is to give future engineers the opportunity to learn. And that's when the revelation hit me: She *was* giving me a chance to learn, and the lesson being offered was far more important than anything I could have picked up by watching an engineer's hands hovering over a console.

I always thought school was the first step down the road to becoming an audio engineer. But in my years since graduation—while accruing studio hours and experience, and while choosing and training interns myself—I've come to the realization that school is actually more like the little booster step that readies you for your first step down that road. Don't get me wrong; in the age of digital audio, education is practically essential, whether in the form of work-study, certification or a degree program. As computer skills become crucial for virtually every stage of production, more and more employers are looking for signs of education in potential new-hires. There is simply so much to learn about the audio world that entry-level engineers have to be conversant with topics like console theory, principles of digital audio and the basics of signal flow before setting foot inside a studio—even in an internship capacity—which is why it may be startling for entry-level engineers when they first discover that virtually none of their assigned tasks draw on their expensive, hard-earned educations.

There is so much more to becoming an engineer than book learning and practicum. We have to learn how to function in a professional studio environment, how to interact with clients, how to appreciate the little things it takes to make a facility appear as though it functions effortlessly to those who pay for its services. And, most importantly, we have to learn how to interact with senior staff.

Fresh-faced, eager new hires tend to feel their body of knowledge bursting at the seams, and just about every one of us—at some point or another—has countered a senior engineer's instructions with the phrase: "But in school..." It's an impulse that's difficult to resist because we feel like we understand the hows and whys, and we don't see the point in beating ourselves over the head with methodology. However, the senior staff is senior staff for good reason. They've endured years of training and have paid their dues, and while they can serve us by sharing invaluable nuggets of knowledge, we can serve them by making

By Sara A. Hughes

World Radio History

their lives easier. That brings me to the Golden Rule of assisting: The engineer's word is gospel, at least while you're working for him or her. So much of audio production is subjective and preference-oriented, but to the person on whose shoulders the success of a project rests, there's only one way to do things. Live by that, and your senior staff will love you.

While working that very same internship where I baked cookies for clients, I frequently ran setups and teardowns with the studio's resident second engineer. He and I repeatedly butted heads over the issue of cable wrapping, because he insisted that all cables had to be coiled right-handed, starting at the female end. I didn't agree: I figured over-under was the same regardless of which hand or which end started. Eventually, he explained that he had a methodology for tossing out cables that he felt was impacted by my left-handed wrapping. He felt my refusal to comply adversely affected the efficiency of his setup, and that in turn adversely affected his ability to perfectly complete the session engineer's setup. Even though I didn't agree that it mattered either way, I decided to do it his way, if only to keep the peace. His whole demeanor lifted. Instead of wasting time debating the merits of cable wrapping, he had the time and the inclination to share seconding tips with me.

Although most entry-level gigs are more about attitude than aptitude, becoming fluent on a wide variety of equipment is a pretty good way to advance quickly. Arm yourself with a "yes sir, right away sir" outlook and an encyclopedia-like knowledge of a facility's gear roster, and you'll find yourself with more trust, more responsibilities and one step closer to the work you wanted to do in the first place. The question is how to best go about finding opportunities to learn a facility's gear.

I've interned and worked at huge facilities and tiny boutiques, ranging from music studios to radio stations to post houses, and the one thing I learned about the difference between them is that it's much more difficult to get gear time in a big, high-profile studio than in a smaller house. Frequently, big studios are booked virtually nonstop, and any downtime is filled with setup and teardown or held for senior staff to work on private or smaller projects. Although the chance of stumbling upon a big, exciting opportunity may be greater at a large, infamous facility, the chance of actually sitting behind the console may be greater at a smaller one. During my last internship in Nashville, I chose a small two-room post house located off of Music Row. I was the third person in a two-person operation, and in no time, I found the engineer asking me to man Pro Tools while he watched over my shoulder. Once I proved I had the right attitude, he was willing to let me prove my aptitude and I developed Pro Tools skills I would have never developed in a controlled school environment. The client list might not have had the brag-factor of a larger studio, but the experience I gained from hands-on opportunities put me far ahead of my competition when I went out into the world looking for a paying gig.

That said, it's important to remember that the whole point of an entry-level position is to develop an understanding of how studios work, how to exist in the hierarchy of the industry and how to develop the right attitude while proving, and improving, aptitude. So what are the things we should all learn as we're first starting out?

First: technology. Pay attention and follow up on topics that seem suspiciously simple. Regardless of whether you intend to go into music production, post-production, installation work or broadcasting, become familiar with timecode issues, video decks, Pro Tools plug-ins

World Radio History

and, yes, even those antiquated analog open-reel tape machines. Learn about ISDN, routing, patchbay basics and memorize a few commonly used microphones. I once worked for an engineer who liked to rattle off a list of required microphones only once, and he used the speed and completeness of his second's retrieval to gauge whether he would let that person work for him again. Knowing model numbers paid off in that instance.

Second: professionalism. While it may seem obvious, studios are businesses, and as businesses, they rely on clients for revenue. For many of us, part of the appeal of this industry is the idea of working in a casual environment where the dress code is only slightly more formal than that of a rock concert. However, there are many facilities where the dress code is "business casual," even for the entry-level staff; it is better to dress up than to dress down until you're sure of what your employer expects. I recently trained a studio assistant who liked to show up for work in ripped jeans and safety-pin-riddled T-shirts. And while the head of audio didn't mind his casual attire, the head of the more conservative video department worried about what clients would think when they saw him, and asked him to please avoid client areas such as lobbies, lounges and hallways. Unfortunately, with that as his first impression, he never found enough opportunities to prove that he could excel despite his appearance. Lesson learned: When in doubt, err on the side of conservatism.

Third: client/workplace etiquette. Understand that at any given moment, there are hundreds of other entry-level engineers out there who would be willing to do your work twice as hard for half the pay. Understand, too, that any self-respecting studio manager won't think twice about canning you if you jeopardize an expensive, hard-won relationship with a client. Because of that, always be aware of what you say and do when you're around a client. Be aware of your body language, be careful not to dominate conversation, remember to be polite and that a little subtle flattery never hurt anyone. I worked at a facility where one client insisted on ¼-inch tape for all of his dub orders. We hired a studio assistant whose first reaction to this information was to turn to the client and say, "Really? I didn't think anyone was using ¼-inch anymore." He meant no harm and was just trying to make friendly small-talk, but the client took it as an insult and later informed the department coordinator that he'd been made to feel stupid. Luckily, he needed no more placating than a formal apology, but I guarantee you, if it had come down to losing the client or losing the assistant, the decision would have been simple. Likewise, be aware of how you speak and act around senior staff. Making an engineer feel like you doubt his or her methodology probably won't win you any favor. Better to be more respectful than necessary than not respectful enough.

With the right combination of good attitude and good aptitude, an internship or entry-level position can accelerate anyone toward bigger and better opportunities. Enthusiasm is crucial, as is respect, politeness and the sponge-like ability to absorb knowledge. With so much competition in the job market, finding ways to stand out as the best choice is what will put you ahead. And learning those ways can only come from working your way up from the bottom. Education gets you to the door, experience gets you in and learning from experience sends you down the path to full-time engineering.

MIX ONLINE EXTRAS

Sara A. Hughes is an Atlanta-based post-production engineer. She graduated from Middle Tennessee State University's Recording Industry program in 1999.

"...first on my list for every session are Zaolla mic cables."

John Ovnik, Studio Owner, Composer and Recordist on Zaolla Cables:

"There are very few components in my studio that I will use on every single project. The first on my list for every session are Zaolla mic cables. The difference [compared to copper] is so obvious, I not only use them at Deaf Dog Music but I travel with my cables when I'm tracking at other studios.

"Wiring my vintage Focusrite console and all 18 patchbays with Zaolla is next on my list. There's not a more musical, reliable, sonically superior connection on earth. Quote me on that."

PHOTOGRAPH COPYRIGHT 2003 MIKE ROBLEY

DeafDog Music
660 North Orleans, Chicago, IL 60610
312-944-4870 www.deafdogmusic.com

ZAOLLA

ZAOLLA 6920 HERMOSA CIRCLE BUENA PARK, CA 90620 PHONE (714) 736-9167 FAX (714) 522-4540 www.zaolla.com

World Radio History

The 2003 Mix Directory of

AUDIO EDUCATION PROGRAMS

Schools, Courses, Seminars and Internships

EAST

American University

4400 Massachusetts Ave. N.W., Washington, D.C. 20016-8058 Phone 202/885-2746 Fax 202/885-2723 E-mail sarisky@american.edu Website www.american.edu Degrees/Certificates: 4-year B.S. in Audio Technology, minor in Audio Technology. Program: Housed in the Department of Computer Science, Audio Technology and Physics, the program concentrates on the art and science of music and audio production, electronic recording, and computer and electronic systems. The department's recording studios give the students hands-on experience in a full-featured facility with 2-inch/24-track analog, Pro Tools|HD and a great mic collection. Electronic music studios provide everything from a Moog Modular to state-of-the-art modern digital workstations.

Appalachian State University

Hayes School of Music
813 Rivers St., Boone, NC 28608 Phone 828/262-3020 Fax 828/262-6446 E-mail music@appstate.edu Website www.music.appstate.edu/recording Degrees/Certificates: 4-year B.S. in Music Industry Studies; Bachelor's of Music in Performance, Education and Music Therapy. Program: The Music Industry Studies major features a music recording and production concentration designed to offer undergraduate-level training in the principles of music and sound recording and audio post-production. Other degree concentrations prepare students for careers in arts management, promotions, music merchandising and manufacturing. The Walters-Storyk-designed recording studio is a 24-track facility with automated digital mixing, multiple editing workstations and industry-standard peripheral equipment. The Broyhill Music Center also includes two performance halls, an opera studio, MIDI studio, computer labs, a music library, rehearsal halls and practice rooms. Off-campus music industry internships contribute to experience and career preparation.

Audio Recording Technology Institute

100-5 Patco Ct., Islandia, NY 11749 Phone 631/582-8999 Fax 631/582-8213 E-mail inquiries@audiotraining.com Website www.audiotraining.com Degrees/Certificates: Certificate offered for graduates of our 8-month program. Program: 8-month 170-hour program with extensive hands-on experience. Classes are limited to five students during the hands-on portion. Experience on 24-track digital equipment including 5.1-mixing course with Mac G4 computers. Qualifying graduates secure their first job at the school as members of the Recording Engineers Association. See cover for facility in Orlando.

When using this directory, please note that only North American programs have been included. All of the information presented here was supplied by the schools. Specific programs may change, so contact the school/program for up-to-date information.

Barton College

Box 5000, Wilson, NC 27893 Phone 800/345-4973 Fax 252/399-6571 E-mail pvalera@barton.edu Website www.barton.edu Degrees/Certificates: B.A. in Mass Communication (Audio Recording Technology concentration). Program: Extensive hands-on training in a 32-track recording studio and a digital audio studio. Very low student/teacher ratio. Curriculum includes: studio recording; MIDI, electronic music; digital audio workstation recording, editing and mixing; production audio for film and video; audio post-production for film and video (dialog editing, sound design and editing); and an internship program. Facilities include a Soundcraft Sapphyre Lc analog console with automation, outboard gear, Pentium IV computers with software by Pro Tools, Cakewalk, Nemesys, TC Electronic, etc. Keyboards and modules by Kurzweil, Korg, Roland, Alesis and Yamaha.

Belmont University

Mike Curb College of Entertainment and Music Business
1900 Belmont Blvd., Nashville, TN 37212-3757 Phone 615/460-5504 Fax 615/460-5516 E-mail hamiltonp@mail.belmont.edu Website www.belmont.edu Degrees/Certificates: Bachelor's of Business Administration with emphasis in Music Business. Program: The CEMB offers an award-winning faculty and staff of music business professionals and a program combining classroom experience with real-world application. Owns and operates three renowned recording facilities including the multi-Platinum Ocean Way Nashville, historic RCA Studio B and the Center for Music Business. Students have access to eight state-of-the-art recording studios and a full range of digital and analog recording equipment, and both vintage and current signal processors, microphones and DAWs.

Berklee College of Music

1140 Boylston St., Boston, MA 02215 Phone 800/BERKLEE Fax 617/747-2047 E-mail admissions@berklee.edu Website www.berklee.edu Degrees/Certificates: four-year Bachelor's of Music or four-year Professional Diploma. Program: Established in 1945, Berklee College of Music is the world's largest independent music college. Over 3,400 students and 460 faculty members interact in an environment designed to provide the most complete learning experience possible, including all of the opportunities and challenges presented by a career in the contemporary music industry. The college offers 12 majors, over 270 ensembles, six recital halls, 300 practice rooms, 12 studio/control rooms, Media Center, current industry technology.

Central Carolina Community College

1105 Kelly Dr., Sanford, NC 27330 Phone 919/718-7257 Fax 919/718-7429 E-mail bfreeman@cccc.edu Website www.cccc.edu Degrees/Certificates: 1-year diploma in Radio Production, 1-year diploma in Television Production, 2-year Associate Degree in Applied Science in Broadcast Production Technology. Program: Radio production students study analog and digital audio recording, mic techniques and multitrack production with Cool Edit Pro and Pro Tools Digi001. Additionally, students operate the college's 3,000-watt station, WDCC 90.5 FM. Television students study linear and nonlinear editing on Avid systems, directing, producing, video photography, field production, video graphics, broadcast writing and reporting.

City College of New York

The Sonic Arts Center, Shepard Hall Room #72, West 140th and Convent Ave., New York, NY 10031 Phone 212/650-8288 Fax 212/650-5428 E-mail sonicart@crow.admin.ccny.cuny.edu Website http://sonic.arts.ccny.cuny.edu Degrees/Certificates: 4-year B.F.A. in Music (Audio Technology concentration). Program: Exciting seven-studio facility featuring Pro Tools 6, Logic Platinum 6, software synths, plug-ins, all running on gigibit-connected Macintosh G5 computers. Small classes allow ample faculty/student interaction and six hours of lab time per-week-per-course. In-depth coursework prepares students for various careers in the audio and music technology industry.

The College of Saint Rose

432 Western Ave., Albany, NY 12203 Phone 518/454-5178 Fax 518/454 2146 E-mail nelsonm@mail.strose.edu Website www.strose.edu Degrees/Certificates: 4-year B.S. in Music, Music Industry emphasis; part-time M.A. in Music Technology. Program: The College of Saint Rose Music Industry core includes three areas: technology, music business and commercial music. The technology area includes required courses in recording engineering, record production, Pro Tools, MIDI. Music business courses include survey, artist management, entertainment law. Commercial music offerings include songwriting, arranging, conducting and applied study. On-campus multitrack studio equipped with Pro Tools, DA-78HR and MCI JH24, a Pro Tools edit room, MIDI lab with 15 Mac-based DAWs.

Fanshawe College

1460 Oxford St. East, London, Ontario, Canada N5Y 5RX Phone 519/452-4130 E-mail tmcmanus@fanshawec.ca Website www.fanshawec.ca Degrees/Certificates: 2-year Diploma in Music Industry Arts. 1-year post-Diploma program in Digital Applications (Advanced Digital Audio and Digital Video Editing). Program: Started in 1975, Music Industry Arts offers a thorough 2-year education that provides a myriad career options. 24 hours a day, seven days a week access to two state-of-the-art recording studios equipped with Pro Tools and traditional 2-inch tracking machines. Our studios and our 10-station MIDI facility are all equipped with dual-processor G5s and the latest software. The Digital Applications Program accepts graduates from other programs.

World Radio History

WAVES

TransX is for any sound engineer or musician who wishes to shape transients of his tracks. The NEW Waves TransX processor brings innovative ways to rhythmically control your signals that preserve and restore the "life" of the tracks. Unlike traditional compressors which let you control by ratio, attack, release, frequency etc. TransX focuses on two aspects of the signal, the transients and sustain-decay and lets you control each.

TRANSFORM TRANSIENTS, GET RHYTHMIC CONTROL

TransX

TRANSFORM YOUR SOUND.

FEATURING:

CONTROL ROOM SOUND Increase or decrease the amount of "room sound."

CONTROL MICROPHONE DISTANCE control the perception of mic placement.

CONTROL "PICK AND STICK" on drums and guitars.

SOFTEN THE EDGE re-design the attack where softer sounds are desired.

ADD PUNCH–AND "EDGE" where needed to any instrument, soften the edge.

MULTIPLE TOOLS–FOR SPEED AND EFFICIENCY Wide band for quick solutions, a 4 band for a total control of reshaping.

SUBTLE OR EXTREME a new sonic universe.

TransX–Featured as part of the Waves Transform Bundle with:

SoundShifter–Transform Time & Pitch

Doubler–Doubling, Chorusing, add Dimension

Morphoder–Vocoding and beyond

powered by Maxx

14 DAYS DEMO AVAILABLE AT YOUR WAVES DEALER OR AT WWW.WAVES.COM

(HEADQUARTERS) Azreili Center, Tel-Aviv, 67011 Israel, phone: 972-3-608-1656

(NORTH & SOUTH AMERICA) 306 W. Depot Ave., Suite 100, Knoxville, Tennessee 37917, phone: 865-546-6115, fax: 865-546-8445

World Radio History

AUDIO EDUCATION PROGRAMS

Eastern Schools

Finger Lakes Community College

4355 Lakeshore Dr., Canandaigua, NY 14424 Phone 585/394-3500 Fax 585/394-5005 E-mail admissions@snyflcc.fingerlakes.edu Website www.fingerlakes.edu Degrees/Certificates: two-year A.S. Music Recording Technology degree. Program: The recording facility contains two recording rooms and a spacious control room. Single instruments to a full symphony orchestra can be accommodated in the 2,000-plus-square-foot recording room. Installed in the control room are a Mackie Digital 8-Bus console and 24 tracks of Tascam DA-88s. Editing and mastering are done on hard disk via MOTU 2408 using Samplitude Studio. Final mixes can be recorded onto DAT, MD or CD-RW.

Fits & Starts Productions, LLC

48 Riverdale Ave. East, Tinton Falls, NJ 07724 Phone 732/741-1275 Fax 732/741-5998 E-mail Fitsandstarts@comcast.net Website www.modernrecording.com Degrees/Certificates: none. Program: The leading provider of audio seminars in North America. Specializing in multichannel audio, the seminars tour the U.S. each year stopping in 36 cities and six regions; feature industry expert Mike Sokol; and are sponsored by audio manufacturers. The seminars can be customized according to the needs of audio programs and organizations and for varying proficiency levels. Custom workshops with recognized industry authorities, as well as consulting, are available to individual programs.

Five Towns College

305 North Service Rd., Dix Hills, NY 11746 Phone 631/424-7000 Fax 631/424-7008 E-mail admissions@ftc.edu Website www.fivetowns.edu Degrees/Certificates: Bachelor's of Music in Jazz/Commercial Music, with concentrations in performance, composition/songwriting, musical theater, audio recording technology, music business and video music. Bachelor's degree program in Music Education. Bachelor's of Professional Studies (B.P.S.) Degree program in Business Management, with concentrations in audio recording technology, music business, video arts and theater arts. Program: The college is equipped with eight/16/24/48-track world-class recording studios, a television production facility and various-sized soundstages. The Dix Hills Center for the Performing Arts has been described as "acoustically perfect."

Full Sail Real World Education

3300 University Blvd., Winter Park, FL 32792 Phone 800/226-7625 Fax 407/678-0700 E-mail admissions@fullsail.com Website www.fullsail.com Degrees/Certificates: Associate of Science degrees in Computer Animation, Digital Media, Film, Game Design & Development, Recording Arts, and Show Production & Touring. All degrees take between 12-14 months to complete. Program: Full Sail offers hands-on training in a state-of-the-art multimedia complex that is anchored by multiple professional recording studios, featuring the Amek 9098i, SSL 9000J and Digidesign Pro Control consoles. The Recording Arts facilities also feature one-on-one lab environments housing industry-standard digital and analog consoles, as well as over 90 individual Pro Tools stations. The Recording Arts curriculum includes courses in recording and mixing consoles, audio post-production, workstations and session recording. Career placement assistance is provided, and financial aid is available.

Future Media Concepts

305 East 47th St., Level C, New York, NY 10017 Phone 212/888-6314 Fax 212/888-7531 E-mail info@fmctraining.com Website www.FMCtraining.com Degrees/Certificates: Digidesign-authorized Pro Tools certification courses for Operator music and/or post-production; Expert music and/or post-production. Program: Future Media Concepts has been selected as the exclusive Digidesign Authorized Pro School in the Northeast. FMC offers the entire range of authorized Pro Tools courses and certification exams leading to the prestigious titles of "Pro Tools Operator" and "Pro Tools Expert" in both music and post-production. State-of-the-art facility features HD and 24 Mix systems with ProControl and Control/24 digital control surfaces. Small class size. Weekdays and weekends. Satisfaction guaranteed.

Guilford Technical Community College

PO Box 309,601 High Point Rd., Jamestown, NC 27282 Phone 336/334-4822 E-mail johnsont@gtcc.cc.nc.us Website www.gtcc.edu Degrees/Certificates: 2-year A.A.S. in Entertainment Technology-Sound Engineering, 2-year A.A.S. in Entertainment Technology-Concert Sound & Lighting, 2-year A.A.S. in Entertainment Technology-Management, 2-year A.A.S. in Entertainment Technology-Performance, and various subject-specific certificates and one-year diplomas. Program: While the program is currently operating on our main campus, we will be moving to a new state-of-the-art facility on our High Point Campus in January 2004. Our "A" studio is centered around twin Sony DMX-R100 consoles and a Control 24/Pro Tools|HD recording system. Concert sound and lighting will be taught in special labs, a 225-seat indoor performance space and a 700-seat outdoor amphitheater.

Hampton University

Department of Music, Hampton, VA 23668 Phone 757/727-5237 Fax 757/727-5084 E-mail robert.ransom@hamptonu.edu Degrees/Certificates: 4-year B.S. in Music with an emphasis in Music Engineering Technology. Program: The Music Engineering program is designed for students who desire a career in audio engineering, music recording, audio equipment design, sound reinforcement, broadcasting, audio sales or studio maintenance. Students can complete this program, including an internship, in four years. Students who are admitted must have an applied instrument, voice, trumpet, strings, etc.

Harris Institute for the Arts

118 Sherbourne St., Toronto, Ontario, Canada M5A 2R2 Phone 416/367-0178 Fax 416/367-5534 E-mail harrisinstitute@rogers.com Website http://harrisinstitute.com Degrees/Certificates: 1-year diploma. Programs in Recording Arts Management (RAM) and Producing/Engineering Program (PEP). Program: 84 courses relating to the business, technical and creative aspects of the music industry. Faculty includes 54 music industry leaders. The 16,000-square-foot facility includes Pro Tools in the audio post-production suite, Logic Audio in the MIDI/multitrack suite and 24-track digital multitrack in the music recording control room.

Howard University

Dept. of Radio, TV & Film

525 Bryant St., N.W. Rm. 230, Washington, D.C. 20059 Phone 202/806-7927 Fax 202/806-4844 E-mail swilliams@howard.edu Website www.howard.edu Degrees/Certificates: 4-year B.A. in audio production; 4-year B.A. in television production; 4-year B.A. in film production; 4-year B.A. in telecommunications management; 2-year MFA in film. Program: The Howard University Department of Radio, Television & Film offers courses in radio production, audio for visual media and multitrack recording/mixing. The Department has five Pro Tools-equipped audio studios including one state-of-the-art post-production facility for film/video sound that uses Pro Tools|HD system. Audio courses provide hands-on instruction, and students have access to the University's professionally run WHUR-FM and the student-run WHBC-AM radio stations.

Institute of Audio Research

64 University Place, New York, NY 10003 Phone 800/544-2501 Fax 212/677-6549 E-mail iarny@aol.com Website www.audioschool.com Degrees/Certificates: diploma in Audio Recording and Production, plus Bachelor's Degree credit at participating universities and colleges. Program: Intensive nine-month program features digital audio and digital music production, analog and digital recording and mixing, signal-processing technologies, audio post-production, MIDI applications, music business, digital audio workstation operations. Equipment features Mac-based platform (iMacs and G4s) running on OS 9/X, Pro Tools, Digital Performer, Reason. New all-digital studio with Sony DMX-R100 dual consoles. 18,000-square-foot facility in the heart of Greenwich Village. Professional studio internships and graduate-placement assistance. Licensed by NYS Education Department, approved for veterans training, accredited by ACCSCT. Financial aid for eligible students.

Ithaca College School of Music

3322 Whalen Center for Music, Ithaca, NY 14850 Phone 607/274-3366 Fax 607/274-1727 E-mail tplant@ithaca.edu Website www.ithaca.edu/music Degrees/Certificates: B.M. in Sound Recording Technology (4 years). Program: Facilities include 24-track SSL/Pro Tools|HD recording studios, 8-track Yamaha 02R/Pro Tools production studio, three electroacoustic music studios. This program trains performing musicians to be recording engineers and includes a full curriculum of music theory, history, performance studies and liberal arts, as well as specialized coursework in recording and editing, electro-acoustic music, repair and calibration, and recording workshops. All recording majors are hired as work-study engineers in the School of Music for four years. Very small class sizes allow each student the maximum studio time and access to faculty members. Audition and interview for admission are required.

World Radio History

project5

SOFT SYNTH WORKSTATION

STUDIO-QUALITY
INSTRUMENTS & EFFECTS

PATTERN-BASED
SEQUENCERS & PROCESSORS

INTEGRATED ACID-COMPATIBLE
LOOPING TOOLS

OPEN ENVIRONMENT

REAL-TIME LIVE
PERFORMANCE FEATURES

The Next Step Is Clear

Project5 is available at music retailers world wide.
Find out more at **www.project5studio.com**

cakewalk

World Radio History

ACOUSTICAL SOLUTIONS INC.

• ABSORBERS
• BARRIERS
• DIFFUSERS

Free Catalog & Sample

800.782.5742

www.acousticalsolutions.com

AUDIO EDUCATION PROGRAMS

Eastern Schools

Lebanon Valley College of Pennsylvania

Department of Music, Annville, PA 17003 Phone 717/867-6275 Fax 717/867-6390 E-mail hill@lvc.edu Website www.lvc.edu/music Degrees/Certificates: 4-year B.M. in Music Recording Technology and B.S. in Music Business. Program: LVC is a private liberal arts college that combines a strong, traditional music curriculum with industry-related courses and experiences. Studies include music theory, history, performance, studio production and recording industry operations. NASM-accredited. The focus is to provide the foundation for students to pursue a wide variety of interests upon graduation. Facilities include two 24-track recording studios (analog and digital), various computer labs for audio/video/new-media development, and Pro Tools-based production/editing/mastering rooms.

McGill University

Faculty of Music, 555 Sherbrooke St. West, Montreal, Quebec, Canada H3A 1E3 Phone 514/398-4535 Fax 514/398-8061 E-mail wieslaw@music.mcgill.ca Web ite www.music.mcgill.ca/mmt Degrees/Certificates: 2-year Master's of Music Degree in Sound Recording; Ph.D. degree. Program: The graduate sound-recording program combines practical and theoretical training in studio techniques, microphone selection and placement, digital sound processing and related subjects. Also included are technical ear training to improve auditory perception and hands-on experience working with musicians, ranging from solo performers to full symphony orchestras. Three fully equipped control rooms, four performance venues, three post-production editing studios, a separate four-studio suite for electroacoustic music, multichannel audio research lab and two computer labs.

Mercy College Center for Digital Arts

277 Martine Ave., White Plains, NY 10601 Phone 914/948-3666 Fax 914/948-6732 E-mail psteinman@mercy.edu Website www.mercy.edu/cda Degrees/Certificates: 4-year B.S. in Music Industry and Technology. Program: Located 20 miles from New York City in The Center for Digital Arts at Mercy College along with other media-related programs in game development, animation and Web design. Five 16-station labs, three recording studios and a performance theatre. Comprehensive curriculum in digital audio, MIDI, synthesis, music business and music theory. Experienced faculty working within the industry in nearby New York City. Competitive admission.

Miami-Dade Community College

School of Film and Video, 11380 N.W. 27th Ave., Miami, FL 33167 Phone 305/237-1185 Fax 305/237-1367 Website www.mdcc.edu/dfvbeta Degrees/Certificates: Associate Science Degree in Radio, Television, Broadcast Programming; Associate Science Degree in Film Production; Certificate in Television Production; Associate Arts Degree in Mass Communication. Program: The program is designed for students who intend to seek employment in radio, television and film production. It stresses hands-on equipment, and students have access to high-end cameras, editing suites and video graphics animation facilities, and complete portfolio-quality production.

Middle Tennessee State University

PO Box 21, Murfreesboro, TN 37132 Phone 615/898-2578 Fax 615/898-5682 E-mail record@mtsu.edu Website www.mtsu.edu/~record Degrees/Certificates: B.S. in Recording Industry, 4-year. Program: The Recording Industry department offers two concentrations: production & technology, and music business. With over 45 different courses, the RI program is the most comprehensive in the country. Facilities include three on-campus studios featuring SSL and Studer digital consoles, MIDI and Pro Tools labs, mastering and listening labs, post-production lab. Mixing and mastering in 5.1 channels are available. Two new studios are under construction. AES and SMPTE student chapters meet regularly.

Musitechnic Educational Services Inc.

888, de Maisonneuve East, Tower 3, Suite 440, Montreal, Quebec, Canada H2L 4S8 Phone 514/521-2060 Fax 514/521-5153 E-mail info@musitechnic.com Website www.musitechnic.com Degrees/Certificates: Computer Assisted Sound Design, 1 year; Attestation of Collegial Studies (A.E.C.). Program: Musitechnic is the creator of the "Computer-Assisted Sound Design 901.24" collegial training program, offered in French or English. A thorough exploration of the technical and artistic facets of current hardware and software permits students to create, using the latest technological tools. Located right in downtown Montreal and easily accessible by public transport, Musitechnic offers its students a spacious, comfortable and professional work environment. Respected professionals active in the industry teach the program.

Nassau Community College

One Education Dr., Garden City, NY 11530 Phone 516/572-7446 Fax 516/572-9791 E-mail musoff@sunynassau.edu Website www.sunynassau.edu Degrees/Certificates: 1-year certificate in Studio Recording Technology. Program: This three-semester program is designed to introduce students to music and recording technology, provides a broad perspective of the music industry and acquaints students with musical structures (intellectually and aurally). Technical skills and internship training will be acquired in a professional recording studio (at an off-campus location).

The New England Institute of Art

10 Brookline Place West, Brookline, MA 02445-7295 Phone 800/903-4425 Fax 617/582-4500 E-mail lehmannr@aii.edu Website www.neia.aii.edu Degrees/Certificates: Associate of Science in Audio Production, 2-year; B.S. in Audio & Media Technology, 4-year. Program: You'll get a solid grounding in critical listening, computer music and the physics of sounds, plus exposure to the actual situations you'll run into in your professional career. On the engineering side, you'll learn on our 32-channel automated SSL SL6000E/G+ mixing console and Otari MX80 2-inch 24-track.

New England School of Communications

1 College Circle, Bangor, ME 04401 Phone 888/877-1876 Fax 207/947-3987 E-mail info@nescom.edu Website www.nescom.edu Degrees/Certificates: 2-year Associate of Science in Communications, Audio Engineering Concentration; 4-year B.S. in Communications Audio Engineering Concentration. Program: Degree programs offering intensive, hands-on instruction in both analog and digital sound recording for music, television, radio and digital media. With advanced training in studio techniques using digital technology in an expansive on-site recording studio, students master the skills of recording, producing, mastering and distribution of audio through a variety of audio outlets. Lab classes are limited in size, allowing for extensive, individualized lab time.

New York University

School of Education, Department of Music and Performing Arts Professions, 35 West 4th St., Room 777, New York, NY 10012-1172 Phone 212/998-5422 Fax 212/995-4043 E-mail music sictechgrad.info@nyu.edu Website www.education.nyu.edu/music Degrees/Certificates: 4-year B.A. in Recording Arts; 2-year certificate in Music Business; 4-year B.M.; 2-year Master's of Music in Music Technology. Program: NYU's premier Music Technology program teaches composers, performers, recording engineers and others to use tools of technology to realize their ideas. The program's breadth supports applications to film scoring, multimedia, computer music, tonmeister studies, interactive performance and collaborations involving experimental and traditional music. Our intense musical approach supports research and artistic production around the world. Facilities include 12 sophisticated recording and computer music studios.

NY Institute of Forensic Audio

PO Box 189, Colonia, NJ 07067 Phone 732/574-9672 Fax 732/381-4523 E-mail owlmax@aol.com Website www.owlinvestigations.com Degrees/Certificates: Video Authenticity certification, Audio Authenticity certification, Voice Identification.

World Radio History

Program: Fully equipped lab features the Avid Forensic workstation, which enables hands-on experience for all participants. Audio enhancement and authenticity, video enhancement and authenticity, voice identifications are all offered. Evidence procedures, legal questions and courtroom testimony related to the above specialties will be discussed.

NYC College of Technology/ Entertainment Technology

300 Jay St., #V411, Brooklyn, NY 11201 Phone 718/260-5588 Fax 718/260-5591 E-mail dsmith@citytech.cuny.edu Website www.citytech.cuny.edu/academics/deptsites/enttech/index.html Degrees/Certificates: 4-year B.T. in Entertainment Technology. Certificates in sound lighting, scenic construction and show control technologies. Program: City Tech's hands-on program focuses on sound for live entertainment: concerts, theater, theme parks and corporate events. We feature low tuition and a world-class faculty. Our location in the heart of the live entertainment world offers professional opportunities in addition to in-school production work. Our state-of-the-art labs feature $1.5 million in equipment, including Apogee Sound, Dataton, EAW, Crest, Crown, Level Control Systems, Mackie, Medialon, Meyer, Richmond Sound Design, Stage Research and TC Electronic.

NYU Steinhart School

35 West 4th St., Suite 777, New York, NY 10012 Phone 212/998-5422 Fax 212/995-4043 E-mail musictechgrad.info@nyu.edu Website www.nyu.edu/education/music/mtech/ Degrees/Certificates: 4-year B.M. in Music Technology, 2-year M.M. in Music Technology, 2-year M.M. in Music Technology Scoring for Film and Multimedia Sequence, 2-year M.M. in Music Technology Tonemeister Honors Sequence that includes Tonmeister certification. Program: Prepares students for careers in recording engineering, production and post-production, audio/video mastering, audio maintenance and repair, synthesizer programming, multimedia and software development. Fourteen recording and primarily Macintosh computer music studios, an A/V studio with video projection and THX surround sound systems, an analog synthesis studio, a video digitizing and DVD-authoring studio, plus a complete 20-bit Sonic Solutions digital mastering room. Audio hardware includes Digidesign's Pro Tools|HD and MixPlus. SSL and Tascam consoles.

Northeastern University

Department of Music, 351 Ryder Hall, Boston, MA 02115 Phone 617/373-2440 Fax 617/373-4129 E-mail l.janikian@neu.edu Website www.music.neu.edu/ Degrees/Certificates: B.S. in Music Industry; B.S. in Music Technology (Composition for New Media); B.A. in Music Literature and Performance; B.S. dual-major in Multimedia Studies and Music Technology (includes animation, graphic design, digital photography and music technology). Program: According to the *U.S. News & World Report*, Northeastern is the Number One university in the country for programs requiring students to combine classroom learning with real-world experience (also known as co-op education). If you select co-op education while at Northeastern, you will work professionally for 18 months, alternating with semesters in school. All degree programs with co-op will take five years to complete.

Ocean County Vocational Technical Schools

Audio Recording for Electronic Media Career, Technical Institute PO Box 1125, NAVAIR, Lakehurst, NJ 08733-1125 Phone 732/657-4000 Fax 732/657-4500 E-mail dbourke@mail.ocvts.org Degrees/Certificates: 1/2-year Audio Engineering certificate. Program: This program was started in 1996 and is offered to high school and post-secondary students—the first one of its kind offered at the high-school level in New Jersey. 450 hours per year, emphasis on hands-on recording by students. Upgraded program facilities include three control rooms overlooking main studio, audio computer lab, separate mixing suite and three digital audio workstation suites.

Omega Recording Studios

School of Applied Recording Arts and Sciences, 5609 Fishers Lane, Rockville, MD 20852 Phone 301/230-9100 Fax 301/230-9103 E-mail school@omegastudios.com Website www.omegastudios.com Degrees/Certificates: five certificate programs nationally accredited by ACCSCT, approved by the Maryland High-

Acoustics First®

Materials To Control Sound And Eliminate Noise

The 1014 AcoustiKit™

The 1014 AcoustiKit is the small control room package with real studio Art Diffusors®. Acoustics First combines these in one box with Cutting Wedge® foam, Bermuda Triangle Traps® and specific instructions for installation.

The 1014 AcoustiKit is everything you need for a 10' X 14' control room, without buying more than you need.

Toll Free 1-888-765-2900

Web: http://www.acousticsfirst.com

Professional Audio Education

www.oiart.ca

Ontario Institute of Audio Recording Technology
502 Newbold Street, London ON, Canada N6E 1K6
phone 519.686.5010 fax 519.686.0162 inquiry@oiart.ca

World Radio History

IAR Proudly Unwraps Its Spanking New Program for 21st Century Audio Engineers & Music Producers:

AUDIO RECORDING & PRODUCTION

900 hours
9 months full-time
12 months part-time

Program Features:
- Digital Audio & Music Production
- Recording & Mixing
- Signal Processing Technologies
- Audio Post-Production
- MIDI Applications
- DAW Operations

INSTITUTE OF AUDIO RESEARCH

Licensed by NYS Education Dept.
Approved for Veterans Training
Accredited by ACCSCT
Financial Aid if Eligible

800-544-2501
212-777-8550
(NY, NJ, CT)

Your Focus is Music, Our Focus is You.

www.audioschool.com

INSTITUTE OF AUDIO RESEARCH
64 University Place
New York, NY 10003

AUDIO EDUCATION PROGRAMS

Eastern Schools

er Education Commission and approved for veterans' educational benefits. The school is also an Avid-authorized education center. **Program:** The Omega Studios School functions within the four-studio Omega Recording Studios complex, offering five comprehensive programs, including Recording Engineering and Studio Techniques, Electronic Music Synthesizers and MIDI, Sound Reinforcement for Live Performance, Audio Production Techniques (featuring Pro Tools Operator certification) and Essentials of Music Business.

Ontario Institute of Audio Recording Technology

502 Newbold St., London, Ontario, Canada N6E 1K6 **Phone** 519/686-5010 **Fax** 519/686-0162 **E-mail** inquiry@oiart.ca **Website** www.oiart.ca **Degrees/Certificates:** 1-year, college-level diploma in Audio Recording Technology. **Program:** North America's first and longest-running integrated immersion program (since 1983). A full-time faculty and 6:1 student/instructor ratio allows well-qualified students from around the world to thrive on creative development while acquiring a genuine skill set. Within six studios equipped with professional-level analog and digital gear, students learn problem solving through signal flow, in addition to how and why things work. The 1,200 (plus) hours of the program are all in-studio, with 50% dedicated to student hands-on time.

Parsons Center for Audio Studies

192 Worcester St., Wellesley, MA 02481 **Phone** 781/431-8708 x11 **Fax** 781/431-8783 **E-mail** info@paudio.com **Website** www.paudio.com **Degrees/Certificates:** Certificate of Completion for each course completed (except Golden Ears). **Program:** Training for professionals, taught by masters. Faculty: David Moulton, Tom Bates, Brian Doser (of Digidesign) and Lauren Weinger. Courses for audio professionalsi nclude Golden Ears, Critical Listening for Audio Professionals, Principles of Audio for Professionals, Principles of Pro Tools, Pro Tools for Pros: Intermediate/Advanced, Growing Your Personal/Project Studio, Signal Processing I & II, Acoustics for Audio Professionals, etc.

Peabody Institute of Johns Hopkins University

1 East Mount Vernon Place, Baltimore, MD 21202 **Phone** 410/659-8100 x8136 **Fax** 410/659-8102 **E-mail** apk@peabody.jhu.edu **Website** www.peabody.jhu.edu/recording-arts **Degrees/Certificates:** five-year Bachelor's Degree in Recording Arts, two-year Master's Degree in Audio Recording and Acoustics. **Program:** Comprehensive math/science/music-based degrees in recording arts. Fully automated digital facilities. See Website.

Penn State University

103 Arts Building, University Park, PA 16802 **Phone** 814/863-4879 **E-mail** CurtisCraig@psu.edu **Website** www.psu.edu **Degrees/Certificates:** 4-year BFA in Technical Theater (Sound Design); 4-year B.A. in Integrative Arts. **Program:** 3 theaters (all with automation systems: AudioBox, LCS and SFX PASC), recital hall, project recording studio, MIDI/mixdown suite, two computer labs (one Mac-only, one mixed platform) with audio facilities. Full-time faculty in sound design and electroacoustic music and a graduate-level program in acoustics.

Pro Tools Training Center, Miami

1926 NE 154th St., North Miami Beach, FL 33162 **Phone** 888/277-0457 **Fax** 832/201-0384 **E-mail** mail@protoolstraining.com **Website** www.protoolstraining.com **Degrees/Certificates:** Digidesign Pro Tools Operator certification (music or post-production), Digidesign Pro Tools Expert certification (music or post-production. **Program:** We are the premier Digidesign-certified Pro School with locations in Miami, Nashville, Atlanta and Texas. We offer all levels of Pro Tools training and have multiple Grammy winners as teachers, including Roger Nichols and Charles Dye. Our facilities are outfitted with Pro Tools|HD, Pro Control/Control 24 boards and a host of other pro audio hardware. Our classes are intense and condensed to fit the professional schedule.

Recording Arts Canada

PO Box 11025, 984 Hwy #8, Stoney Creek, Ontario, Canada L8E 5P9 **Phone** 888/662-2664 **Fax** 905/643-7520 **E-mail** admissions@recordingarts.com **Website** www.recordingarts.com. **Program:** If you're looking for a sound education, Recording Arts Canada is the place to be. With colleges in Montreal and the Toronto area, Recording Arts Canada offers comprehensive audio and multimedia training, state-of-the-art technology and tons of hands-on experience. Half of the training time is spent in the studio, where students learn the science and art of music scoring, sound for film and television, interactive media, live sound, MIDI and hard disk recording/editing—the core elements of album, radio, television, film and multimedia production.

SAE Institute of Technology

1293 Broadway, 9th floor, New York, NY 10001 **Phone** 212/944-9121 **Fax** 212/944-9123 **E-mail** saeny@sae.edu **Web site** www.sae.edu **Degrees/Certificates:** 9/18-month Audio Technology Diploma (full time/part time), nine-month Multimedia Producer Diploma (full time). **Program:** SAE Institute of Technology is the largest audio and multimedia institute in the world. Our students have the advantage of over 25 years of audio and multimedia education experience, state-of-the-art equipment and facilities, and access to a worldwide network of more than 30 campuses in 15 countries on four continents. In the United States, SAE has campuses in New York City, Nashville and Miami, with more locations to follow in the near future.

Savannah College of Art and Design

PO Box 2072, Savavannah, GA 31401-2072 **Phone** 800/869-7223 **Fax** 912/525-5986 **E-mail** admission@scad.edu **Website** www.scad.edu/dept/snds.

Select Sound Studios

2315 Elmwood Ave., Kenmore, NY 14217 **Phone** 716/873-2717 **Fax** 716/873-2719 **E-mail** info@selectsound.com **Website** www.selectsound.com **Degrees/Certificates:** There are six New York State-accredited Recording Technologies programs. Each program is 12 weeks and three credits. **Program:** Select Sound Studios is a full-service recording facility specializing in education. The Recording Technologies program has been taught for three decades. Four production rooms offer students the opportunity to work in 24-track analog studios, Pro Tools TDM studios, a MIDI suite and a mastering suite. Topics include the history of recording, physics of sound, studio acoustics, the recording chain, microphone techniques, operation of tape recorders, mixing consoles, and Pro Tools native and TDM systems. New for this year is a personnel placement program.

Sheffield Institute for the Recording Arts

13816 Sunnybrook Rd., Phoenix, MD 21131 **Phone** 410/628-7260 **Fax** 410/628-1977 **E-mail** institute@sheffieldav.com **Website** www.sheffieldav.com **Degrees/Certificates:** certificate approved by Maryland Higher Education Commission. AudioWorks Program: 290 clock hours/full- or part-time Audio Engineering program. VideoWorks Program: 244 clock hours/full- or part-time Video Production program. TechWorks Program:

World Radio History

380 clock hours/full- or part-time Systems Integration, Installation and Maintenance program. Program: Classes taught at Sheffield Audio/Video Productions, one of the mid-Atlantic region's finest recording and video facilities. AudioWorks courses include three levels of recording engineering, MIDI, nonlinear digital audio (Pro Tools), live sound/remote recording. VideoWorks courses include camera, lighting, nonlinear digital video (Avid). TechWorks courses include basic electronics, test equipment/signal identification, cable construction, installation, maintenance. Hands-on learning featuring equipment such as SSL console and Avid editing systems.

Shenandoah University

1460 University Dr., Winchester, VA 22601 Phone 540/665-5567 Fax 540/665-5402 E-mail goneill@su.edu Website www.su.edu Degrees/Certificates: Bachelor's of Music, Commercial Music emphasis. Program: Shenandoah University is located in a new state-of-the-art facility featuring an SSL 4000 G+ console with automation. Students receive hands-on training and experience by recording over 300 concerts, student and faculty recitals, along with internal and external projects every year. In addition to the SSL, we have world-class processing and a large selection of pro microphones. Balancing out our program are two MIDI/editing suites where students use software programs such as Pro Tools|24, Cubase VST and Cakewalk Pro Audio.

State University of New York College at Fredonia

1146 Mason Hall, Fredonia, NY 14063 Phone 716/673-4634 Fax 716/673-3154 E-mail gottinger@ait.fredonia.edu Website www.fredonia.edu/som/srt Degrees/Certificates: 4-year B.S. in Sound Recording Technology. Program: Program operated from within the School of Music. Accredited by NASM. Modeled after European Tonmeister training. Competence in playing a musical instrument and in natural sciences must be demonstrated through scheduled audition. High placement rate: Internships at leading facilities are available on a regular basis. Five studios, including 24-track analog and digital facilities, MIDI/sampling labs. Students receive a minimum of 650 hours in-studio experience.

Trebas Institute, Ontario

149 College St., Toronto, Ontario, Canada M5T 1P5 Phone 416/966-3066 Website www.trebas.com Degrees/Certificates: 1-year diploma programs in Audio Engineering, Recorded Music Production, Music Business Administration, Film/Television Production, New-Media Development and 3-D Animation. B.A. in Sound Technology (2 years, following 1-year diploma in Audio Engineering) in partnership with the Liverpool Institute for Performing Arts. Program: Established in 1979 to help students acquire knowledge and develop skills for entry into fields of music business, audio, record production, film/TV production, post-production, interactive multimedia and computer animation. Outstanding instructors. High-tech studios and labs. Focus on preparing grads for real-world careers. Lifetime national job-search assistance. Grads with major entertainers, studios, companies worldwide. Authorized training center for Cubase and Macromedia. Companion school in Montreal.

Trod Nossel Recording Studio

10 George St., Wallingford, CT 06492 Phone 800/800-HITS Fax 203/294-1745 E-mail info@trodnossel.com Website www.trodnossel.com Degrees/Certificates: MRT 1 (offered 2x per year); MRT 2 (offered 1x per year); CRT (offered 1x per year). Program: Modern Recording Techniques is a hands-on technical course in the basics of recording. MRT 1 is a 12-week program consisting of seven weeks of theory, with five weeks of hands-on recording sessions. MRT 2 is a hands-on 15-week program. The newly added CRT is a 10-12-week computer-based recording class with take-home lab assignments.

Unity Gain Recording Institute

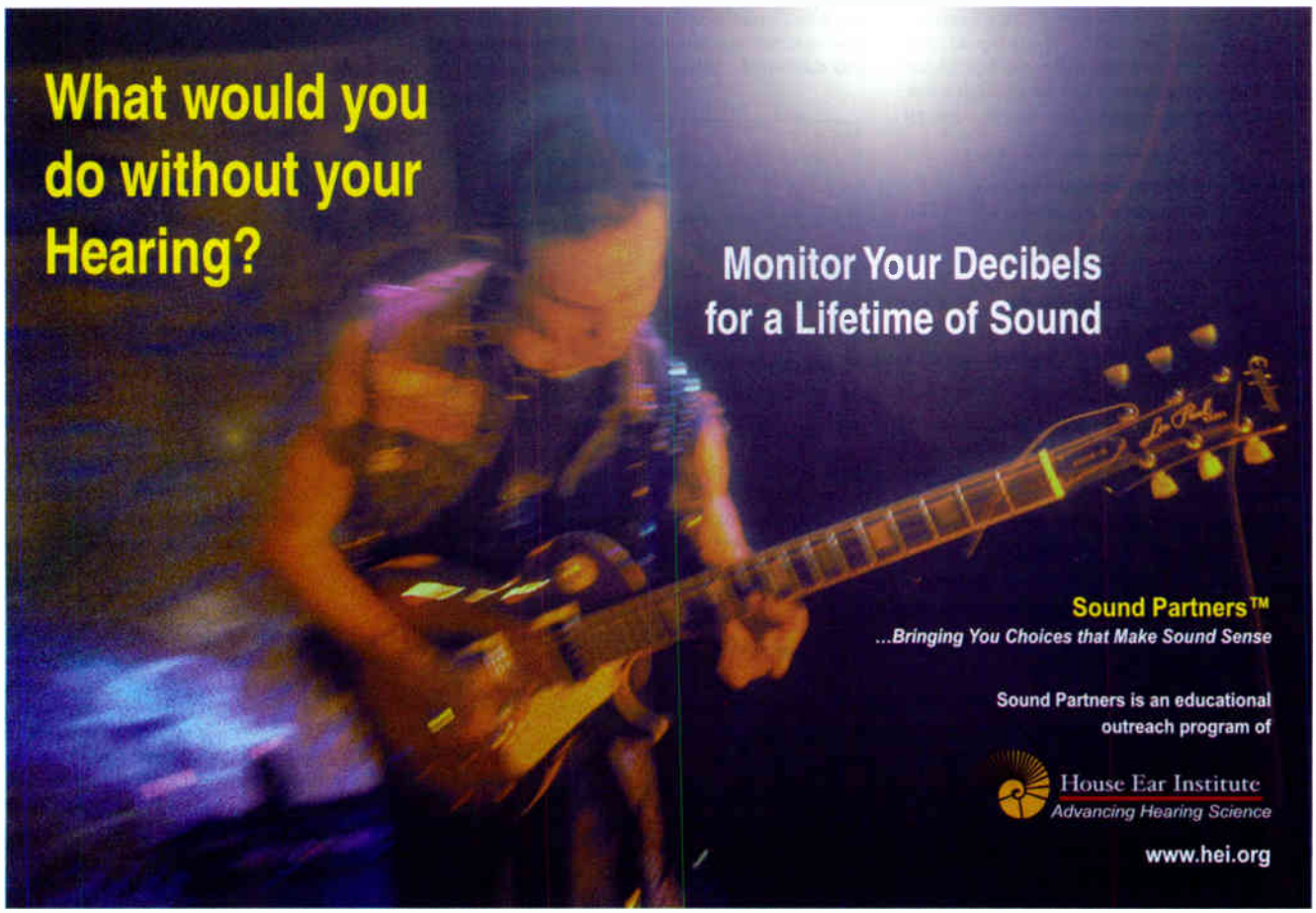
1953 Ricardo Ave., Fort Myers, FL 33901 Phone 239/332-4246 Fax 239/332-4246 E-mail aiannucci@unitygain.com Website www.unitygain.com Degrees/Certificates: certificate of graduation upon completion of each 48-week program. Program: The Audio Recording Comprehensive program and the Advanced Techniques in Audio Recording are two four-level programs that provide over 250 hours of hands-on recording. Class size is limited, providing a semi-private learning environment in two state-of-the-art recording studios. Students record 20 musical acts on analog and digital formats, utilizing MIDI, direct-to-disk recording and CD production.

University of Memphis

Music Industry Program, 106 Communication Fine Arts Building, Memphis, TN 38152 Phone 901/678-2559 Fax 901/678-5119 E-mail jwcline@memphis.edu Website http://memphis.music.edu Degrees/Certificates: B.M. in Music Industry with concentrations in Recording Technology, Music Business. Program: Programs stress understanding of fundamental concepts, yet place equal emphasis on developing student's ability to adapt to new practices, technologies and creative directions. Instructors actively involved in industry. Studio B extensively renovated and now features an AMS/Neve Libra digital console and improved acoustics. Students enjoy generous lab access where hands-on training is stressed. Memphis community offers diverse cultural opportunities, rich internship possibilities. NASM-accredited.

University of Hartford, The Hartt School

200 Bloomfield Ave., West Hartford, CT 06117 Phone 860/768-4465 Fax 860/768-4441 E-mail smetcalfe@hartford.edu Website http://uhaweb.hartford.edu/musicprod Degrees/Certificates: B.M. in Music Production and Technology. Program: MPT is a competitive program designed to train musicians for careers in music production. A strong academic background and music audition are required. Training includes recording engineering and production, electronic music, acoustics, electronics, music management, internship and practicum, in addition to music theory, ear training, private lessons (instrument or voice), ensemble and liberal arts. Facilities include several studios, a computer lab and a hard-disk-based remote recording system.



World Radio History

AUDIO EDUCATION PROGRAMS

Central Schools

University of Hartford, Ward College

200 Bloomfied Ave., West Hartford, CT 06117 **Phone** 800/766-4024 **Fax** 860/768-5074 **E-mail** britt@hartford.edu **Website** http://haweb.hartford.edu/wardweb/descaud.htm **Degrees/Certificates:** 4-year B.S. in Audio Engineering Technology. **Program:** This program places emphasis on technical support skills, differentiating it from other programs. Students take a majority of courses in applied audio electronics, in addition to a track of courses in audio studio engineering, acoustics and computer programming. Electives allow students to take additional coursework in an area of their choice. Example concentrations include RF communications, recording and computer programming.

University of Maine, Augusta

46 University Dr., Augusta, ME 04330 **Phone** 207/621-3267 **E-mail** richard@mail.caps.maine.edu **Website** www.uma.maine.edu/academics/ucadjazz&contemporarymusic.html **Degrees/Certificates:** B.M. in Jazz and Contemporary Music (audio concentration). **Program:** UMA has the only music program in Maine with a state-of-the-art recording studio. Recording commercial music and advertisements is a significant part of the music industry in Maine. Our internships are a student's best link to employment.

University of Massachusetts Lowell

Sound Recording Technology, One University Ave., Lowell, MA 01854 **Phone** 978/934-3850 **Fax** 978/934-3034 **E-mail** william_moylan@uml.edu **Website** www.uml.edu/dept/music/srt **Degrees/Certificates:** B.M. in Sound Recording Technology. **Program:** The primary program prepares students for production-related careers in the recording industry through studies in music, EE, computer science, math and physics, and a minimum of nine courses in the art and technology of recording. SRT minors prepare students for technology-development career paths. Supported by eight control rooms: 24-track, MIDI/synthesis, 8-track, video/post, maintenance/repair, critical listening, hard disk recording, entry-level room.

University of Miami School of Music

PO Box 248165, Coral Gables, FL 33124 **Phone** 305/284-2241 **Fax** 305/284-6475 **E-mail** admission.music@miami.edu **Website** www.music.miami.edu **Degrees/Certificates:** B.M. in Music Engineering with either a minor in Electrical Engineering or a double-major in Computer Science, Master of Science in Music Engineering. **Program:** The Music Engineering program accepts undergraduate musicians who desire careers in music recording, audio engineering, audio equipment hardware and software design, sound reinforcement and broadcasting. By combining music and music engineering studies with Electrical Engineering or computer science, students enjoy diverse professional opportunities. Graduate students who have completed their undergraduate electrical engineering degree engage in research in DSP programming, psychoacoustics and synthesis. Facilities include two state-of-the-art recording studios.

University of New Haven

300 Orange Ave., West Haven, CT 06516 **Phone** 203/932-7101 **Fax** 203/931-6097 **E-mail** kaloyanides@newhaven.edu **Website** www.newhaven.edu **Degrees/Certificates:** B.A. Music, B.A. Music and Sound Recording, B.S. Music and Sound Recording, B.A. Music industry. **Program:** The Music and Sound Recording and the Music Industry programs provide a unique balance of courses in the areas of music, sound recording and business, as well as music industry. The sound recording courses include multitrack recording, digital audio and the use of computers in the recording studio. The music industry courses cover topics such as record companies, contracts, recording studio management, copyright law and music publishing.

University of North Carolina, Asheville

Music Department, One University Heights, CPO #2290, Asheville, NC 28804 **Phone** 828/251-6432 **Fax** 828/253-4573 **E-mail** musica@unca.edu **Website** www.unca.edu/music **Degrees/Certificates:** 4-year B.S. in Music Technology, 4-year B.A. in Music with a concentration in Jazz Studies, B.A. in Music (general music studies). **Program:** The UNCA Music Technology program was established in 1982. The recording facilities include two multitrack studios (both with digital and analog recording equipment), which houses a variety of consoles, microphones, signal processors, Pro Tools workstations, etc. The electronic music laboratory houses various analog and digital synthesizers, samplers, as well as a Moog, Theremin, etc.

University of South Carolina

School of Music, 813 Assembly St., Columbia, SC 29208 **Phone** 803/576-5639 **Fax** 803/777-6508 **E-mail** jfrancis@mozart.sc.edu **Website** www.music.sc.edu/recording **Degrees/Certificates:** B.M. in Music Engineering Technology (under-development). **Program:** Current curriculum includes more than 10 classes in sound recording (pop and classical recording, mixing techniques, workstation editing, digital audio technology and audio for video) and music technology (synthesis, signal processing, sequencing and computer music). Facilities include a large recording studio with a 48-input console, 24-track digital recorder and Pro Tools|HD2 workstation. There is also an 18-station computer music lab and two electronic music/MIDI studios equipped with 24-input consoles, 8-track digital recorders and Pro Tools workstations.

Yale School of Drama

PO Box 208244, New Haven, CT 06520-8244 **Phone** 203/432-8825 **Fax** 203/432-1596 **E-mail** david.budries@yale.edu **Website** www.yale.edu/drama/academics/sound/index.html **Degrees/Certificates:** 3-year MFA in Sound Design; 1-year Sound Engineering internship. **Program:** The Sound Design Program trains eligible applicants in the theory and practice of professional sound design. Coursework covers script interpretation, compositional elements of design, introductory sound design, fundamentals of sound and music technology, advanced problem solving, sound delivery systems, advanced digital sound and music technology, design master class and a practical design thesis project. Qualified students will have numerous opportunities to design for student and Yale Repertory productions.

CENTRAL

Alexander Magazine

14071 Stephens, Suite #A-5, Warren, MI 48089 **Phone** 877/683-1743 **E-mail** administrator@alexandermagazine.com **Website** www.alexandermagazine.com **Degrees/Certificates:** Recording Institute of Detroit Theory completions for Pro Audio Specialist, Recording Techniques 1 and Associate Recording Engineer programs. **Program:** Online program with lessons, reference materials, audio demonstrations and interactive quizzes. Online final exams and certification. Many additional advanced-study articles and postings. Worldwide job/intern-placement assistance.

Aspen Music Festival and School

2 Music School Rd., Aspen, CO 81611 **Phone** 970/925-3254 **Fax** 970/925-3802 **E-mail** school@aspenmusic.org **Website** www.aspen.com/musicfestival **Program:** The Edgar Stanton Audio Recording Institute is an intensive 4-week, full-time seminar/workshop. The goal is to provide a background in the basics of audio production and prepare students for a career as a recording engineer. A wide range of recording and guest lecturers are noted representatives of the recording and broadcasting industries. The session is limited to 10 students to ensure maximum individual attention.

Audio Engineering Institute

6610 Buffalo Hills, San Antonio, TX 78256-2330 **Phone** 210/698-9666 **Website** www.audio-eng.com **Degrees/Certificates:** basic and advanced Audio Engineering classes, each lasting 10 weeks. **Program:** Classes are taught by Gold and Platinum record-winner Marius Perron III. Students are trained with part hands-on equipment, part lecture. Basic class covers theory, microphones, consoles, tape recorders, live band recording and mixing. Advanced class covers signal processors, hard disk recording, MIDI, synthesizers and samplers, drum machines and sequencers, audio-for-video, computer-assisted mixing, real-time analysis and studio equipment maintenance. The advanced course is structured around an apprentice engineering program working as second engineers at studios in San Antonio.

Butler University

4600 Sunset Ave., Indianapolis, IN 46208 **Phone** 317/940-9828 **Fax** 317/940-9014 **E-mail** csarmstr@butler.edu **Website** www.butler.edu/telecom **Degrees/Certificates:** B.S. in Telecommunication Arts. Concentrations in Recording Industry Studies, Multimedia, Video Production and Electronic Journalism. **Program:** We prepare students to enter the recording industry by providing them with first-rate classroom instruction, hands-on experience with the most widely used technology and internship opportunities at the best recording studios and music production facilities in the Midwest. Students are encouraged to utilize our state-of-the-art on-campus studio and control rooms that were professionally designed and built featuring Pro Tools, ADAT, a piano, MIDI keyboard and a wide selection of microphones.

Case Western Reserve University

Department of Music, Cleveland, OH 44106 **Phone** 800/808-MUSC **E-mail** gjc4@pop.cwru.edu **Website** http://music.cwru.edu **Degrees/Certificates:** 4-year B.A. in Audio Recording, 5-year double-major with Electrical Engineering. **Program:** Audio Recording Technology is a professional program for persons interested in becoming audio recording engineers or working in recording studios. State-of-the-art facilities, frequent opportunities for hands-on-studio time, and CWRU's national reputation in electrical engineering contribute to this program's appeal.

Casper College

125 College Ave., Casper, WY 82601 **Phone** 307/268-2606 **Fax** 307/268-3023 **E-mail** psearcey@caspercollege.edu **Website** caspercollege.edu **Degrees/Certificates:** Associate degree in Theater Tech, Music Performance, Music Ed., Music Theater and Multimedia. **Program:** Sound Reinforcement I: Live Sound—Theory and Practice; Sound Reinforcement II: Recording Studio; independent studies in Audio and Recording 8-track analog on ½-inch tape, 16-track digital hard disk, Pro Tools, Tascam M512 mixing console, Sound Workshop 30 Series 8-track console, Roland VS 1680, Digi001, Tannoy monitors and a deep mic cabinet. Main control remodeled 2003.

World Radio History

Central Missouri State University

CMSU Dept. of Music, Hudson 108, Warrensburg, MO 64093 Phone 660/543-4589 Fax 660/543-8271 E-mail honour@cmsu1.cmsu.edu Website www.cmsu.edu/music/musictech/mutechindex.htm Degrees/Certificates: 4-year B.M. in Music Technology. Program: Emphasis on audio engineering and musicianship, with experience on both sides of the microphone. The program stresses hands-on learning with multitrack recording/editing studios, Pro-Tools|HD3 and HD2 systems, sound reinforcement equipment, MIDI/synthesis studios and a 12-station computer lab. Internships are required. Class sizes are typically between 15 and 20 students. Financial assistance is available for those who qualify.

The Cleveland Institute of Music

11021 East Blvd., Cleveland, OH 44106 Phone 216/791-5000 Fax 216/791-1530 E-mail cimadmission@po.cwru.edu Website www.cim.edu Degrees/Certificates: B.M. in Audio Recording; double major with an instrument or Composition major in five years. Program: Based at one of the nation's leading conservatories of music. Students record performances of the highly talented Institute faculty and students. Courses cover classical and popular music studio techniques, microphone selection and placement, surround sound, digital sound processing, audio-for-video post-production, acoustics and studio maintenance. Equipment: see Website. Professional faculty features multiple-Grammy-winners Jack Renner and Michael Bishop (Telarc), Dr. Peter D'Antonio (RPG Diffusor Systems), Bruce Egre (Azica Records) and Alan Bise (CIM, producer).

Collin County Community College

2800 E. Spring Creek Pkwy., Plano, TX 75074 Phone 972/516-5041 Fax 972/881-5103 E-mail csmcclure@ccccd.edu Website www.ccccd.edu Degrees/Certificates: 2-year AAS in Commercial Music; 1-year certificate in Audio Engineering. Program: CCCCD offers a professional-quality studio featuring Pro Tools 24 Mix Plus, a Control/24 worksurface, Genelec 1030A monitors, a wide array of microphones and six Mac G4s with Digi 001s for student projects. The MIDI/synth studio contains 16 Mac G4 workstations with a large selection of synthesizers and sound modules.

Columbia College Chicago

Department of Audio Arts & Acoustics, 600 South Michigan Ave., Chicago, IL 60605 Phone 312/344-8800 E-mail bkanters@colum.edu Website www.colum.edu Degrees/Certificates: 4-year B.A. in Audio Arts and Acoustics with concentrations in Music Recording, Concert Sound Reinforcement, Acoustics, Sound Contracting and Sound-for-Picture. Program: The curriculum in each concentration includes courses in electronics, acoustics, math and audio systems theory. Many students take advantage of courses in associated departments, including music, arts management, film/video and interactive multimedia. The just-completed multimillion-dollar Audio Technology Center includes three audio production studios, digital audio and sound-for-picture production suites, and laboratories for acoustics.

Cuyahoga Community College

2900 Community College Ave., Cleveland, OH 44115 Phone 216/987-4252 Fax 216/987-3280 E-mail tommy.wiggins@tri-c.edu Website www.tri-c.edu/rat Degrees/Certificates: 2-year (5-semester) A.A.S. in Recording Arts & Technology. Certified Pro Tools training center. Program: Students train under professional audio engineer/producer/faculty members and plan, execute and deliver finished audio products to the listener. Projects include producing recordings for regional music groups, cable television programs (including the Emmy-winning *Words&Music* songwriter interview show), RAT Records (student-run label) and concert sound production (summer outdoor amphitheater season on the river). Semester-length internship at local and national audio facilities. Facility designed by Russ Berger Design Group.

Dallas Sound Lab

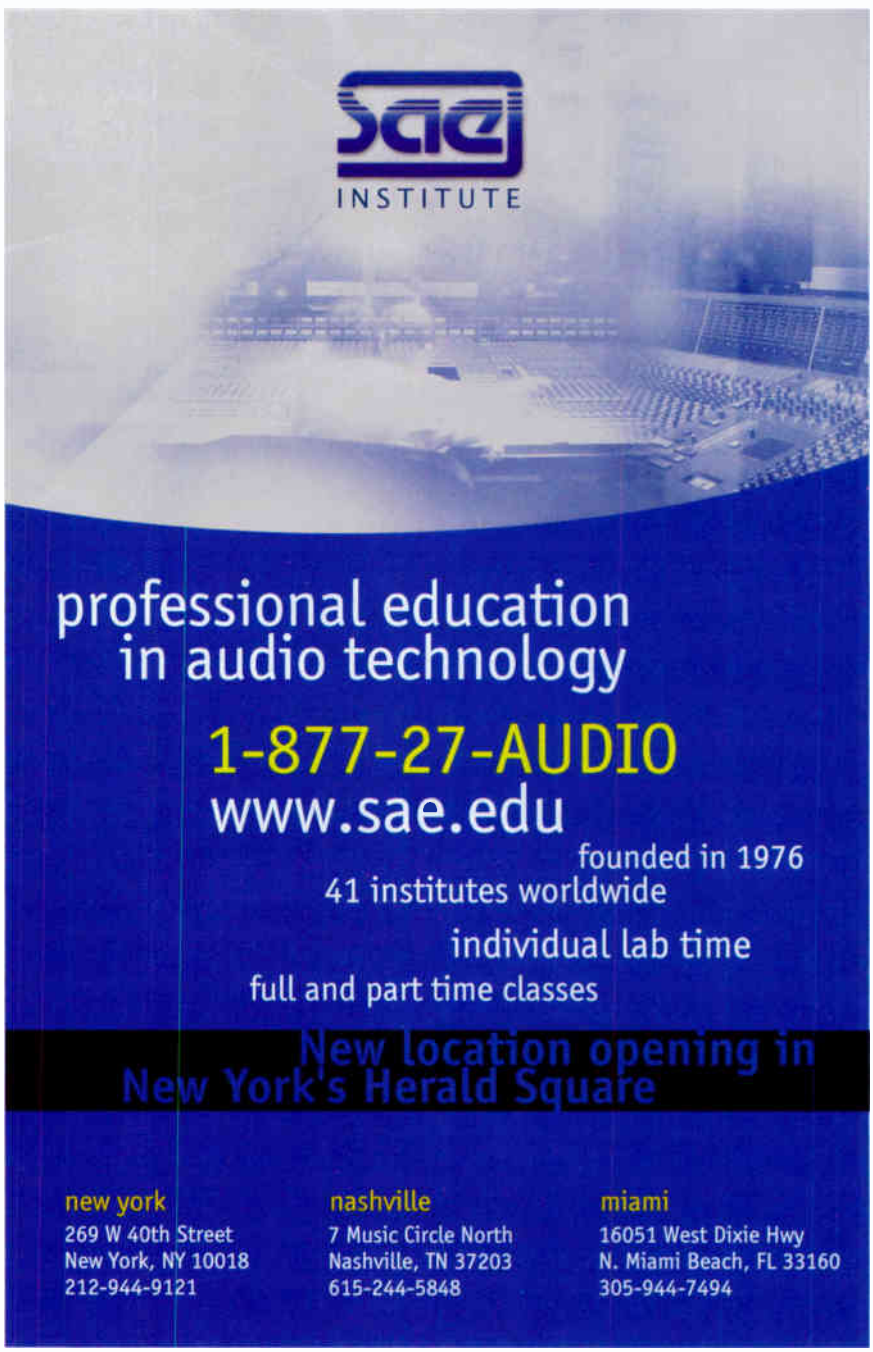
School for the Recording Arts, 6305 N. O'Connor Blvd., Suite 119, Irving, TX 75039 Phone 866/498-1122 E-mail info.dallas@dallassoundlab.com Website www.dallassoundlab.com Degrees/Certificates: diplomas in Audio Engineering and Studio Techniques; seminars in Music Business Administration, Audio Engineering for Film and Television Production, and Contemporary Music Theory. Program: Courses provide students with extensive hands-on training using a powerful list of lab equipment, including consoles by SSL, API, Neve, Focusrite, Yamaha and Mackie. Lab sessions are held in the school's 12,000-square-foot multistudio facility. Instructors are industry professionals. Many of our graduates have secured positions working with video-production companies, recording studios, television and radio stations, sound reinforcement companies, management agencies and other related media businesses.

Del Mar College/Radio & Television

Baldwin & Ayers, Corpus Christi, TX 78404 Phone 361/698-1508 Fax 361/698-1511 E-mail maipper@delmar.edu Website www.delmar.edu/comm/rtv/RTVHome1.html Degrees/Certificates: Radio & Television, 2-year A.A. degree. Program: The program's facilities are specially designed for radio and television production courses. The audio production course uses a 4-track hard drive unit, an 8-track computer based unit, MiniDisc units and the staples of analog: a cassette deck and turntable.

DePaul University School of Music

804 W. Belden Ave., Chicago, IL 60614 Phone 773/325-7444 Fax 773/325-7263 E-mail rbeacraf@depaul.edu Website www.



World Radio History

AUDIO EDUCATION PROGRAMS

Central Schools

music.depaul.edu Degrees/Certificates: 4-year B.S. in Music. Program: SRT students take classes in analog and digital microelectronics, computer science and calculus, in addition to the undergraduate music curriculum. Recording classes and student practicum take place off campus in a 48-track SSL studio where students have access to state-of-the-art equipment. On campus, students develop their skills at Studio DePaul, a Pro Tools facility featuring video, synthesis and surround sound capabilities.

Elmhurst College

190 Prospect, Elmhurst, IL 60126 Phone 630/617-3500 Fax 630/617-3738 E-mail kevino@elmhurst.edu Degrees/Certificates: B.M. in Music Business, B.S. in Music Business, B.M. in Music Education, B.A. in Music. Program: In addition to classwork in music, business and business of music, students get hands-on industry experience through internships, industry speakers and course tours. Resources include a state-of-the-art 24-track digital studio, courses ranging from music theory to MIDI, recently expanded practice and recital facilities, and an artist faculty of over 50. Industry support is provided in the form of scholarships from trade organizations such as NAMM and NARAS, corporate sponsorship, a student chapter of MEIEA and an intern/job bank.

Grand Valley State University

1 Campus Dr., Allendale, MI 49401 Phone 800/748-0246 Fax 616/895-2000 E-mail go2gvsu@gvsu.edu Website www.gvsu.edu Degrees/Certificates: Electrical Engineering with Music minor. Program: Grand Valley State University has a unique program for students hwo have the talent and interest to combine engineering and music. This program has the potential for a career that can span the entire audio and music industries, from hardware design and manufacturing to performance.

Houston Community College

1010 W. Sam Houston Pkwy. N, Houston, TX 77043 Phone 713/718-5621 Fax 713/718-5640 E-mail scott.gehman@hccs.edu Website http://nwc.hccs.edu/av Degrees/Certificates: 2-year A.A.S. in Audio Recording or Film Production; 1-year certificates in Audio Recording, MIDI, Film Production, Film Editing or Scriptwriting. Program: Unlimited hands-on experience via eight fully equipped studios. Studio A: SSL 4048 G+ with Ultimation and Recall, processors by UREI, Lexicon, Empircal Labs. Studio B: Pro Tools|24 Mix Plus with Control 24. Studio C: Sony 3036 console, 13 Pro Tools stations with Digital Performer, Korg X5 and JV 1010 synths. Studio D and E: Alesis X2 consoles, ADATs, Pro Tools. Studio F: 3,000-square-foot film soundstage and movie theater. Studio M: Panasonic DA-7, samplers and synthesizers by GigaStudio, Akai, Roland, E-mu, Korg, Oberheim. Studio V: Video editors by Avid, Apple, Fast Systems.

Indiana University

School of Music, Bloomington, IN 47405 Phone 812/855-1087 E-mail kstrauss@indiana.edu Website www.music.indiana.edu/som/audio Degrees/Certificates: A.S. in Audio Technology, B.S. in Recording Arts. Program: As part of their coursework, students record performance of the world-renowned IU School of Music, including symphonic, opera, jazz, chamber music and popular music; and complete over 200 hours of individual project time in the multitrack studio. Advanced students serve as engineers for University-sponsored CD projects (over 40 releases to date). Facilities include four performance halls, recording studios, two DAW suites, 24-track and multitrack studio, two maintenance labs and a computing instruction classroom.

International College of Broadcasting

6 So. Smithville Rd., Dayton, OH 45431 Phone 937/258-8251 Fax 937/258-8714 Website www.icbproductions.com Degrees/Certificates: Associate degree program in Applied Science of Communication Arts in Television and Radio, Associate degree program of Applied Science in Video Production/Recording, Audio Engineer diploma program in Recording Audio Engineering, Diploma Program Broadcasting I. Program: ICB is a small, private college. Enrollment invitations are based on prospective students touring the facility and demonstrating commitment and desire to be part of the broadcasting and recording fields. Smaller class sizes ensure more individualized attention.

Kansas City Kansas Community College

7250 State Ave., Kansas City, KS 66112 Phone 913/288-7634 Fax 913/288-7638 E-mail mayfield@toto.net Website www.kckcc.edu/music Degrees/Certificates: Associate of Applied Science degree in Audio Engineering; Associate of General Studies degree in Music Technology. Program: Classes cover computing skills, basic and advanced MIDI, software and hardware synthesis, audio recording (4-semester sequence of classes), audio editing and sound design, digital video production and live sound reinforcement. Classes limited to 12 students. Accredited by North Central Association. 24-track DTRS, Pro Tools|HD-2, Soundcraft Ghost studio, 5.1 Genelec system; 24-track ADAT, Pro Tools LE studio; multistation MIDI/digital audio (including Pro Tools)/synthesis lab; multistation MIDI lab, digital video lab, live sound reinforcement.

Labette Community College

200 S. 14th, Parsons, KS Phone 888/LABETTE x1020 E-mail darylg@labette.edu Website www.labette.edu/commusic/home.htm Degrees/Certificates: A.A.S. in Commercial Music Performance, A.A.S. in Commercial Music Technology. Program: Labette Community College offers a two-year program designed to give students hands-on experience. Students are encouraged to learn through recording sessions, as well as classroom lectures and research assignments. Students gain knowledge in the use of MIDI production and digital audio recording through programs such as Digital Performer and Pro Tools. Freshmen utilize the Mackie 32x8 and 24x8 mixing consoles to record to ADATs and

World Radio History

PRO TOOLS | HD ACCEL

INTRODUCING

ACCEL

[ac-cel-er-ate: v. 1. to cause to move faster; to speed up.]

Supercharge Pro Tools® | HD with the new HD Accel PCI cards and put the fastest, most powerful digital audio workstation to work for you. Take all of the power of the fastest computer, accelerate it with Digidesign's blazing new dedicated hardware, and experience unstoppable creative freedom.

- Nearly 2x the power of Pro Tools | HD, 4x the power of Pro Tools® | 24 MIX
- Up to 192 simultaneous audio tracks
- Superior sound quality
- Supreme plug-in support
- Compatible with Pro Tools | HD

For more information on how you can accelerate your success, visit www.digidesign.com/hdaccel.

digidesign
Accelerate your success.

© 2003. Digidesign, 192 I/O, 192 Digital I/O, 96 I/O, MIDI I/O, PRE, Pro Tools HD, Pro Tools HD Accel, and SYNC I/O are trademarks or registered trademarks of Avid Technology, Inc., or its subsidiaries or divisions. All other trademarks are the property of their respective holders.

World Radio History

REC
RECORDING WORKSHOP
School of Audio & Music Production

- The Original, founded 1971
- Effective, Hands-On Approach
- 2 Months, 300+ hrs Training
- 3 to 6 Students per Class
- 8 Studio Facility, Latest Gear
- Affordable Tuition
- Job Placement Assistance
- On-Campus Housing

Contact us for a Free Brochure
800-848-9900 or 740-663-2544
www.recordingworkshop.com
email: info@recordingworkshop.com fax: 740-663-2427
455-X Massieville Road, Chillicothe OH 45601
Ohio State Board of Proprietary School Registration #80-07-0696T

Learn Audio Recording Like Nowhere Else.

The Conservatory of Recording Arts & Sciences 1.800.562.6383

All students train, hands-on, in cutting edge 48-track Analog/ Digital Recording Studios that feature:

-SSL -Studer -Otari -Neumann
-Neve -Neotek -Lexicon -Hafler

Plus...
-eMac/Logic Platinum Digital Lab
-Tascam Analog/Digital Mix Down Lab
-Individual G4 Pro Tools Workstations
-And Much, Much More!

No more than 12 students per class - taught by award winning professionals.

Every student completes an internship in the industry for graduation.

Only recording school authorized by Avid/Digidesign, T.C. Electronic, Waves, and SIA to certify students in the use of their products.

t.c. electronic
SIA
PRO TOOLS
Avid
WAVES

2300 East Broadway Road Tempe, Arizona 85282 www.audiorecordingschool.com

AUDIO EDUCATION PROGRAMS

Central Schools

to the SDR24. Sophomores utilize the Tascam Digital 8-Bus to record to Pro Tools and Digital Performer. Studio internships are available at several area studios.

Lakeland Community College

7700 Clocktower Dr., Kirtland, OH 44094 Phone 800/589-8520 E-mail rhill@Lakelandcc.edu Website www.Lakelandcc.edu Degrees/Certificates: 2-year certificates in Audio Engineering and Production; Video Production and Broadcast; Radio Engineering and Broadcast; Interactive Media Technology; Animation and Cartoon Arts; Interactive Entertainment Technology. 4-year Bachelor's of Communications (with emphasis in the above fields) through association with Notre Dame College. Program: Lakeland has provided quality, active, hands-on education taught by an educational faculty primarily composed of industry professionals. Certification and degrees in six broadcast and interactive media disciplines. Facilities include digital/analog studios/soundstages (24/48-track). Consoles by Otari, Sony, Mackie and SSL. Outboard by many leading manufacturers. Mac/PC media production labs.

Madison Media Institute

2102 Agriculture Dr., Madison, WI 53718 Phone 608/663-2000 Fax 608/442-0141 E-mail mmi@madisonmedia.com Website www.madisonmedia.com Degrees/Certificates: A.A. in Recording and Music Technology, A.A. in Multimedia Technology, Video Production diploma. Program: New education facility with over 19,000 square feet of state-of-the-art classrooms, computer labs and studio space. Low student-to-teacher ratios. Classes taught by industry professionals. Hands-on and classroom experience. Accredited. Placement service.

Mediatech Institute

6305 N. O'Connor Blvd., Irving, TX 75039 Phone 866/498-1122 Fax 972/869-1135 E-mail steve@dallassoundlab.com Website www.mediatechinstitute.com Degrees/Certificates: diploma/certification programs in Audio Engineering & Studio Techniques, Producing & Songwriting, Music Business Administration, TV & Film Soundtrack Production, Live Sound Reinforcement and Multimedia Production. Program: With campuses in Dallas, Houston and Austin, students get immediate hands-on training in Russ Berger- and Steve Durr-designed studios featuring SSL 6056E, SSL 4000G+, Neve 8058, API Legacy, Focusrite Control 24, Soundcraft TS-24 and Yamaha DM2000 consoles. Our extensive MIDI studios, as well as our digital editing suites, showcase Pro Tools|HD systems, iZ RADAR 24, Otari, Sony and Studer. Job-placement assistance is provided, and financial aid is available.

Millikin University

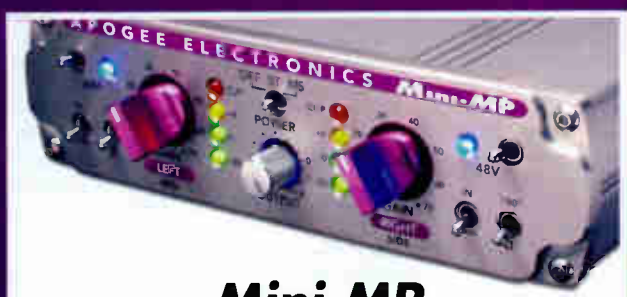
1184 W. Main St., Decatur, IL 62522-2084 Phone 217/424-6300 Fax 217/420-6652 E-mail swidenhofer@mail.millikin.edu Website www.millikin.edu/music.

Minneapolis Community & Technical College

1501 Hennepin Ave., Minneapolis, MN 55403 Phone 612/659-6000 Website www.minneapolis.edu Degrees/Certificates: 2-year A.S. in Sound Arts. Program: The Sound Arts program at

World Radio History

Four New Ways to Sound Amazing from Apogee



Mini-MP

2-channel, analog mic/instrument pre amp

Introducing... Mini-MP

The big sound of the Mini-Me mic-pre (and then some) in its own box, with 80dB of gain and instrument inputs great for ROSETTA users and mobile studios

ROSETTA 800

8-channel, 24/96kHz, AD/DA Converter (with optional 192kHz upgrade)

Pro Tools | Mix Systems and Firewire expansion cards Now Available for the Rosetta 800!

Mini-DAC

2-channel,192kHz D/A Converter (with optional USB)

Portability Without Compromise

The ultimate D/A for reference monitoring in the studio and on the road and perfect compliment to the Mini-Me

BIG BEN

192 kHz Master Digital Clock

Revolutionize Your Studio

BIG BEN with Apogee's C777 Digital Clock will revolutionize your studio by synchronizing all digital devices and making a difference that you can hear

A New Generation of Apogee. Innovative, Advanced, Affordable and...

AVAILABLE NOW!

Apogee
SOUND AMAZING

www.apogeedigital.com

© 2003 Apogee Electronics, Corp. Santa Monica, CA, USA • 310 915.1000 • www.apogeedigital.com
All trademarks herein are property of their respective holders

Check out our new WEB SITE!

World Radio History

AUDIO EDUCATION PROGRAMS

Central Schools

MCTC is focused on the nature and control of sound with analog and digital tools. The craft of engineering plays a large part in the course of study, but the program avoids the route of being solely a recording engineer trade school in favor of a broader application of skills and liberal arts curriculum. Courses include the full range of engineering and production topics, as well as project studio design, history of electronic music and music theory.

Minnesota State University, Moorhead

1104 7th Ave. S., Moorhead, MN 56563 Phone 218/477-2101 Fax 218/477-4097 E-mail music@mnstate.edu Website www.mnstate.edu/music Degrees/Certificates: B.M., Music Industry (4-year); M.M., New Media (flexible program). Program: MIDI lab, recording studio, digital audio studio, film/video scoring studio; Dragon Tracks annual CD project; MEISA student organization.

Musictech College

19 Exchange St. East, Saint Paul, MN 55101 Phone 800/594-9500 Fax 651/291-0366 E-mail dsandridge@musictech.edu Website www.musictech.edu Degrees/Certificates: 2-year A.A.S.; 1-year diploma programs; 4-year Bachelor's degrees through a direct-transfer agreement with Augsburg College. Call for specifics. Program: Musictech College is a leader in contemporary music education, drawing the finest students and faculty for 18 years. The college has developed one of the most advanced recording and production programs in the country alongside a respected school for professional musicians. Our facility features a recording complex of 10 studios, including three 5.1 surround rooms, as well as Trident, Sony and SSL consoles. An extensive Pro Tools training program.

Northeast Community College

801 East Benjamin Ave., Norfolk, NE 68701 Phone 402/844-7365 Fax 209/254-8193 E-mail northeast_audio@yahoo.com Website www.northeastaudio.org Degrees/Certificates: 2-year A.A.S. in Audio/Recording Technology. Program: Located in Northeastern Nebraska, Northeast Community College's Audio/Recording Technology program combines thorough academics and hands-on training in both live and studio environments. Facilities include two control rooms, recording studio, concert stage and isolation rooms. Equipment includes Otari, Soundcraft, Yamaha, Pro Tools and MOTU.

Oberlin Conservatory of Music

TIMARA Department, Oberlin, OH 44074 Phone 440/775-8413 E-mail Gary.Nelson@oberlin.edu Website www.timara.oberlin.edu Degrees/Certificates: 4-year B.M., 4-year B.A. in Visual Arts with an emphasis in Digital Media. Program: Based at one of the nation's top-ranked conservatories, the TIMARA Department has excellent facilities for computer music, performance technology and new media. There are seven studios, including a recording studio (16-track digital tape, 16-track Pro Tools), two computer music studios, a digital media room with a Media 100 system and a computer music lab with multiple Macintosh-based workstations/samplers. The program is competitive and admits fewer than 10 students per year.

Ohio University School of Telecommunications

9 S. College St., Athens, OH 45701 Phone 740/593-4870 Fax 740/593-9184 E-mail tcomschool@ohiou.edu Website www.tcomschool.ohio.edu Degrees/Certificates: 4-year B.S. in Communications. Program: Audio Production Sequence requires the student to choose between three tracks in audio production: Music Recording, Media Production or Audio Post-Production for Moving Image. Our newly renovated, John Storyk-designed recording complex includes an Amek Big 28x24 console; Tascam MX-2424 digital recorder; Pro Tools|HD with Control24 mixing surface; wide assortment of mics by Neumann, Sennheiser, AKG, Audio-Technica, Shure; processing gear by Lexicon, Yamaha, dbx and Rane. The school is also equipped with a 16-station Macintosh G4 digital media lab and a Sonic Solutions DVD-authoring system.

Oklahoma State University

Department of Music, Stillwater, OK 74078 Phone 405/744-6133 E-mail twalker@okstate.edu Degrees/Certificates: B.M. Music Business, Music Education, Music Performance; B.A. and M.M. in Pedagogy and Performance. Courses in music technology and recording techniques. Program: Courses are designed to offer undergraduate training in the fundamentals of music technology, sound recording and audio post-production. Our 24-track project studio is built around a Tascam MX-2424 and a Macintosh G5 Digi002 running Pro Tools. The Seretean Center for the Performing Arts also includes two performance halls, a computer lab, teaching studios and practice rooms.

Recording Institute of Detroit

14611 9-Mile Rd., Eastpointe, MI 48021 Phone 800/683-1743 Fax 810/772-4320 E-mail administrator@recordinginstitute.com Website http://recordinginstitute.com Degrees/Certificates: Recording Engineer certificate; Music Producer certificate; Associate Recording Engineer certificate. Program: Operating since 1975 with extensive training in recording and music production. Web training through Alexander Magazine can reduce campus time and tuition. Three major studios, dedicated student control room, plus student workstations. We use SSL, 02R and Tascam consoles, PC and Mac computers, plus 48-track digital and analog recorders. Small classes (eight to 10), relaxed and comprehensive. See Alexander Magazine entry.

The Recording Workshop

455 Massieville Rd., Chillicothe, OH 45601 Phone 800/848-9900 Fax 740/663-2427 E-mail info@recordingworkshop.com Website www.recordingworkshop.com Degrees/Certificates: certificates in Recording Engineering and Music Production, Studio Maintenance and Troubleshooting, Advanced Recording Engineering and Music Production, New Tech Computer-Based Audio Production. Program: The Recording Workshop offers effective and affordable short-term training that has helped thousands of audio professionals get their start. In less than two months, our students get more real in-studio experience than at many other schools that last much longer. Working in small teams of 3 to 6, our total student body is restricted to 96. We have eight studios full of the latest gear. Affordable on-campus student housing, job-placement assistance and financial aid available.

Ridgewater College

Audio Technology Program, 2 Century Ave., Hutchinson, MN 55350 Phone 800/222-4424 Fax 320/587-9019 E-mail digl@ridgewater.mnscu.edu Website www.ridgewater.mnscu.edu Degrees/Certificates: 2-year diploma in Audio Technology, 2-year A.A.S. in Audio Technology. Program: A diverse program, ranging from studio recording to live sound, system design and installation. Students also achieve a strong electronics and computer-applications background, which makes our graduates extremely valuable to future employers. Students will work with Pro Tools|HD, Renkus-Heinz Ease and Ears, Smaart Pro, BSS Soundweb, B&K acoustical test equipment and many other specializations.

Rose State College

6420 S.E. 15th St., Midwest City, OK 73110 Phone 405/733-7426 E-mail whiteroserecording@mac.com Website www.rose.edu/faculty/cwhite Degrees/Certificates: 2-year Liberal Studies degree with Music Recording option. Program: Provides the student with the entry training needed to begin work in the recording field. MIDI and audio recording, as well as songwriting and music business, are the emphasized areas. There are three recording lab areas for hands-on experience.

South Plains College

Sound Technology Program, 1401 S. College Ave., Levelland, TX 79336 Phone 806/894-9611 x2276 Fax 806/894-5274 E-mail smoody@southplainscollege.edu Website: www.southplainscollege.edu/creativearts/soundtechnology Degrees/Certificates: 2-year A.A.S. in Sound Technology. Accredited by the Southern Association of Colleges and Schools (SACS). Program: Two 24-track studios with Sony, Mackie digital consoles, Mackie HDR24/96 digital recorders. One 24/16-track digital/analog studio with Sony MXP-3036 console, MCI 2-inch analog, Mackie SDR24/96 digital. Lexicon, Yamaha, TC Electronic, Eventide, Summit, Orban, dbx, Drawmer processing. Neumann, Sennheiser, AKG, Shure, Earthworks, Audix, Electro-Voice microphones. Fifteen-station Pro Tools lab, 12-station MOTU Performer Lab, two Digital Performer DAWs, MIDI lab. Small class sizes, individualized attention, affordable tuition and comprehensive curriculum.

Southwest Texas State University

601 University Dr., San Marcos, TX 78666 Phone 512/245-8451 Fax 512/396-1169 E-mail me02@swt.edu Website www.swt.edu/music/srt/ Degrees/Certificates: B.M. in Sound Recording Technology. Program: SWT owns and operates the "Fire Station," a multipurpose recording facility housing analog and digital recorders, an automated console and numerous professional microphones and outboard devices. Students participate in commercial recording sessions while pursuing their degrees. Admission is competitive. Program applicants should have significant musical abilities, well-developed aural skills and possess competencies indicating an ability to complete calculus and other technical courses.

Synergetic Audio Concepts Inc.

8780 Rufing Rd., Greenville, IN 47124 Phone 812/923-0174 Fax 812/923-3610 E-mail brenda@synaudcon.com Website www.synaudcon.com Degrees/Certificates: "Week of Audio Training" includes System & Optimization and System Design. Program: System & Optimization allows you to learn how to properly interface and calibrate audio equipment. System Design allows you to achieve optimum sound system performance before installation. "Hands-on" allows you to apply the principles taught in the "System & Optimization" seminar. Continuing education units are given with the week-long seminar.

University of Cincinnati

Conservatory of Music (CCM)

PO Box 210096, Cincinnati, OH 45221-0096 Phone 513/556-5462 Fax 513/556-3399 E-mail Michael.Hooker@uc.edu Website www.uc.edu/www/ccm/tdp Degrees/Certificates: B.F.A. in Theater Design and Production; M.F.A. in Theater Sound Design. Program: CCM's sound-design programs encompass a broad array of areas within the performing arts. Coursework includes sound technology and production, theater aesthetics, critical listening, music, digital audio, recording, reinforcement and sound design. CCM offers a diverse season of shows including large musicals, operas, dance and dramas. Facilities include three well-equipped theaters, a sound-design studio, and extensive reinforcement equipment.

World Radio History

FOR OVER 30 YEARS LEXICON HAS BEEN IN WORLD-CLASS RECORDING STUDIOS

NOW YOUR HOME CAN BE ONE OF THEM.

ΩMEGA DESKTOP RECORDING STUDIO

Lexicon® Omega™ is the way to start recording TODAY – whether you are a guitarist, keyboard player, vocalist, instrumentalist or an audio engineer.

Omega supports 6 audio channels, up to 4 at one time, as well as MIDI and S/PDIF, so, you get all the connections you need to start recording your own music quickly. Once everything is connected, you have up to 32 stereo tracks to get it just right.

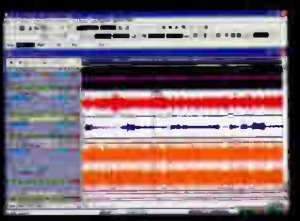
Lexicon's 30-year legacy of excellence in reverb can be found in the Pantheon™ reverb plug-in. With 35 presets and 6 different reverb types, Pantheon gives your mix that professional Lexicon sound found in studios world-wide.

To see how Omega can have you recording today, stop by your local Lexicon dealer or the Lexicon Pro website.

OMEGA DESKTOP RECORDING STUDIO INCLUDES:

• ProTracks™ Plus Multi-Track Recording Software

Your PC becomes the center-piece of your personal recording studio. 32 stereo tracks and unlimited takes per track as well as unlimited MIDI tracks, give you the flexibility to lay down your original performance as well as arrange and mix down your final creation.



Lexicon Pantheon™ Reverb Plug-In

Infuse your mix with legendary Lexicon reverb. Designed by the same Lexicon engineers who created the signature Lexicon sound, Pantheon offers 35 factory presets featuring 6 reverb types (hall, chamber, plate, room, ambience and custom) controlled by an intuitive user interface with 16 editable parameters.

Omega Studio Hardware

Plug in with USB, and now your PC has all the connections to make it a true studio. Omega Studio offers one of the most extensive I/O selections available in its class. Complementing 6 channels of 24-bit streaming audio (4 out, 2 in) are MIDI IN/OUT and S/PDIF. And our Mic XLR inputs not only support +48V phantom power, they are driven by high-quality dbx® mic pre amps.

lexicon PRO

Lexicon Pro 8760 So. Sandy Parkway, Sandy, Utah 84070 • Tel: (801) 568-7567 | Fax: (801) 568-7662 • www.lexiconpro.com • www.protracksrecording.com

A Harman International Company
World Radio History

AUDIO EDUCATION PROGRAMS

Western Schools

University of Colorado, Denver

Campus Box 162, PO Box 173364, Denver, CO 80217-3364 Phone 303/556-2727 Fax 303/556-6612 E-mail rpritts@carbon.cudenver.edu Website www.cudenver.edu/cam Degrees/Certificates: 2-year M.S. in Recording Arts, 4-year B.S. in Music (major in Recording Arts or Music Industry Studies). Program: Master's emphasis in Advanced Recording Arts, Audio Pedagogy or Audio Forensics. Bachelor's emphasis in Technology, Music Business or Music Performance. Two 24-track analog and two 24-track digital control rooms, five performance studios, theater, concert hall, recital hall. Studies of audio sweetening, surround sound and music production. SPARS member, AES Student Section.

University of Michigan

School of Music, Dept. of Performing Arts Technology, 1100 Baits Dr., Ann Arbor, MI 48109-2085 Phone 734/763-7558 Fax 734/763-5097 E-mail dodyblac@umich.edu Website www.music.umich.edu/departments/pat/index.lasso Degrees/Certificates: B.M. in Music and Technology, B.F.A. in Performing Arts Technology: Music Concentration, B.F.A. in Performing Arts Technology: Media Arts Concentration (Sonic Arts, Visual Arts, Engineering), B.S. in Sound Engineering, M.A. in Media Arts. Program: The department seeks to advance the aesthetics of technology-based arts through performance, the development of emerging technologies and research.

University of Missouri, Kansas City

4949 Cherry St., Kansas City, MO 64110 Phone 816/235-2964 Fax 816/235-5367 E-mail mardikest@umkc.edu Website www.umkc.edu Degrees/Certificates: M.F.A. in Theater Sound Design. Program: This three-year training program teaches students to create sound scores for the theater through five main components: design (interpretation, collaboration and idea development), technical skills (mastering tools of production with 24-track analog and Pro Tools), history (research, text analysis and dramatic history), production (artistic merging of design, history and technical skills) and entrepreneurship (study of the business and career growth).

University of Nebraska, Lincoln

206 Avery Hall, Lincoln, NE 68588-0511 Phone 402/472-2258 Fax 402/472-4732 E-mail krnu@unlinfo.unl.edu Website www.jet.unl Degrees/Certificates: 4-year Bachelor's of Journalism degree in Broadcasting. Program: The College of Journalism and Mass Communications houses the broadcasting department with audio and video production facilities and the University's FM radio station, KRNU. Courses are devoted to audio and studio production for broadcast/cable operations and A/V production careers. Extensive digital audio and video gear.

University of Texas

Department of Radio-Television-Film, University Station A0800, Austin, TX 78712-0108 Phone 512/471-4071 E-mail blmohan@mail.utexas.edu (undergraduate), maureenc@mail.utexas.edu (graduate) Website www.utexas.edu/coc/rtf Degrees/Certificates: B.S., M.F.A. and Ph.D. Degrees in Radio, Television and Film. Program: Please see Website.

University of Wisconsin, Oshkosh

800 Algoma Blvd., Oshkosh, WI 54901 Phone 920/424-4224 Fax 920/424-1266 E-mail messner@uwosh.edu Website www.uwosh.edu Degrees/Certificates: 4-year B.M. with an emphasis in Recording Technology. Program: Students are trained in digital tape/hard disk/analog studio featuring a Sony 3000 Series console with automation, extensive outboard gear, full lock-to-video, full Pro Tools system with Control 24, mastering DAWs and a connected MIDI lab. Auditions are required for acceptance. Final requirement is a full-semester internship.

Wayne State University Music

1321 Old Main, Detroit, MI 48202 Phone 313/577-1795 Fax 313/577-5420 E-mail music@wayne.edu Website www.music.wayne.edu Degrees/Certificates: undergraduate and graduate degrees in Music, with program disciplines covering music technology, jazz studies, instrumental education, vocal education, vocal performance, piano, composition, orchestral studies, theory and musicology. Program: Recording techniques and concepts for musicians, producers and management. Including sound design creation for video and performance. One large surround studio running Pro Tools TDM with Kawai Grand pianos, Neumann and DPA microphones. Electronic Music Lab with five Pro Tools LE and MOTU workstations. Vintage and current hardware synthesizers with software variants. A new 165-seat recital hall, two music computer labs, 60-student rehearsal spaces with pianos and larger spaces for ensembles, choral and orchestra.

Webster University

470 E. Lockwood Ave., Webster Groves, MO 63119 Phone 314/968-6924 E-mail hufkerbe@webster.edu Website www.webster.edu/depts/comm/audioprod/audioprod.html Degrees/Certificates: 4-year undergraduate liberal arts education culminating in a B.A. in Audio Production. Program: Webster University graduates audio professionals capable of working successfully in a variety of audio fields, including music recording, audio studio maintenance and management, audio for video, film, radio/television broadcasting, theatrical sound design, sound reinforcement and audio for interactive computer applications. The education is both theory-based and practical. Students learn both in the studio and in the field while operating state-of-the-art equipment.

WEST

Alta Center for Communication Arts

9014 N. 23rd Ave., Ste. 1, Phoenix, AZ 85021 Phone 888/729-4954 Fax 602/749-5418 E-mail info@thealtacenter.com Website www.thealtacenter.com Degrees/Certificates: diploma in Digital Audio Recording. Program: Innovative 10-week Digital Audio Recording program is designed by Wayne Vlcan, a multi-Gold Award-winning engineer/producer and founder of The Conservatory of Recording Arts & Sciences. Designed for today's music business. Unique curriculum is created specifically for independent musicians, artists, producers and engineers. The Alta Center also offers a Multimedia Production program, including digital graphics, video production, animation and Website development.

Art Institute of Seattle

2323 Elliott Ave., Seattle, WA 98103 Phone 206/239-2338 Fax 206/269-0274 E-mail barsotts@aii.edu Website www.ais.edu Degrees/Certificates: 6-quarter A.A.A. in Audio Production. Program: Includes studio production, A/V post, streaming media, radio production. Required internships, placement assistance upon completion. Hands-on experience: 5 studios (3 tracking, 2 mixing), 4 DAWs (Pro Tools|HD), two 25-seat computer labs (Windows/Sonic Foundry, Mac/ProTools LE). Consoles: SSL4000G+, Euphonix C300, Mackie D8D, Yamaha 02R, Mackie 32X8. 24 I/O analog 2-inch (2), 24 I/O Pro Tools|HD, (5.1 DTS surround),16 I/O Pro Tools|HD (2).

The Art Institute of Vancouver, Burnaby

3264 Beta Ave. Phone 604/298-5400 Fax 604/298-5403 E-mail aiv_burnaby_info@aii.edu Website www.aivb.artinstitutes.edu Degrees/Certificates: 1/2/3-year programs. Articulated degree program with the Liverpool Institute of Performing Arts (LIPA). Program: Using the latest linear and nonlinear recording techniques and state-of-the-art recording studios, students train for careers in music and post-production for film, video, TV and new media. The campus covers over 55,000 square feet across four separate buildings and boasts five recording studios, a mix-to-picture surround sound studio and an automated music production facility. A policy of liberal access to facilities and equipment creates an environment where art and creativity blend seamlessly with technology.

ArtistPro.com

447 Georgia St., Vallejo, CA 94590 Phone 707/554-1935 Fax 707/554-9751 E-mail info@artistpro.com Website www.artistpro.com Degrees/Certificates: professional growth training, non-accredited. Program: Free online, self-paced professional audio training courses taught be renowned author Bill Gibson, using text, high-quality audio and detail images teaching Understanding the Mixer Part I, Understanding the Mixer Part II, Essential EQ Theory, Dynamics Processors, Microphone Technology, Digital Recording, Synchronization, Recording Instruments/Vocal, MIDI and more!

Audio Institute of America

PO Box 15427, San Francisco, CA 94115 Phone 415/752-0701 Fax 415/752-0701 E-mail audioinst@earthlink.net Website www.audioinstitute.com Degrees/Certificates: diploma in recording engineering. Program: Home-study course for recording engineers, producers and live sound engineers. Learn how to build and operate your own studio or join successful working graduates in studios around the world.

The Banff Centre

107 Tunnel Mountain Dr., Box 1020, Banff, Alberta, Canada T1L 1H5 Phone 403/762-6180 Fax 403/762-6345 E-mail There sa_Leonard@banffcentre.ca Website www.BanffCentre.ca Degrees/Certificates: audio assistant and associate work/study programs; 1 to 6 terms. Program: This is a work-study program that provides a bi-weekly stipend with no tuition fee. The audio program runs alongside internationally renowned music programs with prominent faculty and musicians. Guest audio faculty have included John Eargle, Bob Ludwig, George Massenburg, Elliot Scheiner, Jim Anderson, Doug Sax, Shawn Murphy, David Frost, Jean Marie Geijsen, Tony Faulkner, Richard King, among many others. Facilities include recital hall with adjoining control room, digital multitrack recording studio, Pro Tools audio-for-video post-production suite, Sonic Solutions editing suite and Pyramix Digital Audio workstation.

World Radio History

Look Into Your Future @

www.recordingcareer.com

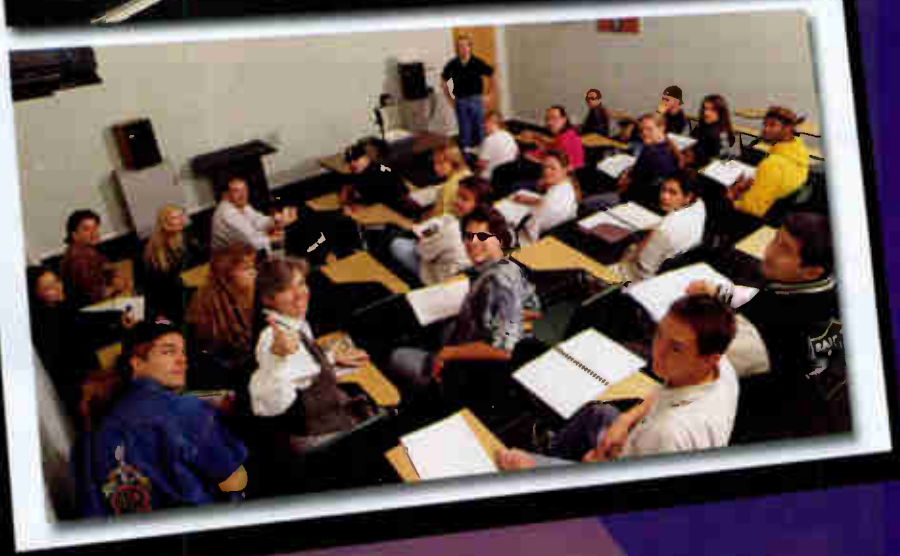
LOS ANGELES RECORDING WORKSHOP

Center for the Recording Arts

recordingcareer.com
818-763-7400

One of the Best-Equipped Recording Engineer Schools on the Planet

- Home
- 900-hour Recording Engineer Program
- 900-hour Recording Engineer Curriculum
- Start Dates
- Dorm Housing
- Get a School Catalog
- Newsletter
- Subscribe to our Newsletter
- Location
- Federal Student Financial Aid
- Scholarships
- Job Placement
- Job Leads
- Internships
- Graduate Awards
- Contact Us



A great career starts with a great education. If you're interested in a professional career as a Recording Engineer, we invite you to learn more about our hands-on training facilities, our extensive equipment, our curriculum and our outstanding staff and faculty by visiting our new website at www.recordingcareer.com.

818-763-7400

5278 Lankershim Boulevard, North Hollywood, CA 91601

World Radio History

AUDIO EDUCATION PROGRAMS

Western Schools

California State University, Chico

Department of Music, Chico, CA 95929-0805 Phone 530/898-5500 Fax 530/898-4082 E-mail kseppanen@oavax.csuchico.edu Website www.csuchico.edu/mus/rcrd Degrees/Certificates: 4-year B.A. in Music with an option in Recording Arts; 4-year B.A. in Music with an option in Music Industry.

California State University, Dominguez Hills

1000 E. Victoria St., Carson, CA 90247 Phone 310/243-3543 E-mail dbradfield@dhvx20.csudh.edu Website music1.csudh.edu/Music Degrees/Certificates: 4-year B.A., Audio Recording; 4-year B.A., Music Technology; certificate in Audio Technology. Program: CSUDH has a fully equipped analog and digital studio in addition to its synthesizer studio. Completely renovated in 1999, the new equipment includes Mackie and Panasonic Digital 5.1 mixing consoles, 48 tracks of DA-98 and ADAT multitrack recording, Pro Tools and Sonic Solutions DAWs, and high-res mastering equipment.

Citrus College

1000 W Foothill Blvd., Glendora, CA 91741 Phone 626/852-8061 Fax 626/852-8063 E-mail Info@citrusstudios.org Website www.citrusstudios.org Degrees/Certificates: 1-year Vocation certificate in Recording Technology. Program: Citrus offers hands-on training in a working studio. The facility centers on two studios with Neve VR and Euphonix CS2000 consoles, with Tascam digital, Studer A827 analog and Pro Tools recorders. Other rooms include and auditorium for live recordings and film scores, a smaller analog studio and a lab with 25 Pro Tools workstations. The curriculum consists of courses in audio engineering, acoustics, live sound, critical listening, digital audio, MIDI and music business.

City College of San Francisco

Broadcast Electronic Media Arts Department, 50 Phelan St., Box A6, San Francisco, CA 94112 Phone 415/239-3527 E-mail twinston@ccsf.edu Website www.ccsf.edu/Departments/Broadcast Degrees/Certificates: Sound Recording and Sound Design certificates. Program: Covers analog and digital multitrack techniques used in the various stages of pro sound recording. Basic tracks, overdubbing, editing, mixing and mastering. Mic placement for ensembles, instruments and vocals, console, signal flow, gain structure, music mixing theory and aesthetics, equalization, compression, reverberation and more.

Cogswell Polytechnical College

1175 Bordeaux Dr., Sunnyvale, CA 94089 Phone 408/541-0100 Fax 408/747-0764 E-mail tduncan@cogswell.edu Website www.cogswell.edu Degrees/Certificates: 4-year B.S. in Digital Audio Technology; 4-year B.S. in Audio Engineering. Program: Digital Audio Technology prepares students for careers in the music industry with concentrations in studio recording, synthesis and sound design, and composing and arranging. Audio Engineering addresses the manufacturing side of the music industry. Students can get either a B.S. in Electrical Engineering or Software Engineering with a concentration in audio. Both programs are supported by a facility that has three recording studios and two classroom labs. The college is regionally accredited.

Columbia Academy

1295 West Broadway, Vancouver, BC, Canada V6H 3X8 Phone 800/665-9283 Fax 604/731-5458 E-mail administration@columbia-academy.com Website www.columbia-academy.com Degrees/Certificates: 1-year diploma in Digital/Analog Recording Arts. Program: Utilizing three recording studios, students develop professional skills in engineering, music production, post-production for film and television, digital editing and mixing, studio tracking and recording techniques. The program provides practical, hands-on experience in broadcast production, audio post and music recording studios. In the music studios, students are regularly working with a variety of live talent. In post-production, independent filmmakers provide students with feature-length movies, documentaries and short films.

Conservatory of Recording Arts & Sciences

2300 East Broadway Rd., Tempe, AZ 85282-1707 Phone 800/562-6383 Fax 480/829-1332 E-mail info@cras.org Website www.audiorecordingschool.com Degrees/Certificates: Master Recording Program II. Program: MRP-II is a 37-week program with classes limited to 12 students. It is the only program that secures and requires an internship for graduation. 40,000-square-foot facility includes 8 control rooms, 5 studios, 2 Pro Tools labs, 2 digital audio labs, 2 mix labs and a 6000-square-foot live sound classroom. Gear includes SSL, Neve, Studer, Manley and Neumann, among others. Students are offered manufacturer certification on Pro Tools, TC System 6000, Waves plug-ins, SIA Smaart. Financial aid available.

Ex'pression Center for New Media

6601 Shellmound St., Emeryville, CA 94608 Phone 877/833-8800 Fax 510/658-3414 E-mail yee-ju@xnewmedia.com Website www.expression.edu Degrees/Certificates: 2-year accelerated Bachelor's in Sound Arts. Degrees also offered in Animation and Graphic Design. Program: The 60,000-square-foot campus includes a 200-seat 5.1 Meyer Sound Theater, 11 full-size studios, gear from Studer, Neve, SSL, Mackie, Yamaha and more. Class sizes are small to ensure personalized attention. In addition to sound engineering and production, students are trained in music theory, studio etiquette and psychology, DVD authoring, Pro Tools, MIDI, mastering for 5.1, live sound and media law. Students have unparalleled hands-on access to digital and analog studio equipment (e.g., 15-20 sessions at the controls with a live band), and all students are required to do a professional internship. Programs start every month except May and December.

Fullerton College

321 E. Chapman Ave., Fullerton, CA 92832 Phone 714/992-7302 E-mail acima@fullcoll.edu Website www.fullcoll.edu Degrees/Certificates: Music Production Recording certificate as part of a Commercial Music major. Program: 24-track digital studio with Mackie HDR24/96, D8B, monitors. MOTU 896 and Pro Tools LE, MIDI and analog electronic music labs.

Globe Institute of Recording and Production

PO Box 961, Brisbane, CA 94005 Phone 800/9000-MIX E-mail Info@GlobeRecording.com Website www.GlobeRecording.com Degrees/Certificates: 2-Year Audio Producer Associates degree; 4-month certificates in Audio Recording and Production, Music Business, Digital Composition, Audio for Media, Digital Audio Workstation (Pro Tools), Psychoacoustic Sound Healing. Program: Hands-on classes in recording, mixing, production and Pro Tools utilizing the Virtual Mixer concept, which visualizes sounds in 3-D. Top instructors including David Gibson, author of *The Art of Mixing* and *The Art of Producing*. Classes include instruction in music theory and instrument proficiency.

Golden West College

15744 Goldenwest St., Huntington Beach, CA 92647 Phone 714/895-8780 Fax 714/895-8784 E-mail ssteidinger@gwc.ccd.edu Website www.gwc.info Degrees/Certificates: Commercial Musician/Recording Arts certificate program. Program: Classes include music, business and recording study areas. The hands-on facilities include three 24-track digital control rooms. Specialty labs are provided for Pro Tools, Final Cut Pro video editing, CD/DVD duplication, maintenance and Digital Performer-based synthesizer workstations. The program, which is almost 30 years old, has produced graduates working in recording studios and in almost all related sound areas.

Long Beach City College

4901 East Carson St., Long Beach, CA 90808 Phone 562/938-4309 Fax 562/938-4118 Website www.lbcc.cc.ca.us Degrees/Certificates: A.A. with emphasis in Commercial Music, 10 certificates in Music, Radio or Television. Program: LBCC offers job placement and intern positions. Most instructors are active in the professional field. Facilities include seven studios equipped with digital audio and/or analog multitrack, 42 individual MIDI workstations, three-camera online video facilities, as well as three offline editing rooms. All students get hands-on experience during their first semester. Equipment includes ADAT, Fostex DMT, MCI 24-track, Soundcraft, CAD, Sound Workshop, Pro Tools, Music Shop, Vision.

Los Angeles Recording Workshop

Center for the Recording Arts, 5278 Lankershim Blvd., North Hollywood, CA 91601 Phone 818/763-7400 Fax 818/763-7447 E-mail info@recordingcareer.com Website www.recordingcareer.com Degrees/Certificates: 900-hour Recording Engineer Certificate. Program: One of the best-equipped schools on the planet. Our 10 studios include Solid State Logic, Neve VR, Pro Tools, five Sony DMX-R100s and the Sony Oxford digital console. Financial aid and student scholarships, and dorm housing are also available.

Los Medanos College

2700 E. Leland Rd., Pittsburg, CA 94565 Phone 925/439-0200 Fax 925/427-1599 E-mail fdorriti@losmedanos.edu Website www.losmedanos.edu Degrees/Certificates: 2-year A.A. in Recording Arts and 2-year Recording Arts certificate. Fully accredited. Program: The most highly respected community college Recording Arts program in the country. Faculty honored with multiple Grammy Awards and nominations. Tuition for CA residents: $18/unit. Two fully equipped 24-track studios, with Studer and Alesis ADATs, Otari MX-70 and MTR-90 multitracks and Pro Tools.

Loyola Marymount University

One LMU Dr., MS-8230, Los Angeles, CA 90045 Phone 310/338-4575 Fax 310/338-3030 E-mail jpresent@lmu.edu Website http://film.lmu.edu Degrees/Certificates: 4-year B.A. in Recording Arts (music recording and film sound). Program: Recording Arts at LMU educates students in audio engineering, music production, film sound production and post-production. Students *cannot* record their own music at LMU. They must scout the artists that they want to record. Entirely Pro Tools-based state-of-the-art audio facilities.

World Radio History

WHO REALLY CARES HOW THE MUSIC SOUNDS?

✻ Today's pop stars succeed or fail on the strength of their videos. It's all about sex appeal and mass marketing. It's eye candy, with a music track. ✻ Unless, of course, you happen to be smarter than the average monkey. Early on, you discovered music through your ears, and not your eyes. Which is why you should know about Ex'pression Center. When it comes to sound recording and production, this is the place of higher learning. ✻ We take a more evolved approach. You get your Bachelor's Degree in Sound Arts in just 2 years. And you graduate with skills that will enable you to work in virtually any studio in the world. ✻ To find out more, just click on our web address. Discover why education at E.C. sounds a whole lot better than the rest.

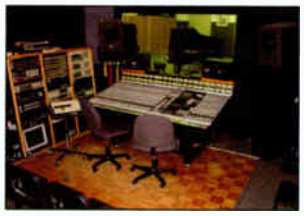
DIGITAL ARTS EDUCATION • EMERYVILLE, CA 1-877-833-8800 WWW.EXPRESSION.EDU

EX'PRESSION
Center for New Media

World Radio History

AUDIO EDUCATION PROGRAMS

Western Schools



Mesa Community College

1835 West Southern Ave., Mesa, AZ 85202 Phone 480/461-7273 Fax 480/461-7422 E-mail aseagle@mail.mc.maricopa.edu Website www.mc.maricopa.edu Degrees/Certificates: A.A.S. in Music Technology: Studio Recording (approximately 2 years) or Certificate of Completion (CCL), approximately 1 year. Program: Classes in studio recording, Pro Tools, live sound reinforcement, electronic music (MIDI and digital audio), music business, music theory, electronics and more. Our recording studio recently installed a Solid State Logic console. Using digital multitrack recorders, we record with Neumann and AKG microphones and the finest of processing. With a huge two-story studio proper, we're able to record orchestras, big-band jazz, choirs and pop music bands.

Mills College

Phone 510/430-2191 Degrees/Certificates: B.A.s can specialize in Composition with an emphasis on technology. M.F.A. degrees in composition can specialize in Eectronic Music and Recording Media. Program: Mills College is an undergraduate women's college and a co-educational graduate college. Our studios include 24-track analog (with Dolby SR) and Pro Tools workstation.

MiraCosta College

Music Department, 1 Barnard Dr., Oceanside, CA 92056 Phone 760/757-2121 x6703 E-mail ccoobatis@mcc.miracosta.edu Website www.miracosta.edu/music Degrees/Certificates: A.A. in Music. Certificates in Recording Arts/Record Production, Computerized Audio Production, Sound Reinforcement, Music Technology and Performance Technician. Program: We offer programs in commercial music, choral, instrumental and other general transfer-level courses. Two control rooms/studios with digital and analog recording. Pro Tools systems and lots of state-of-the-art processing equipment. Students are given many opportunities for hands-on recording experience. We also have a MIDI/digital recording lab with 25 stations and a Foley lab. Located near the beach in North San Diego County.

Mt. San Jacinto

1499 North State St., San Jacinto, CA 92583 Phone 909/487-6752 x1577 Fax 909/487-1452 E-mail music@msjc.edu Degrees/Certificates: Audio Technologies certificate (18 units), Associate degree, Audio Technologies. Program: The program feature both hands-on and theoretical instruction, from basic audio principles to full lock-to-picture audio post using Otari RADAR, Pro Tools and automated consoles. We offer both digital and analog recording. We can also train your employees with both day and evening classes. The $2 million facility features five studio floors, four independent control rooms and computer music lab. Upper-level classes are small, giving you more project and board time. California resident enrollment fees are $18 per unit. Out-of state fees are higher. Financial aid is available.

Pacific Audio Visual Institute

34 West 8th Ave., Vancouver, BC, Canada V5Y 1M7 Phone 604/873-4853 Fax 604/873-4295 E-mail terry@pacificav.com Website www.pacificav.com Degrees/Certificates: 1-year Audio Engineering & Production diploma; 1-year Film & Music Business diploma; 1-year Indie Filmmaker diploma. Program: Train in a state-of-the-art commercial studio with field trips to other professional entertainment and production facilities. Learn to record for film, TV and radio, make your own beats, loops and grooves. Learn entertainment industry structure, where you can fit in and how to contribute to your own success or that of other artists. Also, learn to create, finance, cast, direct, shoot, edit and market your own film, TV pilot or music video.

Pyramind

880 Folsom St., San Francisco, CA 94107 Phone 415/896-9800 Fax 415/459-5417 E-mail info@pyramind.com Website www.pyramind.com Degrees/Certificates: Producer, Composer & Film Audio certificates. Digidesign Pro Tools certified training, Apple Logic Audio certified training. Program: Pyramind's media complex in San Francisco includes a state-of-the-art multiple-workstation training lab for hands-on learning in the digital audio arts. The expanded course curriculum, adapted from the very successful SF Audio Net workshops, now includes a series of courses geared toward production, music composition and film audio. As an Apple- and Digidesign-certified training location, Pyramind also offers operator certification for Pro Tools and Logic Audio.

Recording Connection

8033 Sunset Blvd., Ste. 4042, Hollywood, CA 90046-2427 Phone 800/295-4433 Fax 310/826-8064 E-mail musicbiz@earthlink.net Website www.recordingconnection.com Program: Recording Connection is a 15-year-old accredited program that has a worldwide network of over 5,000 recording studios throughout the United States and Canada. The company signs on new affiliates each month. We provide on-the-job training in major recording studios, record companies, and radio and TV stations. Available in every city or town. Call for free video or CD-ROM.

Sacramento City College

3835 Freeport Blvd., Sacramento, CA 95822 Phone 916/558-2111 Fax 916/650-2945 E-mail donyg9999@aol.com.

San Diego City College

1313 Park Blvd., San Diego, CA 92101 Phone 619/388-3337 E-mail jfenwick@sdccd.net Degrees/Certificates: 2-year A.A. in Electronic Music. Program: Students receive a well-rounded education in music while focusing in depth on Pro Tools in a Mac-based lab. Graduates are prepared for entry-level positions in recording studios, radio and TV stations, multimedia facilities including Web-based production, as live sound engineers and for positions in retail electronic music sales.

San Francisco State University

Broadcast & Electronic Communication Arts Dept., 1600 Holloway Ave., San Francisco, CA 94132 Phone 415/338-1787 Website www.sfsu.edu Degrees/Certificates: B.A. and M.A. in Radio and Television with emphasis in Music Recording, Audio-for-Visual Media and Audio Post-Production. Program: Fully equipped recording studio with 2-inch analog multitrack, state-of-the-art DAWs and labs for individual work.

Santa Barbara City College

721 Cliff Dr., Santa Barbara, CA 93109-2394 Phone 805/965-0581 Fax 805/963-7222.

Santa Monica College

Academy of Entertainment and Technology, 1660 Stewart St., Santa Monica, CA 90404 Phone 310/434-3700 Fax 310/434-3768 Website http://academy.smc.edu Degrees: certificate and A.A. degrees in Interactive Media Certificate Level I, Interactive Media Certificate Level II, Animation. Program: The Interactive Media Program is a comprehensive course in the design and implementation of Websites, interactive entertainment such as games and CD-ROMs, and other interactive media. The program emphasizes high-quality design driven by real-world business, entertainment and technical requirements.

School of Worship

3000 W. MacArthur Blvd., #520, Santa Ana, CA 92704 Phone 714/979-4422 x3547 Fax 714/429-0652 E-mail devenberryhill@calvarychapel.com Website www.schoolofworship.net Degrees/Certificates: 1-year certificate program. Program: Designed to equip and train future worship leaders for a specific ministry role in the local church. Classes are basic theological concepts, leadership administration, worship administration, music theory, worship team development, studio and live engineering, songwriting, vocal techniques and many others. Throughout the year, students will participate in four mini-workshops focusing on specific subjects such as songwriting, choir arrangements, leadership and other topics relating to the worship ministry. The campus is located at Calvary Chapel of Costa Mesa.

Sound Master Recording Engineer School Audio/Video Institute

10747 Magnolia Blvd., North Hollywood, CA 91601 Phone 323/650-8000 E-mail engrsnd@aol.com Degrees/Certificates: Recording Engineering certificate. Program: The school offers comprehensive training in record engineering, audio/video post-production, film scoring, digital mastering, synchronization, MIDI and technical maintenance. Job placement is given upon graduation. Sound Master is proud of its graduates' achievements in the industry; many hold key positions in top music/recording companies. Student grants and loans are available for those who qualify. Day or evening classes are available.

The Academy of Production & Recording Arts

619 11th Ave. SE, Calgary, Alberta, Canada T2G 0Y8 Phone 403/237-8561 Fax 403/237-6128 E-mail beachinc@telusplanet.net Website www.thebeachaudio.com Degrees/Certificates: Sound Basics 101 certificate; Music Advanced certificate; Post-Production Advanced.Program: APRA is a school that is located within Alberta's premier recording facility, The Beach Advanced Audio. The courses enable students to learn all elements of audio recording, engineering and production. Courses focus on all elements of audio, be it music, post-production, broadcast,etc.

World Radio History

Trebas Institute, British Columbia

112 East 3rd Ave., Vancouver, BC, Canada V5T 1C8 Phone 604/872-2666 Website www.trebas.com Degrees/Certificates: 1-year diploma programs in Audio Engineering, Recorded Music Production, Music Business Administration, Film/Television Production and Film/Television Post-Production; B.A. in Sound Technology in partnership with the Liverpool Institute for Performing Arts; B.A. in Enterprise Management. Program: Established in 1979 for entry into fields of music business, audio, record production, film/TV production, post-production, interactive multimedia and computer animation. Outstanding instructors. High-tech studios and labs. Government loans. Internships. Lifetime national job-search assistance. Grads with major entertainers, studios, companies worldwide. Resource center. Authorized training center for Cubase and Macromedia.

UCLA Extension

Department of Entertainment Studies, 10995 Le Conte Ave., Room 437, Los Angeles, CA 90024 Phone 310/825-9064 Fax 310/206-7435 E-mail entertainmentstudies@uclaextension.edu Website www.uclaextension.edu/entertainmentstudies Degrees/Certificates: certificates in Music Business, Songwriting, Recording Engineering, Film Scoring. Program: UCLA Extension's Department of Entertainment Studies offers rigorous training programs that prepare students in both the art and science of the music business, songwriting, recording engineering and film scoring. Drawing on the talent and studio facilities of Los Angeles, Entertainment Studies has created a curriculum of required and elective courses that cover both theory and practice in audio technology, equipment, musicianship and business practice.

University of Oregon

School of Music, 1225 University of Oregon, Eugene, OR 97403 Phone 541/346-3761 E-mail lgoren@oregon.uoregon.edu (undergraduate), gradmus@oregon.uoregon.edu (graduate) Website http://darkwing.uoregon.edu/~fmo Degrees/Certificates: B.S., Music Technology option; M.M. in Intermedia Music Technology; and Intermedia Music Technology as a secondary area for doctoral students. Program: Each curriculum strives to balance the development of artistic and creative skills with the mastery of the technical aspects of the discipline. Courses emphasize music composition, performance and real-time interactive media environments. The focus is on the creation of experimental types of musical content, not on the training of recording engineers or related technicians.

University of Southern California

School of Music, Music Industry/Recording Department, Los Angeles, CA 90089-0851 Phone 213/740-3224 Fax 213/740-3217 E-mail scmusind@usc.edu Website www.usc.edu/schools/music Degrees/Certificates: 4-year B.S. in Music Recording, 4-year B.S. in Music Industry, B.M. in Music Industry. Program: All classes taught by full-time faculty and local L.A. professionals. Music industry class lecturers/instructors include Mark Goldstein, Jay Cooper, Jeff and Todd Brabec, Donald Passman, Mark Isham, Chris Stone. Recording arts classes taught in SSL/Studer-equipped classroom by instructors/guest lecturers Ed Cherney, Steve Krause, George Massenburg.

Vancouver Film School

200-198 W. Hastings St., Vancouver, BC, Canada V6B 1H2 Phone 604/685-5808 Fax 604/685-6389 E-mail admissions@vfs.com Website www.vfs.com Degrees/Certificates: 1-year diploma in filmmaking, 2-D and 3-D animation, sound design, broadcast, new media, acting and writing for film and television, makeup for film and television. Program: VFS maintains industry-standard, high-quality production so that sound design students have the opportunity to author and produce the surround sound audio requirements for original film and digital media content. The program is ambitious and has several objectives: produce a professional-quality audio component portfolio; author and produce the complete audio components for a short film or digital media package; expand audio design principles to include Web-based audio delivery; and complete Digidesign Operator certification.

Women's Audio Mission

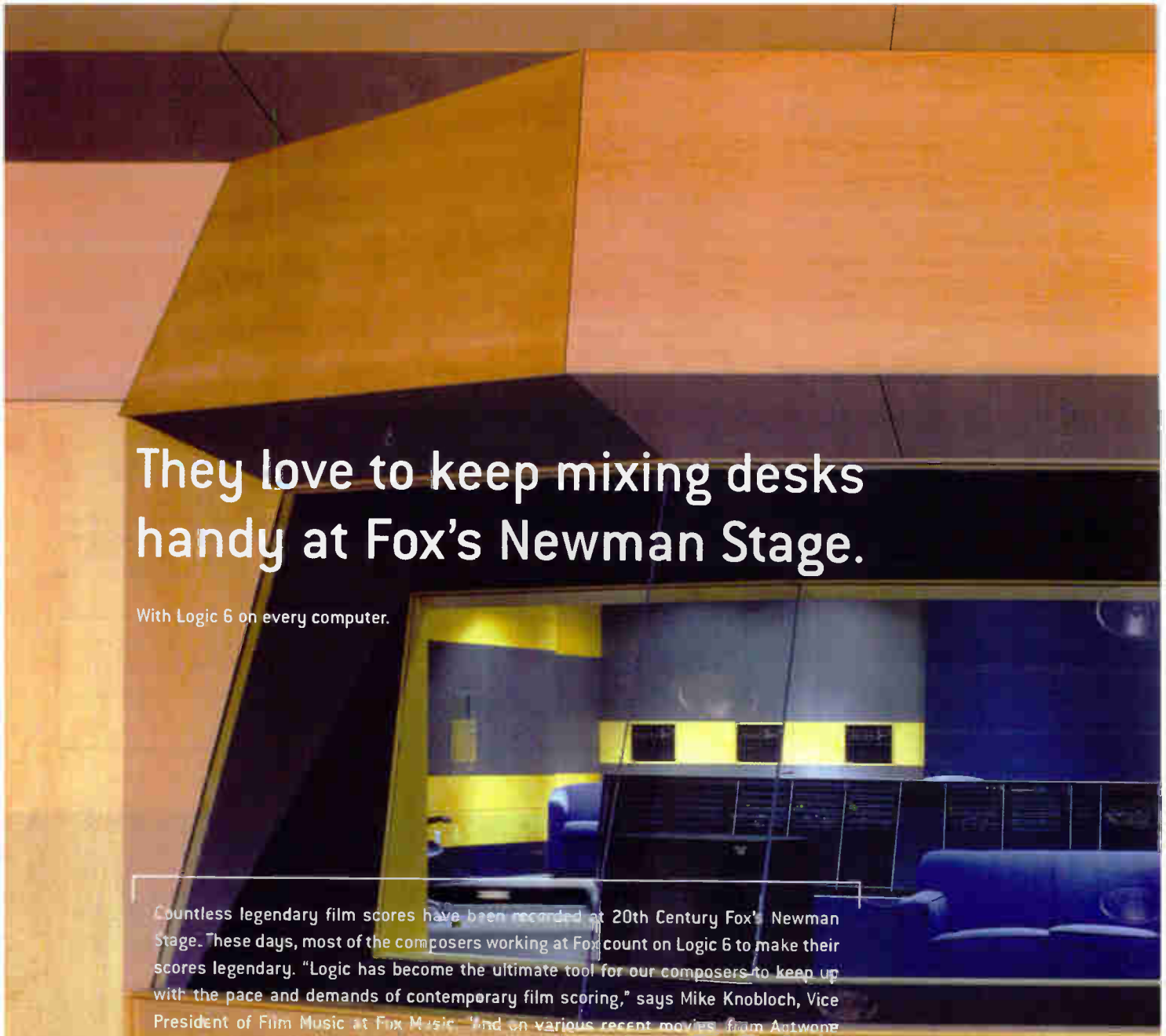
PO Box 410663 San Francisco, CA 94141 Phone 415/239-3269 x5 E-mail twinston@womensaudiomission.org Website www.womensaudiomission.org Degrees/Certificates: Audio Workshops taught by women for women. Audio Certificates are scheduled for fall 2004. Program: In a field where women professionals are historically underrepresented, WAM seeks to create an environment that will encourage and enable the aspirations of women in the recording arts, and, in turn expand the vision and voice of media and popular culture. We provide access to audio technology and training in its use to record sound for music, radio, film, television and the Internet for women and girls. ■

To make sure that your school and audio program are included in next year's guide, please contact blingle@primedia business.com.

World Radio History

They love to keep mixing desks handy at Fox's Newman Stage.

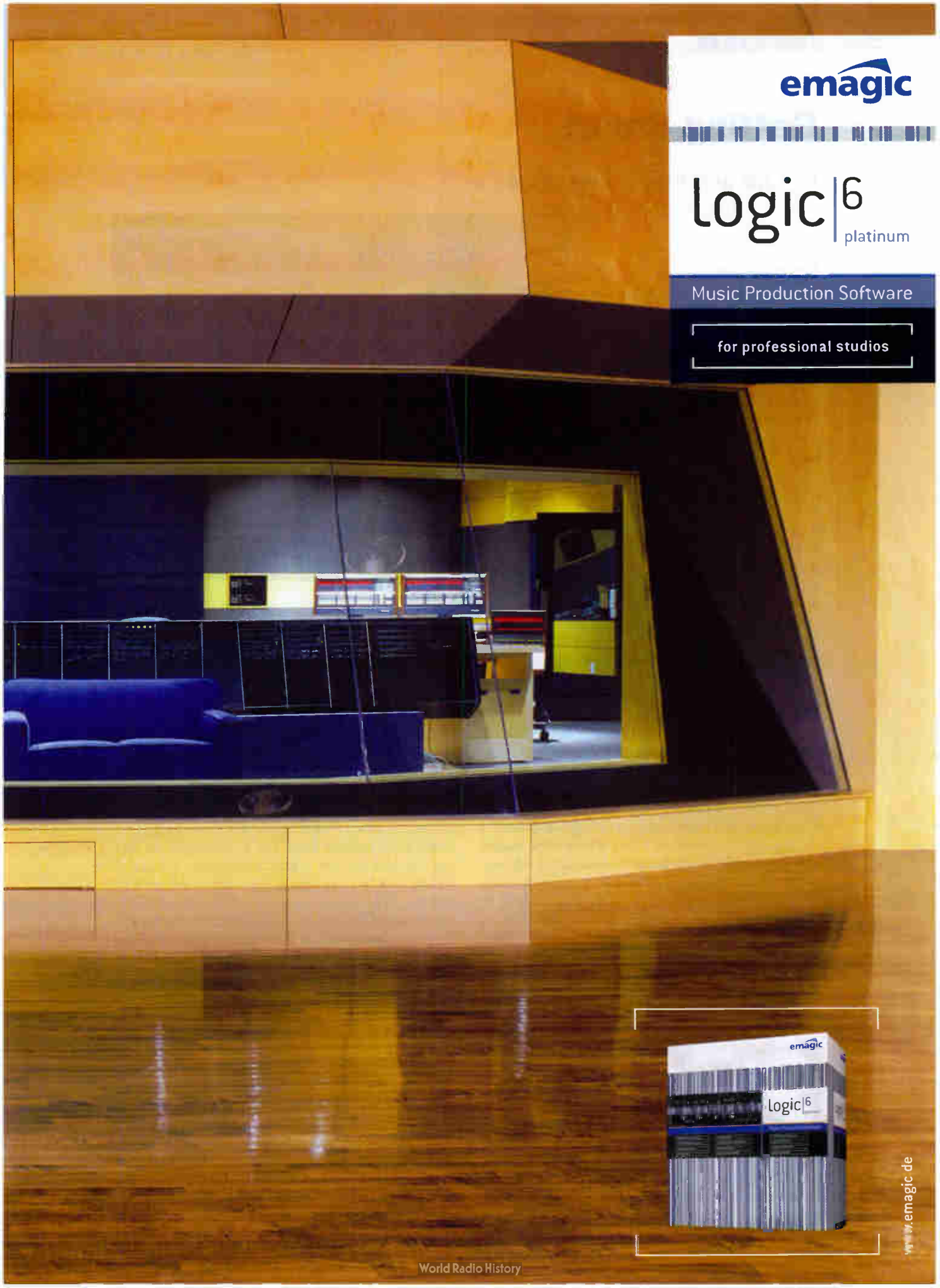
With Logic 6 on every computer.



Countless legendary film scores have been recorded at 20th Century Fox's Newman Stage. These days, most of the composers working at Fox count on Logic 6 to make their scores legendary. "Logic has become the ultimate tool for our composers to keep up with the pace and demands of contemporary film scoring," says Mike Knobloch, Vice President of Film Music at Fox Music. "And on various recent movies, from Antwone Fisher with composer Mychael Danna to Ice Age with composer David Newman, Emagic's Logic and Fox's Newman Stage have worked brilliantly together. The current package is so versatile that we see composers with simple laptop studios or full-blown rigs working in concert with small ensembles and big orchestral sessions alike. It's absolutely amazing how powerful and indispensable Logic is for the modern film composer — from the early conceptual stages of a film score, during the tedious process of writing to an ever-changing picture, and finally for recording and mixing." Widely regarded as the most powerful native music production system for the Macintosh, Logic meets the challenge of soundtrack production with ease. It offers a comprehensively equipped internal mixer with over 50 plug-ins, professional real-time notation editing, and MIDI functionality that's second to none. Expand Logic's creative potential even further with an optional series of Emagic Software Instruments. And the best thing is that Logic still fits handily into any recording studio. Mike Knobloch adds, "I've always thought that film scoring was the coolest part of movie making. Now when I see a composer playing a cue in Logic running software instruments, audio tracks, plug-ins and effects, outboard gear, and digital video all in sync — I know that it is!"

Technology with soul.

World Radio History


emagic
Logic 6
platinum
Music Production Software
for professional studios
emagic
Logic 6
www.emagic.de
World Radio History

BY EDDIE CILETTI

Getting Smart

In, Out and About Education

ILLUSTRATION: LIZABETH HEAVERN

There are many ways to acquire knowledge. I asked a friend who teaches audio at a community college for his perspective on audio education and received a succinct answer: "Everybody's learning about Pro Tools, but many graduates are lacking in the fundamentals of audio, as well as music." My thoughts on the subject are as numerous as the nooks and crannies in an English muffin.

I received a two-year EE degree back in the stone age, when tubes were still part of the curriculum and logic circuits comprised discrete transistors. At the time, I didn't have a plan, didn't envision a career in equipment design and considered getting a first-class radio engineer's license but never followed through. I *did* want to rock 'n' roll, see the world, play with audio gear and know how it worked. The experience of sitting in on a session at Philadelphia's Sigma Sound prior to graduation focused my career path on that goal of life in the studio.

In hindsight, what I learned in school was not design minutiae but the scientific method: the fundamental process of observation, variable minimization and data acquisition; the process is the same as miking a drum kit. It's not possible to graduate knowing everything, hence the expression "continuing education." I did not attend an audio recording school—few existed in the early '70s—but I learned those skills while employed as a technician, always open to any technique-improving tweak (and, even now, there's still plenty to learn). I think it's easier to absorb the fundamentals in a calm, nurturing and organized environment, but nothing sticks with ya like learning from a mistake.

It should come as no surprise that some equipment designers do not have engineering degrees. They simply evolved into the position from the repair perspective, learning what aspects compromised a good design and using healthy dashes of tenacity, curiosity and inspiration. A few audio designers did get their parchment, but not always in electronics. Sometimes, their diverse influences are creatively reflected in the thought process. There are times when being "rigid," as in disciplined, has its place right alongside being "open" to randomness.

When it comes to acquiring an education, the only correct answer is what's right for the individual. I often joke that schooling and recording equipment costs are similar, so why not just buy the gear and teach yourself? But it's not that simple. The instructors I encounter who are a part of my customer base seem knowledgeable in a variety of disciplines that I'd like to know more about. I wouldn't mind enrolling in a few of their classes, exploring some questions and taking a concentrated chunk of time for research. My course list would include acoustics, arranging, math and MIDI refresher classes, sound for video and any opportunity to play in a musical ensemble.

CHATTING WITH DAVE

Earlier this year, I had the good fortune to bump into Crane Song designer Dave Hill at the airport. It was not only luck (we got to chat and scribble, going and coming) but by coincidence, I mentioned the topic of how to advise people on audio education. Considering the sheer volume of people who are competing for work in this business, Dave urges students to keep alternative employment in mind. For example, rather than seeking an audio-only education. Dave suggests getting a "real" degree—one that is meaningful to the rest of the world—with a minor in audio.

"All a school can do is teach the basics," Dave said, "so if you choose an audio-only school, pick one that emphasizes real hands-on learning and problem-solving." An audio school should be just as certified and accredited as its "legit" counterpart, including having a verifiable graduate-placement record (both upon graduation and five years down the road). Dave has seen the best and worst: Some schools were all about numbers (of students), while others went out of their way to place the students, some in high-profile studios.

World Radio History

VISIONARY

The new look of Discrete Analog Audio

80 channel Vision console, Galaxy Studios, Belgium

www.apiaudio.com
301-776-7879
An ATI Group Company

World Radio History

AUDIO AS FASHION

Many job opportunities now exist in what was previously considered the non-audio workplace. The corporate conference room is one example of a mini-multimedia extravaganza: live presentations and documentation for later viewing/listening. Okay, so maybe it's not your first choice, but here is a definite need for audio content in multiple formats, from the Web to removable media, radio, satellite and cable TV distribution, each an audio subculture.

Our industry has a genetic disposition to replicate—not just audio, but information—via magazines, Websites, chat rooms and message boards, *all* catering to the sonically obsessed. Such saturated "broadcasting" has heightened the awareness of an industry that was once quite specialized and almost hidden from the employment marketplace. (Think of the pre-digital-era film industry and its use of 35mm mag stock.) The upside is that manufacturers have responded with remarkably powerful and affordable toys (as well as with higher-priced and justifiably cool boutique gear). The downside to the toy- and desire-glut is the challenge of finding well-paid employment, hence the number of "hobbyists" who amass enough gear to start their own businesses. As a result, many more people learn in isolation without training in the basics and without mentoring. This need for information has made "looking it up on the Net" the norm—the closest thing to mentoring. A message board is a potentially great source for interactive information, as long as you know how to differentiate between misinformation and fact.

GEEK CHIC?

And then there is audio's technical side, itself a diverse area of knowledge, although sparsely populated compared to the biz's glam side. Entry-level positions can be as nuts-and-bolts as wiring and installation, all the way to the *über*-geek world of file servers and beyond. Somewhere in the netherworld is component-level repair, complete with its own niches: from big fat retro all the way down to itsy-bitsy surface-mount technology. Mechanical skills were once essential for tape machine maintenance, but that has become a rare and highly specialized skill set (see last month's "Tech's Files").

TECH'S FILES CLIFF NOTES

While the fundamentals are too many to detail in these final paragraphs, here are a few essentials. Terry Hazelrig (www.diyacoustics.com) highly recommends the F. Alton Everest CD set and workbook, *Critical Listening and Auditory Perception* ($195.95 at www.artistpro.com). It wasn't easy for an acoustician to prioritize listening skills *over* an optimized environment, but "I've heard excellent work done under less-than-pristine conditions—I can't remember ever hearing the converse of this," says Hazelrig.

Technical inclination seems more of a rarity these days. The sonically popular retro gear—which is partly due to its inherent technical simplicity—also provides a good environment in which to learn the basics. I recommend making a $500-ish investment in an oscilloscope, oscillator, soldering iron and a voltmeter, as well as reading this column. Effort in = results out, a more positive spin on "GIGO." Between the retro-basic and computers, there's a lot to know, a lot to learn and a world to discover. ■

Next month, Eddie plans to detail the past year in pictures. Visit him online at www.tangible-technology.com for pictures, sounds and many words.

ROLLS INTRODUCES THREE NEW MIXERS

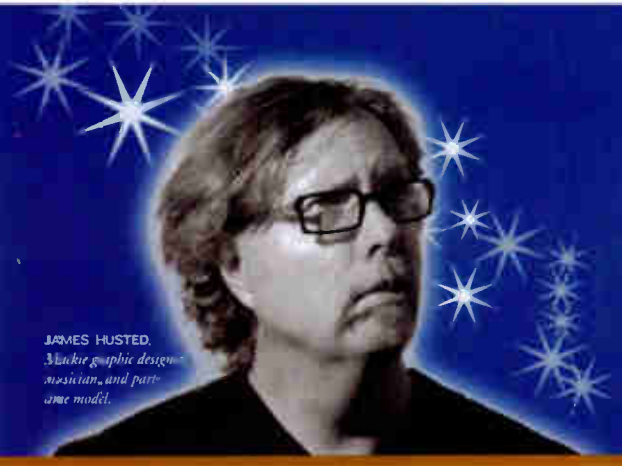
RM65b HexMix 6 x 4 Professional Audio Mixer
FEATURES: 6 Mic / Line Inputs
1/4" Line Inputs may be reconfigured as Inserts
Pre-fader Montor Send, Post-fader Effects Send
Stereo Effects Return
1/4" TRS Balanced Outputs

MX122 MiniMix PRO
FEATURES:
4 Stereo 1/4' Inputs
1 XLR Microphone Input
Stereo 1/4" TRS Balanced Outpouts
1/4" and 1/8" Headphone/Earphone Outputs

MX124 ProMix IV 4 Channel Stereo Mic Mixer
FEATURES:
4 XLR Inputs
2 Transformer isolated XLR Outs
Output Trim Controls
1/4" and 1/8" TRS Phone Outs
Individual Level and Pan Controls
Battery and AC operation

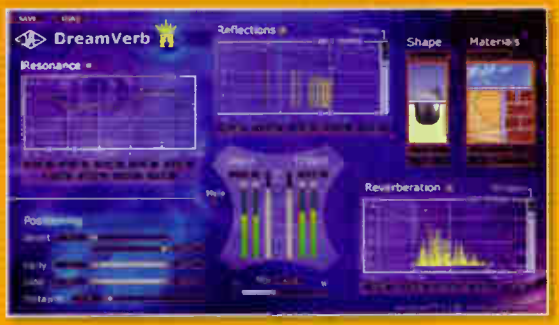
ROLLS CORPORATION
5968 South 350 West
Salt Lake City, UT 84107
(801) 263-9053 - FAX (801) 263-9068
info@rolls.com - www.rolls.com

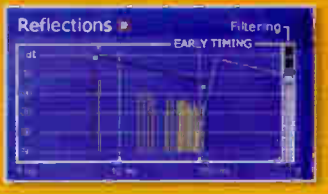
World Radio History

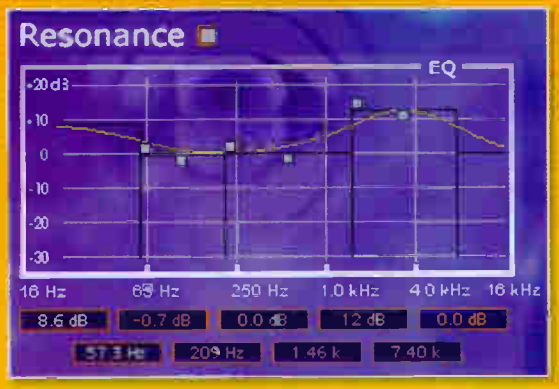


DreamVerb for the UAD-1 begs the question:

CAN A REVERB PLUG-IN BE TOO GOOD?







We didn't think so. And neither did the effects gurus at Universal Audio. Introducing DreamVerb™—Universal Audio's flagship stereo reverb plug-in—now available for the Mackie UAD-1 Powered Plug-Ins Card. DreamVerb lets you create a stunning range of acoustic spaces using different shapes and materials, or choose from classic reverb emulations and presets created by active musicians and engineers in real sessions. You can morph room sounds with one another, and even change the density of the air to simulate different ambient settings, all with unprecedented accuracy and smoothness.

Up to six instances of DreamVerb will run simultaneously on a single UAD-1 card. And with DreamVerb's 5-band parametric EQ and unique level ramping for the early and late reflections, the results simply topple other reverb plug-ins. From a smoky bar room to a massive cathedral, DreamVerb is as good as it gets.

As yet another stellar plug-in available for Mackie's award-winning UAD-1 Powered Plug-Ins Card, DreamVerb joins the must-have classic compression sounds of the 1176LN™ and LA-2A™, the renowned Cambridge EQ, Pultec Program EQ, and more—giving you the best suite of powered plug-ins on the market.

BUY DREAMVERB ONLINE AT MACKIE.COM TODAY.

www.mackie.com
800.258.6883

MACKIE®

World Radio History

Dave Gahan

Text and Photos by Steve Jennings

Depeche Mode lead singer Dave Gahan is out on his first solo tour in support of his *Paper Monsters* CD. Playing cuts from the new album, Gahan also got the crowd moving with some old DM favorites. At FOH is Maurizio Gennari, who mixed fellow DM bandmate Martin Gore's solo tour, as well. The tour is playing throughout the U.S. and Europe.

"Due to the nature of this show," said Gennari, "we are trying to hang as much as we can. Normally, we fly nine V-DOSC cabinets with three dv-DOSC per side, and we stack six V-DOSC subs. Also, we use a few ARCS as infills. V-DOSC is my favorite choice. We use BSS 366 Omnidrive for the main system and BSS Minidrive for in- and outfills. All of the outputs for these crossovers are controlled by a BSS Varicurve system [master remote and eight slave parametrics]. I'm using a Yamaha DM2000 configured as a 24-channel onboard, plus three external Yamaha AD-824s, which gives me a total of 48 inputs. I also have three D/A output converters for separated control of the matrix that I use for recording media feed and to split the system into different zones. The DM2000 was the perfect choice, because in Europe, we were doing festivals as well as our show, and having such a small layout allowed me to use my desk everywhere.

Maurizio Gennari, FOH engineer

"I have three Neve 9098 parametric EQs—which I have inserted on the kick, snare top and on Dave's vocal—and an Empirical Labs Distressor compressor, two stereo Alan Smart compressors [one on Nord L+R and one on bass pre-post] and a Klark-Teknik DN6000 analyzer.

"Dave's got a Samson Wireless with a Electro-Voice 767 capsule, which he's been using for sometime now, and it really gives back the warmth that his voice has."

FixIt

Mark Frink

Mark Frink is k.d. lang's monitor engineer and Mix*'s sound reinforcement editor.*

"Here are some quick fixes for onstage sound: Try placing sidefills low on their side and angling them up with 2x4s. This reduces floor bounce and its resulting comb-filtering. Carpeting the floor can be the cheapest way to improve the sound onstage. To eliminate that 'zone of confusion' at the exact center point between sidefills, angle one upstage a few degrees. Or use a single small wedge downstage-center that's delayed to synchronize it to the sidefills. If your singer stays DSC with a mic on a stand, try flipping one sidefill's polarity for a clearer sound."

inside

86 Live Mix News: Tours, Events, Installations
90 All Access: Radiohead
92 Tour Profile: Ben Harper and Jack Johnson
96 New Sound Reinforcement Products

News

Calexico helped kick off this year's annual Museums Insel Festival in Berlin (shown) with **Alcons Audio**'s "The Ribbon" line array system, which made its debut during the festival. **Lichtwerk Berlin** covered light and sound at the event; owner Götz Berge remarked that the system "limited SPL leakage to other surrounding buildings" while maintaining concert standards, sound quality and fidelity...String Cheese Incident's FOH engineer Peter George is touring with a **Gamble DCX Event 60 System,** comprising a 60-channel digitally controlled analog mixing console, 24 stereo faders, two 20-inch Dell LCDs, Smaartlive and Audio Core software, and V-DOSC speakers...The Get Up 'n Dance Tour chose **InnovaSon** gear, which was provided by Concert Systems USA (Ocean Springs, MS)... **Allen & Heath** mixers were at center stage at this year's Sprite Urban Games (London)...**Adamson Systems Engineering** announced that Abba Trading Corporation (Ft.Lauderdale, FL) is now its exclusive distributor in Latin America...Minneapolis' infamous club First Avenue/7th Street Entry extended its mic collection with **Electro-Voice** N/D967, N/D468, N/D868, Cobalt Co4 and RE200 models...The Rockin' Roadhouse tour, featuring Mark Chesnutt, Joe Diffie and Tracy Lawrence, has been on the road the past 14 months with the aid of **Sennheiser's** Evolution 500 Series wireless mic and hard-wired drum mics, including E604s (toms) and E602s (kick).

Production manager/FOH engineer Mike Fechner at the Rockin' Roadhouse tour

World Radio History

"Club-Ready, Studio-Worthy"

CP-6210™ mixer and CP-6220™ expander

- Professional, rotary-style DJ mixer
- Six channels with 11 inputs (nine stereo, two balanced)
- Balanced left and right outputs plus mono output
- Total cut EQ, crossfader taper and hamster switch

CREST PERFORMANCE™

David Was
Producer/Engineer

16-00 Pollitt Drive, Fair Lawn, NJ 07410 www.crestaudio.com 866-812-7378

World Radio History

On the Road

Dave Allen

For more than a decade, Reverend Horton Heat (aka Jim Heath), the high priest of psychobilly drama and musical excess, has ripped up the nation's highways, bringing his music to the faithful with the help of bass-slapping "Jimbo" Wallace and drummer Scott Churilla. Speaking to *Mix* from the Pearl Street Ballroom (Northhampton, Mass.), FOH engineer/tour manager Dave Allen explains how he tries to keep things under some semblance of control.

What is the essence of a Reverend show?

Basically, it's pure balls-to-the-walls music, but not your standard three-chord power trio either. On any given night, one song might be a Latin ballad-flavored thing, the next an in-your-face punk tune and then a Johnny Cash cover. They just never let up.

How do you hang on?

I do everything I can in advance to make sure nothing's going to get out of control. We have an upright bass with a pickup and it's a monster when it comes to low-end punch. I have to be on top of that; otherwise, it will come back and bite me in the ass.

What's your choice for vocal mics?

Since coolness counts in this application as much as performance, standard issue for vocals is a classic Shure 55SH Series II mic with an SM58 capsule. My all-time favorite vocal mic is the SM58. You can't beat it. The SM57 is my favorite all-purpose mic; you can use it for just about anything, and it works.

When you're not with the Rev, where are you?

Outdoors! I love hiking, water-skiing, snowboarding—all sorts of general play outside. On my time off, I'm the last guy you'll see in any smoke-filled venue. I like nice, clean, fresh air.

Now Playing

Red Hot Chili Peppers

Sound Company: Rat Sound Systems Inc.
FOH Engineer/Console: Dave Rat/Midas Heritage H3000
Monitor Engineers/Console: George Squires, Peter Baigent/Midas Heritage H3000
P.A./Amps: L'Acoustics V-DOSC, dV-DOSC, Rat Dual-18-inch subs/Crown 5002, 7001; Chevin Q6, Shure PSM 700 PEMs
Monitors: Rat L-Wedge, Radian Microwedge, RAT Stereo three-way sidefills and subs, Rat three-way drumfills and subs
Key Outboard Gear: BSS 9088 Soundweb, DPR404, DPR504, DN514, FCS960; Sound Technology RTA4000; Meyer CP10; Eventide H3500; Lexicon PCM60
Select Mics: Audix OM7, D6; Shure SM98, KSM32, SM91, SM57
FOH Technician: Nick Brisbois
Production Manager: Bill Rahmy

Shania Twain

Sound Company: Clair Bros./Showco
FOH Engineers/Console: Nigel Green, Brad Madix, Dave Skaff/Digico D5 Live
Monitor Engineer/Console: Steve McCale/Digico D5 Live
P.A./Amps: Clair Bros. i4™ Curved Line Array
Monitors: 16 Sennheiser Evolution Wireless 300 IEM in Clairphones™ custom packaging, Clair Bros. 12AM™
Key Outboard Gear: Manley Vox Boxes, Clair Brothers iO system controller
Select Mics: Sennheiser Evolution 500 Wireless Series (vocal)
Crew Chief: Dave Skaff

Rock 'n' Roll Boot Camp

Peavey Electronics and the Hard Rock Academy recently teamed up to create Peavey Rock Week, a rock 'n' roll camp held in Orlando, Fla., where 19 students learned how to play instruments, write/record songs and perform before an audience. Outfitted with instruments, the high school students were taught by vocal and instrument coaches and later performed at Orlando's Hard Rock Live.

World Radio History

AVIOM

A-Net Distributed Audio Networks

World's Best Fix For Your Monitor Mix

No other product can have as much of an impact on your monitoring environment as the A-16 system. It's fast, it's easy to set up and use, and best of all it's affordable. Get your stage or studio volume under control. Hear better with Aviom.

A Perfect Monitor Mix

- 16 Channels
- True Stereo Mixing
- Solo, Mute, and Groups
- 16 Mix Presets
- Instant Recall
- Line/Headphone Output

A Simple Solution

- Fast and Easy Setup With Standard Cat-5 Cable
- Works With In-Ear Monitors, Headphones, or Wedges
- 48K, 24bit High Quality Digital Audio
- Less Than 1msec Latency
- Works With Any Line Level Audio Signal
- Unlimited System Expansion
- Cable Lengths Up To 500 Feet Between Each Device
- Serial or Parallel System Connections
- Rack Mount or Mic Stand Mount Versions Available

World's First Extensible* Digital Snake

Aviom's AN-Series of distributed audio products work together to create a high quality digital audio network solution that can be expanded as needed, with capabilities far beyond those of standard audio snakes. Finally multi-channel audio distribution is easy, affordable, and extremely flexible. It will change the way you distribute audio in the future.

- Up to 64 Channels of Audio
- Balanced TRS I/O
- Standard Cat-5 Cabling
- Cable Lengths Up To 500 Feet
- Cost Effective and Affordable
- Configure as 16x0, 32x0, 48x0, 64x0, 16x16, 32x16, 32x32, and 48x16
- Extend the System by Using Aviom's A-16, A-16D, A-16T, and A-16R**

**Our web site contains plenty of system layouts, setup diagrams, and configuration information.

*Extensible: 1. Capable of being extended, whether in length or breadth. 2. Critical element in your next audio network installation.

AN-16/i AN-16/o A-Net Input Module A-Net Output Module

World Radio History

Electro-rock quintet Radiohead kicked off the U.S. leg of their tour this summer in support of their latest album, *Hail to the Thief*, and subsequently sold out nearly every amphitheater and arena on their itinerary. A mesmerizing light and video display provided a futuristic backdrop as the British band sailed through nearly 25 songs from their six-album catalog, barely taking a breath in between. While Radiohead and opening act Supergrass prepared for their Mountain View, Calif., date at Shoreline Amphitheatre, *Mix* talked with their core live sound team about one of the hottest tours of the year. New York's Firehouse Productions supplied consoles, the monitoring system, microphones and processing for this tour, while L.A.-based AudioTek provided the P.A. and amplification.

Radiohead

Text by Heather Johnson

Photos by Steve Jennings

Front of house engineer Jim Warren mixed Radiohead's ever-evolving post-modern rock on a Soundcraft Series Five console and used a Soundcraft Spirit 324 submixer for effects returns. Warren says that the digital Spirit 324 works well with the MIDI aspects of the 56-channel analog desk. Radiohead's longtime engineer uses minimal outboard gear, keeping a TC Electronic M1 and M1XL nearby for vocal effects, an SDE3000 for occasional delay and a Vocoder for additional vocal manipulations. He runs bass guitar through a Tech21 SansAmp, and uses the Line 6 POD Pro for vocal distortion.

Warren miked all vocals with Shure Beta 87As, and used Shure MC50Bs for acoustic piano and Glockenspeil, Audio-Technica mics for guitar, Sennheiser 504s and a Shure Beta 98 on the drums, and an Audix OM3 for guitarist Jonny Greenwood's amp.

System designer and P.A. guru Florent Bernard chose an L'Acoustics V-DOSC P.A. system with a total of 40 V-DOSC cabinets, six dV-DOSC cabinets and 12 ARC loudspeakers. The system also includes 12 AudioTek CSW-218 subs a side: eight flown and four on the floor. "If you fly the subs, you won't blast the people in the front row with a lot of low end," Bernard says. QSC 4.0 and 9.0 power amps, a QSC controller and XTA DP-226 processors round out the package, controlled with the aid of a rackmounted PC and a wireless tablet PC.

System designer/P.A. guru Florent Bernord (left) and FOH engineer Jim Warren

World Radio History

Thom Yorke

Jonny Greenwood

Guitarist Ed O'Brien

Phil Selway

Colin Greenwood

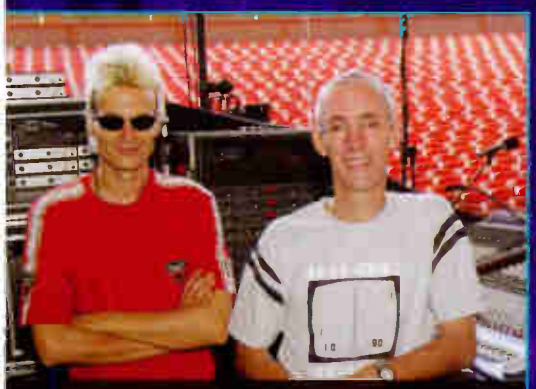
Monitor engineer Graham Lees manned an expanded 56-input Midas Heritage 3000 for seemingly obvious reasons. "It's an analog desk, and they're an analog band," Lees says simply. The band uses three additional fixed keyboard positions, which Lees cues into place at different times, "another reason for using an analog board," he adds.

Lead vocalist Thom Yorke, drummer Phil Selway and guitarist Ed O'Brien use Firehouse 6500 custom-mold in-ear monitors, with Shure PSM700 Series beltpacks. "But they use wedges at the same time," Lees says. "They actually use the in-ears for what they *don't* want to hear." The Greenwood brothers rely solely on Firehouse's custom FP12 and FP15 wedges at a low volume. "It's pure quality rather than quantity," Lees says.

Lees' outboard rack includes BSS compressors, XTA D2s for vocal EQ and a Lexicon PCM 70 reverb. Monitor coordinator Clive Goodwin monitors amplifiers and crossovers on a laptop equipped with Audio Core software, and also operates a custom-designed, computer-driven radio frequency-scanning system.

Regarding working with such a versatile band as Radiohead, Bernard says simply, "Every day's different." And with a dry wit, Warren adds, "Yet every day's the same."

MIX ONLINE EXTRAS



At monitor world, from left: Clive Goodwin (monitor coordinator) and Graham Lees (monitor engineer)

World Radio History

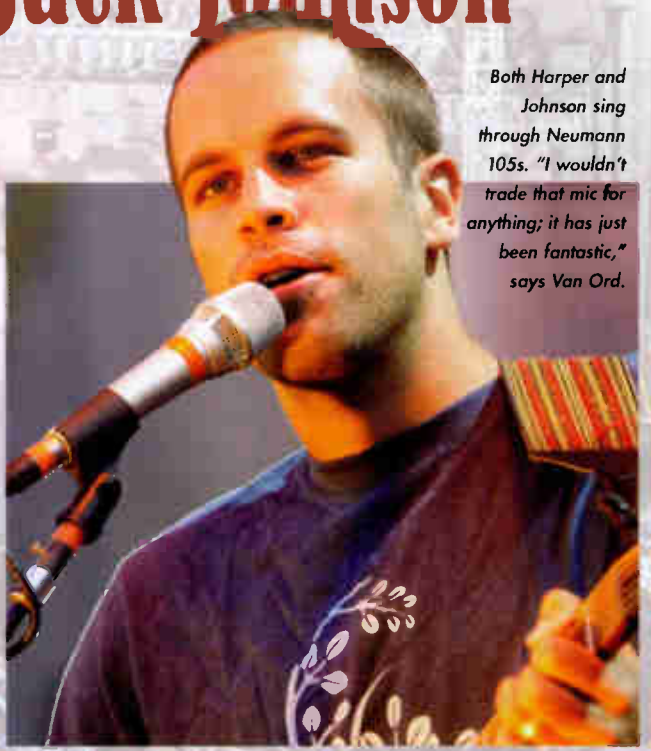
ALL PHOTOS BY STEVE JENNINGS

Ben Harper and Jack Johnson

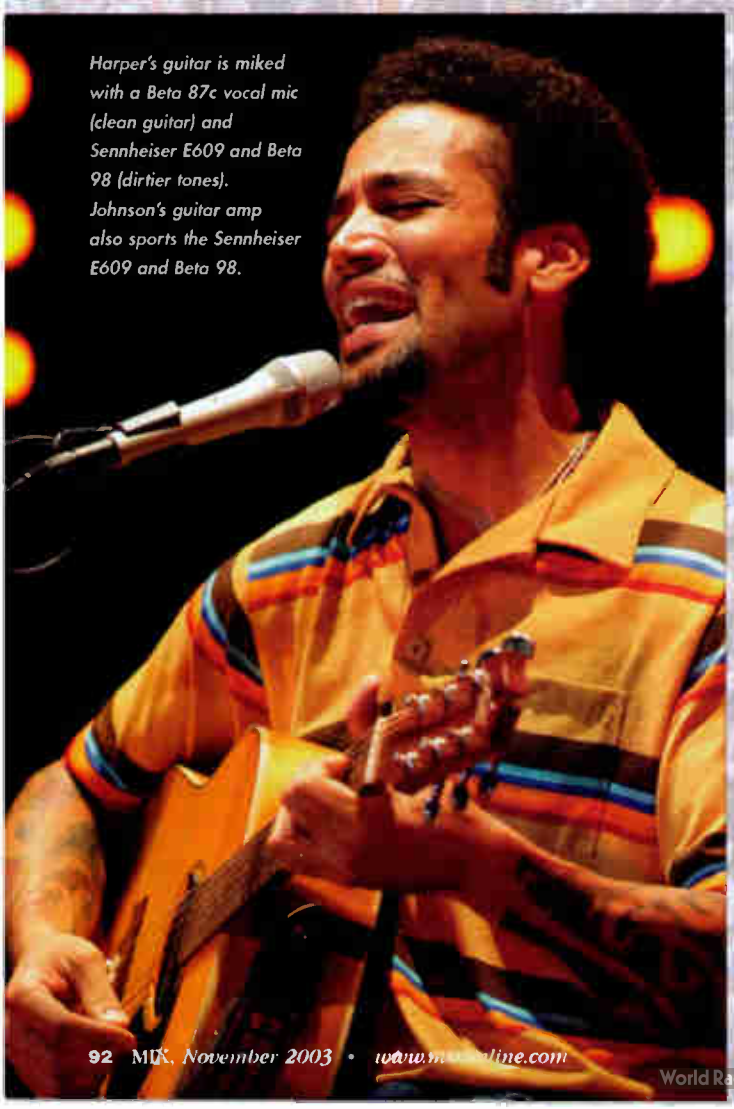
Co-Headliners Make Acoustic Gravy

By Sarah Benzuly

When Ben Harper is out on the road, he stays there for quite some time. Currently supporting his latest studio album, *Diamonds on the Inside*, Harper's 18-month tour will take him from a large nightclub in L.A. to a small theater in Berlin to a blues festival in Byron Bay, Australia. Though he has never had a commercial smash album, his acoustic jam-band-rock sound and continual touring have created a large cult following since the early '90s. In much the same vein, Jack Johnson got his touring chops from opening-act slots on previous Harper tours. This time around, though, the two are co-headliners, sharing the same gear and sound crew. *Mix* caught up with the show in Berkeley, Calif.'s outdoor amphitheater, the 9,000-seat Greek Theater, toward the end of the summer leg. The band is then off for numerous dates through Europe and then back to the States for a slew of holiday radio shows and a run through the major markets.



Both Harper and Johnson sing through Neumann 105s. "I wouldn't trade that mic for anything; it has just been fantastic," says Van Ord.



Harper's guitar is miked with a Beta 87c vocal mic (clean guitar) and Sennheiser E609 and Beta 98 (dirtier tones). Johnson's guitar amp also sports the Sennheiser E609 and Beta 98.

SMALL WORLD

It can be a bit strenuous, says monitor engineer Derek Van Ord, to be on your toes for Johnson and then turn around and mix for Harper. But the flipside of this double-duty is that both Van Ord and FOH engineer Michael Pollock (who declined to be interviewed) have been doing sound for the two for many years and have their sound nailed down. "It just kind of happened," Van Ord says about the logistics in having one sound crew on this tour. "When Ben quit touring for a year-and-a-half, Jack continued touring with Michael. When Ben started touring again, it just made sense [to have both Pollock and Van Ord mix for both acts]." As for Van Ord, who has been working with Harper since 1997, if it had been anyone besides Johnson, he wouldn't have signed on to do monitors for both. "I love Jack's music: Low volume, so I don't get beat up for Ben's show."

While Van Ord stresses that mixing monitors for Harper and Johnson was challenging, it was alleviated somewhat in the fact that Harper owns most of the rig. "Michael and I got Ben on that early," reveals Van Ord, "because when we first started touring with him, Ben wanted a very consistent sound, and to do that, you have to have the same gear. So we pushed Ben to start small: buy your vocal microphone and then you have to buy a certain processor. Then, when he's doing things on his own in L.A., he has all of his gear available and he can just put it in a studio and away he goes."

MAKING PERFECT FITS

Since they first came out, Van Ord was using the Midas Heritage H3000 console for Harper and on Weezer's last tour. But on this tour, he made the switch to digital, opting to work with the InnovaSon Grand Live consoles for monitor and FOH because

World Radio History

Dual-function.
Semi-modular.
Totally affordable.

MH3

The new Soundcraft MH3 Live Performance Console

Don't be fooled by the modest price tag. Available in 5 frame sizes, the new Soundcraft MH3 is a fully professional console, capable of operating front-of-house, monitors or both, providing sound contractors and venues alike with the critical commercial advantage of added inventory flexibility. And unlike other consoles in its class, the MH3 is a true, semi-modular design. Channels can be quickly removed and replaced in blocks of eight, making it easy to configure the MH3 to meet your exact needs and ensuring the robust reliability necessitated by a life on the road. Legendary Soundcraft sound quality is delivered via a new high-headroom mic amp, classic British EQ and rigorous circuit design, while a comprehensive feature set includes LCR panning and an intuitive automation system with 8 VCA groups and 128 snapshot settings of mute and VCA assignments. So if you thought you couldn't afford a modular, dual-purpose live performance console, it's time to think about the new Soundcraft MH3.

MH4

Also available.
The Soundcraft MH4 fully modular dual-purpose live performance console.

www.soundcraft.com/mh3

Soundcraft +44 (0)1707 665000
info@soundcraft.com

Soundcraft US 888-251-8352
soundcraft-USA@harman.com

Soundcraft
A Harman International Company

World Radio History

of their space-saving and weight-saving attributes. "With six guys in the band now, it is just so much easier to have it all set. So I'm not carrying big racks of stuff. I can have a compressor on every channel. The console itself is just a control surface and all of the digital conversion is done in the stage box." In that stage box are eight input cards that run on DOS—"It's kind of clunky, but it's super stable," says Van Ord—and each input card offers two 266 processors so that every four inputs has its own processor. The stage box has four BNC co-ax outputs that, when used as a matched pair, two go to FOH and two go to monitor, "sort of like a digital split," Van Ord points out.

"The InnovaSon is a little easier for FOH than for monitors because you can only view a single input or a single mix at one time. So if you have to do a handful of changes at once, it can be a little slow. But once you get used to the whole process, you can actually do it pretty quickly."

Van Ord comments that by the end of this leg of the tour, the Grand Live was jam-packed, using all of the console's 48 processing channels, 24 outputs and 56 inputs. "I've got 20 output faders and then on the mix box, I have 24 processed outputs for backups and opening bands and other mixes." As for the vocal chain, Van Ord relays that everything he uses is all built-in onboard with the system.

While Van Ord has switched consoles only twice, he has jumped to four different in-ear manufacturers for Harper: from Shure E1s, to Sensaphonic 2X and Pro4 models, to Future Sonics single-driver models, and currently to Ultimate Ears UE7s and UE5 ambient models. "When I was on tour with Weezer, I started a relationship with Ultimate Ears and I really liked their product and their field support is unparalleled. My goal is, Number One, hearing conservation and then number two, to make everybody happy. We're trying to keep as low of a stage volume as possible; the in-ears have definitely freed me up to not contribute to that stage volume."

Harper uses a single driver and a pair of wedges, which are Microwedges originally designed by Rat Sound. "They're low-profile, 12-inch with 2-inch co-ax compression drivers that are commercially produced by Radian because they have Radian components." Newly hired guitar player Marc Ford only uses 15-inch Rat Sound wedges, and bassist Juan Nelson is on one in-ear. Mixes for each of the bandmembers are straightforward: Whatever is further away from where each member is playing onstage is predominately louder in the mix. Harper gets just himself with a little bit of keyboards in his wedges.

Before this tour, Johnson wasn't using in-ears at all. But during the second leg of the summer tour, Johnson approached Van Ord to "try them out." "I got him using them for a good two weeks," Van Ord recalls. "He went with a single one, as well, because he's such a soft singer and just to have his vocal be more present. I just use Ben's gear for the drummer [Adam Topol, whose using Shure E1s]." Johnson receives a bit of himself and a little bit from bassist Merlo Podlewski.

Select Gear List

Mics: Shure Beta 98s (Harper's drummer/percussionist Leon Mobley: "Especially with the percussion player; there were so many dog-gone things to mike. He has more channels than half the band!" jokes Van Ord.); Beta 57As (Harper's backup vocals); Shure WH20 headset microphones (Harper's drummer/percussionist); Audix D2 (toms); Audix MTX1 (underheads); Audix D6 and Beta 91 (kick); Beta 57A and e609 (snare); VP88 (overhead)
Beltpacks: Sennheiser SR 3056 U
Outboard Receiver: Sennheiser EK3053 U
Cabinets: Demeter 212, Marshall 410 driven by a Demeter head, custom Rockaforte head

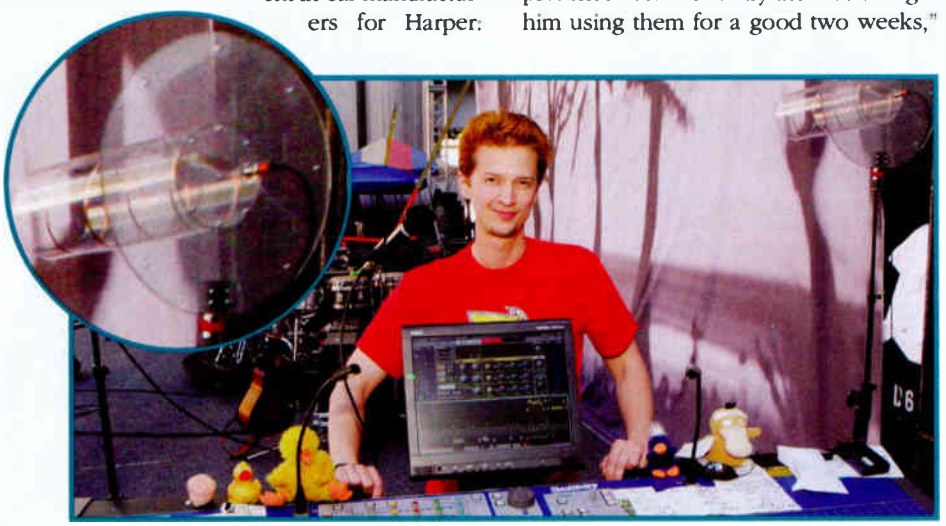
WHAT YOU DON'T OWN, RENT

Van Ord has had a working relationship with Rat Sound since he first rented from the company in '97, including numerous rentals of the company's Rat trapezoid proprietary cabinets on previous Harper outings. On this tour, he is renting the FOH P.A. (an L-Acoustics V-DOSC and dv-DOSC—a first for this tour) and monitor wedges. "The P.A. is fantastic," Van Ord enthuses. "You save so much on truck weight, it sounds fantastic and, for me, you don't get all of the noise coming out from the back of the boxes.

"We use anywhere from eight to 12 cabinets with three dv-DOSC boxes underneath and then arrays out for pitfills. We also use the dvs for pitfills, because they are so nice and low-profile that you can just slap them on the stage and nobody sees them." The system can be enlarged to accommodate larger venues with 36 V-DOSC boxes and at least a dozen dv-DOSC enclosures.

"We're leaving for Europe soon, and the whole P.A. system that we used on the summer tour is right now in a cargo container on a boat heading over to Norway. We figured why break up a good thing?" Van Ord asserts. "The crew that we had was fantastic. So, we thought, 'Let's keep it consistent. It works, let's go with it.'" ■

Sarah Benzuly is Mix's associate edior.



"Those are my personal miracles," says monitor engineer Derek Van Ord. "It's a helical antennae [from Professional Wireless] that gives you a good 30 to 40 percent 'oomph' of what you're sending out to the stage. Early on in the tour, I had problems with interference and dropouts with the wireless in-ear system. The boosters are a proprietary design and are $425 a piece. It's essentially $10 worth of screendoor parts and they're wacky-looking. Since I started using those, let's just say my mad running trips out to the stage to change beltpacks have been extremely limited."

World Radio History

SPEAKON® STX

A TOUGH RESPONSE TO A ROUGH ENVIRONMENT.

Neutrik's NEW Speakon STX connector is specifically designed to withstand the rigors and stresses often found in professional touring, rental, and commercial applications.

The Speakon STX features: a metal housing which is extremely rugged and durable, and built-in gaskets for IP54 weatherproof protection.

Speakon STX offers 4 types of male and female cable/receptacle combinations, provides superior electrical performance (50 amp audio -10 gauge wire), one-piece chuck design for attachment of 9 to 16m O.D. cable, and a 'quick lock' retention system.

Speakon STX is easy to assemble (only 3 pieces) and mates with all currently available 4-pole Speakon products.

NEUTRIK®

CONNECTING THE WORLD

NEUTRIK USA, Inc.
195 Lehigh Avenue, Lakewood, NJ 08701-4527
Tel: 732-901-9488 • Fax: 732-901-9608
www.neutrikusa.com • info@neutrikusa.com

World Radio History

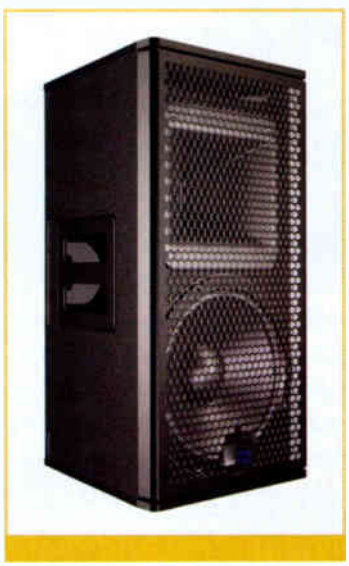
New Sound Reinforcement Products

QSC QSCONTROL.NET/BASIS 922AZ

QSC's (www.qscaudio.com) next-generation audio platform, QSControl.net melds the company's power amplification and loudspeaker products into a unified system, controlled via an integrated graphical interface. The first in a series of hardware engines designed to operate over an Ethernet network under the company's QSControl.net platform, the new Basis 922az combines amp/loudspeaker control, monitoring/protection, configurable DSP and CobraNet™ audio transport in a single-rackspace package. Basis 922az has eight analog line-level inputs and eight QSC DataPort outs (four stereo channels) that connect to the QSC DataPort-equipped amp, and the internal 24x24 DSP engine combines these I/Os with CobraNet channels.

MEYER UPJ-1P WITH ROTATABLE VARIO HORN

The first Meyer (www.meyersound.com) product to feature a rotatable horn, the new UPJ-1P's 80°x50° VariO™ horn can be rotated—in the shop or in the field—to provide optimum coverage horizontally or vertically. The compact 11.25x22.3x12.25-inch (WxHxD), self-powered UPJ-1P produces 130dB (1m) SPL peaks and is ideal for FOH in small/medium venues, or as a delay, fill or distributed system in larger venues. A 10-inch neodymium woofer and a proprietary 3-inch diaphragm (0.75-inch exit) compression driver are driven by a 300-watt (total) 2-channel Class-A/B amp. A variety of QuickFly® rigging options and rigging hardware are offered.



DIGICO D5 LIVE V. 2 SOFTWARE

Version 2 software for DiGiCo's (www.digiconsoles.com) D5 Live digital mixer adds improvements and extra features. Free to existing D5 Live owners, V. 2 provides facilities such as four-console networking for gain-tracking FOH/monitor inputs or connecting to a second redundant console for fail-safe recovery. Other tweaks include security modes to prevent accidental changes during shows; snapshot timed automatic sequencing; solo A/B buses; monitoring delay on/off switching; enhanced MIDI message editing; 32 additional insertable processing channels on an optional slave card; six (or three stereo) graphic EQs to onboard FX slots 5/6; and more.

APEX INTELLI-X DIGITAL EQ/SPEAKER MANAGEMENT

Intelli-X, from Apex (dist. by Transamerica Audio, www.transaudio.com), is a 24-bit/48kHz, 4-input, 8-output EQ- and speaker-management system. The one-rackspace, networkable unit features adjustable crossovers, graphic/parametric EQs and delays with output limiters for speaker protection, and the simultaneous availability of 256 EQ filters. Matrix routing allows true stereo two/three/four-way systems to be set up for FOH; on monitors, Intelli-X can drive four two-way systems. Unused I/Os provide processing for other applications such as delay speakers.

CADAC M20 REMOTE MIC PREAMPS

Cadac's (www.cadac-sound.com) M20 is a three-rackspace unit with 16 high-quality mic amplifiers. Each input features 50 dB of gain in 1dB steps; -20dB and 48V phantom power switches; and two electronically balanced XLR outputs, with a third balanced out on a 37-way "D"-type connector. All settings are adjustable from the front panel or three remote-control options: via a PC with SAM or M20 control, or using Cadac's RM20 dedicated remote controller.

MACKIE SRM350 ACTIVE LOUDSPEAKER

Retailing at $699, the SRM350 from Mackie (www.mackie.com) is a compact, two-way, bi-amped system capable of 121dB SPLs with its built-in 165-watt (LF) and 30-watt (HF) amps driving a 1-inch HF driver on a waveguide horn and single 10-inch woofer. Features include a Dynamic Bass Boost loudness switch, active thermal and overload limiting protection, and a high-impact plastic-enclosure design that's suited for FOH or floor monitor use, as well as handles, fly points and pole mount.

World Radio History

Instant studio . . .

just add Freeport™ and mix!

Introducing Freeport, the great sounding, go-anywhere, turn-any-room-into-a-studio solution by Primacoustic.

Everyone knows that treating a room with acoustics makes recording easier. The problem is, most rooms are difficult to treat; they have doors & windows in the way, or they're temporary spaces that can not have acoustical panels permanently applied.

Primacoustic has a solution. . . It's called Freeport™.

Freeports are designed to give you the freedom to set-up anywhere and the portability to take your acoustic environment with you wherever you go. With Freeport, any room can be instantly turned into a usable, working recording space. Freeport also makes a great recording gobo to isolate instruments and is a quick and easy solution for a voice-over booth.

Made of high-density open-cell acoustic foam with a solid PVC frame and backboard, Freeport sets up in minutes and can be stored just as fast! It's that easy. And it really works... just ask BNL's **Steve Page:**

"Once upon a time, I had a studio setup in a room in my basement. A room with enough space for my gear and my instruments and a comfortable chair and some bookshelves. I liked to record in there. I spent hours and hours recording and mixing, and then I would proudly march my mixes to my car stereo, where they sounded terrible. What a huge disappointment to know how I'd been misled by my own basement. To the rescue came Primacoustic, with a whole bunch of affordable solutions. With the addition of some Freeports and some Australis bass traps, I could actually HEAR what I was mixing! Then, later, in my car, I could proudly crank mixes with confidence! See, it doesn't take a million dollars to help out your room!"

~ Steve Page, Barenaked Ladies

Steven Page and Jim Creeggan with Primacoustic's Peter Janis.

Don't pay more than $129*

Price $1,000,000

* estimated street price per unit

PRIMACOUSTIC™
STUDIO ACOUSTICS

www.primacoustic.com

Primacoustic - 1638 Kebet Way, Port Coquitlam, BC V3C 5W9 tel: 604-942-1001 fax: 604-942-1010 email: info@primacoustic.com

World Radio History

BY OLIVER MASCIAROTTE

Free Beer

Or, Everything You Need to Know About Open Source

We all love free stuff, and our search for it often leads us to expend more energy than what the freebie is actually worth. However, that doesn't stop us from prowling tradeshow aisles, stuffing our bags full o' swag and filling our local disks with downloads. For those of us with student IDs or anyone with more time than money and an aversion to the high total cost of ownership of commercial UNIX releases, not to mention the pain and suffering associated with Microsoft's middling merchandise, there's a particularly attractive download: Open Source Software.

Bloat-free and, in many cases, cost-free, OSS is highly configurable and, most important, restriction-free, so no suit can tell you tomorrow what to do with your stuff...and what stuff! Everything from multichannel DAWs to streaming audio servers and TiVO workalikes—if you can think of building it with a computer, someone's probably already done it with Open Source.

Let's start with: "What is 'Open Source'?" Think of Open Source as a variant of shareware, where "payment" comprises releasing any bug fixes and improvements back into the public user/developer community at large. There are variations on this theme but that's the basic idea. So, any motivated individual can contribute to the product's development and can inspect all aspects of the underlying code, which is not possible with most commercial products. Not only is Open Source largely free, in terms of purchase cost, but it relies on a volunteer development community's willingness to share all improvements to the code with the rest of the world. This development-by-peer effort, where the guts of the machine are "open" and available for all to see, is what makes Open Source Software attractive to most users.

GNU (pronounced "guh-NEW"), a bellwether example of the many Open Source cooperatives, has a nice definition of OSS. The official GNU Website (www.gnu.org) quickly points out members' basic article of faith: "The GNU Project was launched in 1984 to develop a complete Unix-like operating system, which is free software."

Notice the "Unix-like": UNIX, an in-house project written to run Bell System's telephone service, spawned the Open Source movement when Bell Labs distributed the original code to several entities, including Sun Microsystems, UC Berkeley and Silicon Graphics (SGI). Sun developed its copy into Solaris, a successful enterprise version, while SGI, relying primarily on government contracts, hasn't fared quite as well with its version, IRIX. The folks at Berkeley created the highly successful Berkeley Standard Distribution of UNIX add-ons, which, in turn, evolved into the BSD family of UNIX.

The GNU site continues: "'Free software' is a matter of liberty, not price. To understand the concept, you should think of 'free' as in 'free speech,' not as in 'free beer.'" Dammit, though, I like the concept of free beer! Anyway, a few thoughts from the development community help to illuminate the underlying libertarian philosophy. Wilfredo Sánchez Vega, contributor to the Darwin BSD project, member of the Apache Software Foundation and developer community manager at KnowNow, spoke at the 2002 O'Reilly OS X Conference. "Open development buys you an ongoing win," he said. "The community is more important than the code: Code follows community. Actively exchanging code provides better code review [which results in] increased quality, bug fixes from the community, new features from the community and way better standards compliance."

He further offers this subtle equation: Open Source code + open discussions + an open process = open development.

To add to this freewheeling fracas, there are also commercial OSS companies that sell complete systems, as well as software add-ons, professional services and support for their OSS offerings. Red Hat, a brand you may recognize, is a good example. Another commercial OSS company you should know is Apple Computer and its Darwin project, which is the Open Source heart of Mac OS X.

World Radio History

Millennia
Music & Media Systems

TD-1

Feeling Adventurous?

Twin Direct

Designed with "take me anywhere" versatility, TD-1 is geared for adventure. Finally, a no-compromise analog recording channel priced within reach of small studios and home recordists ($1,395). The new TD-1 ***Twin Direct*** is all about pristine musical performance, extensive signal path routing, and adventurous behaviour. Employing *REAMP®*, *Speaker Soak®*, *Twin Topology®*, Millennia's acclaimed HV-3 mic preamp, pliant DI, multi-impedance bridging, fully parametric NSEQ, three audio transformers, nine outputs, and military build quality...TD-1 is packed to explore uncharted sonic territory.

Hand-made in Northern California with features too numerous to list (and audio integrity too gorgeous to ignore), TD-1 is the ultimate traveling companion. We encourage you to call your travel agent — and Millennia dealer — for a demo soon.

REAMP is a registered U.S. trademark used under license – U.S. Pat no. 6,005,950

EQ BLUE RIBBON WINNER

www.mil-media.com

530-647-0750

World Radio History

Open Source, particularly Linux, has caught the attention of the enterprise-computing community because of its transparency and low entry cost. Linux is an Open Source operating system—modeled on UNIX—that combines the geekiness and almost infinite adjustability of real UNIX with all of the user-interface idiosyncrasies you'd expect from Windows, driven by a worldwide community of zealots as rabid as any Macintosh user group. The venerable IBM, once a bastion of proprietary product, has become the champion of business applications for Linux. What's less well known is that there is a community of hobbyists and professionals who work, often without pay, to extend the less-expected capabilities of Open Source operating systems, including audio services. Favorite distributions are market leader Red Hat guys, and Mandrake and SuSE Linux (pronounced "SUZ-eh"), two excellent Euro-contenders. Mandrake rocks if you're using Linux in a server application, while SuSE has a desktop version that's perfect as a generic Windows desktop workalike. SuSE Linux Desktop, a commercial product (it'll cost you real dollars), ships with a year of basic support, a nice touch for Linux newbies.

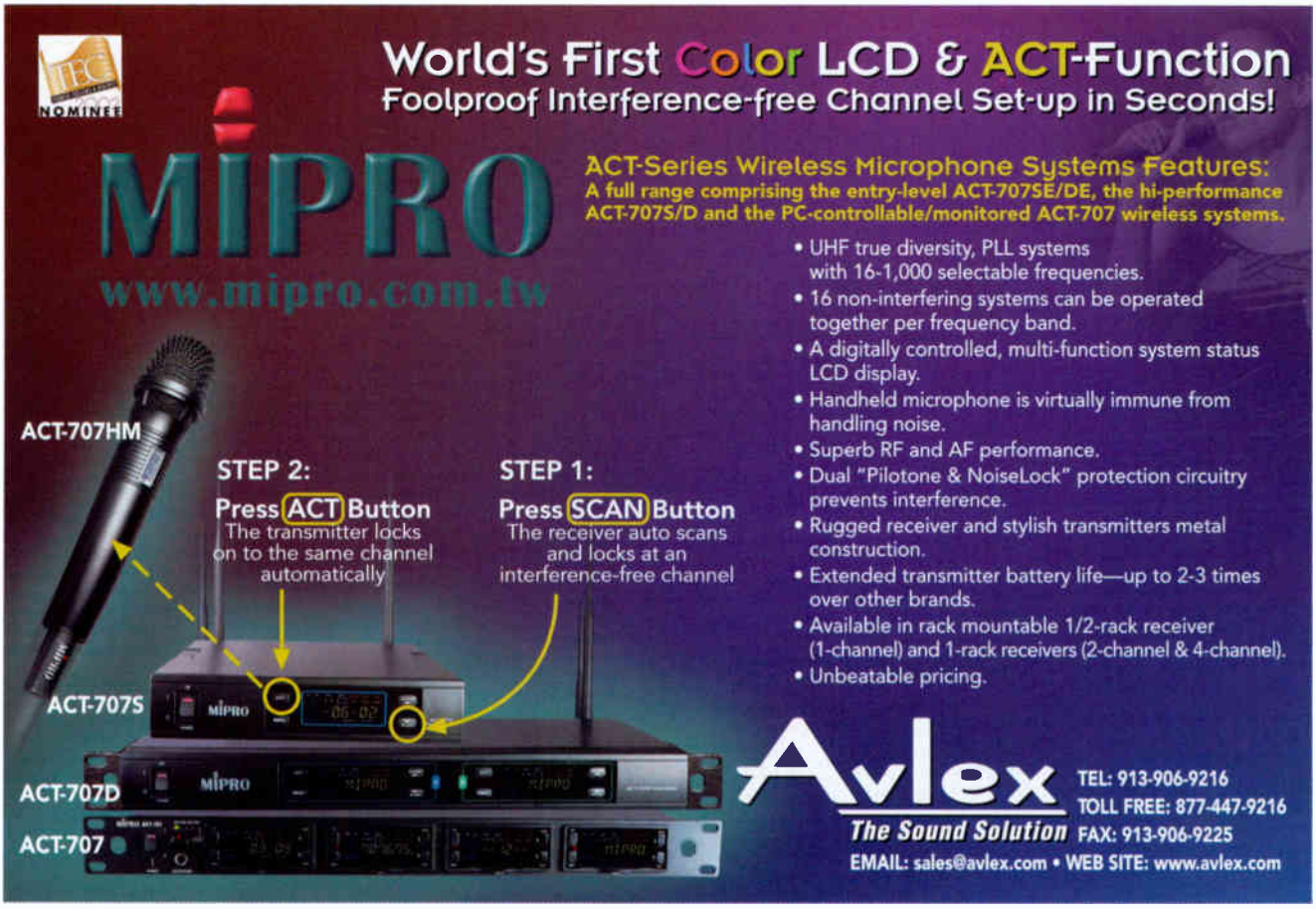
Linux, Linux, Linux—that happy, pudgy penguin pops up in the most unlikely places, even appearing stenciled on the sidewalks of My Fair City. Big Blue got fined for that stunt. What began as "just a hobby" for Finnish grad student Linus Torvalds has blossomed into a growing wave of work around the globe for companies that are fed up with the high cost of licensing and administering commercial software distributions. Fast, stable and moderately secure, that's the goods you buy into with Linux. Oh yeah, cost of acquisition is much less expensive than Windows and commercial, enterprise ver-

Darwin and the BFD About BSD

I mentioned that BSD is free of recent legal wranglings brought on by SCO, the owner of the System V fork. I'll get into the whole SCO jive move next month, but for now, let's focus on the other fork of UNIX, the stable, secure Berkeley Standard Distribution. Long before Linux was the OS of the moment, BSD was workin' its butt off. According to Netcraft, 100% of the Web servers with the longest time between reboots use SD as their operating system, and 97% of those BSD servers are running Apache, the Open Source Web server application of choice the world over.

Also mentioned earlier is Darwin, the free Open Source basis of Mac OS. It came into being when Apple realized that it needed some serious Viagra for the aging Macintosh "Classic" operating system. NeXT OS, the core of Steve Jobs' black, cubic vision of a next-generation computer he created after leaving Apple, morphed into Mac OS X, and for its "kernel," or core operating system, BSD was chosen as the foundation. Apple released that kernel into the Open Source community as the Darwin project, allowing "...developers to customize and enhance key Apple software."

—Omas



World Radio History

More Analog! More Digital! More Software!

UNIVERSAL AUDIO

You could search the entire audio industry but you won't find another company with the heritage, classic sound and diverse range of products that is UA. **And now we have more!** Please visit our web site <**uaudio.com**> or call us toll-free <**1-866-UAD-1176**>.

The **2-1176** is the evolution of over 35 years of compressor design. Now the legendary 1176LN sound is available for the first time as a true dual mono/stereo unit.

- Dual-Mono, Stereo-Link
- Channel-Matched Components
- Same Vintage Sound
- Great Price/Performance

The **2192 Master Audio Interface** uniquely combines a 24 bit 44.1-192k AD/DA converter, master clock and digital format transcoder.

- Class A, Discrete, DC Coupled
- Staggering Dynamic Range
- Amazingly Detailed Sound
- Single & Dual-Wire AES/EBU SPDIF & SMUX

The **Pultec** EQP1-A Progam Equalizer **TDM plug-in** is a faithful reproduction of the classic hardware equalizer.

- Modeled After a Highly Prized "Golden" Pultec
- UA Proprietary Component Modeling DSP
- 192k Internal Upsampling for Unmatched Filter Resolution & Accuracy

analog ears | digital minds

NEW! Pultec EQP-1A for Pro Tools

NEW! 2192 Master Audio Interface

NEW! 2-1176 Dual Channel Limiting Amplifier

All UA Products are Designed and Hand Built in the USA

330 Encinal, Santa Cruz, CA 95060-2101 • www.uaudio.com • toll-free: 866-UAD-1176 • Intl.: 831-466-3737 • fax: 831-466-3775

©2003 Universal Audio, Inc. All Rights Reserved. The Universal Audio Name, Logo, "2192" and "2-1176" are property of Universal Audio.
Pro Tools is a trademark of Digidesign/Avid.

sions of UNIX. By the way, Mandrake is the most mouse-friendly, GUI-driven of the Linux lot.

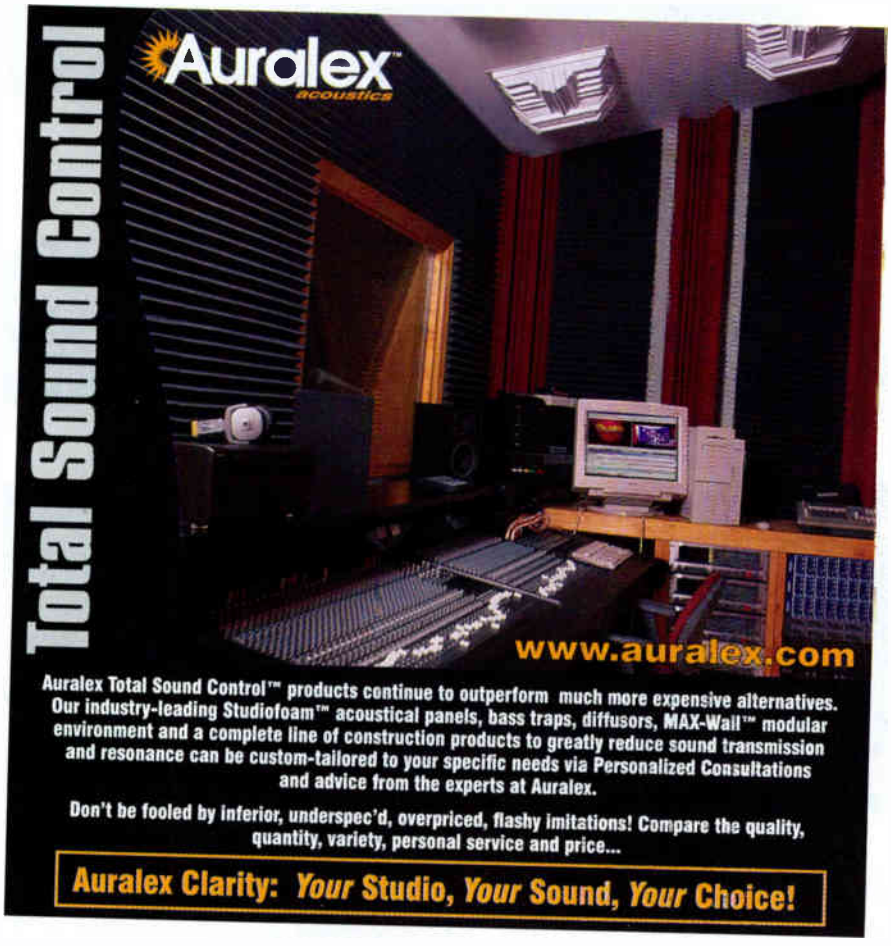
Equally beefy, but less well-publicized, is NetBSD, an open version of one of the two "forks" of Bell Labs' original UNIX. In all, there are four Open Source BSDs available: FreeBSD, NetBSD, OpenBSD and Darwin. BSD is far more mature than Linux, and arguably the most secure flavor of open UNIX out there. In addition, BSD is stable, a miserly user of memory and free of recent legal wranglings brought on by SCO (the owner of System V), the other fork of the original UNIX. The word fork is used, in this case, to describe the process of splitting software into two or more separate development paths. BSD and System V were the original two branches of UNIX that "forked" off the original UNIX distribution. Both are used primarily to host applications such as Web, database and business-software servers.

Although BSD and Linux run on everything from PDAs, Amigas and NeXT cubes to Sun pizza boxes, Sega Dreamcasts and Sony PlayStations, a good way to get into Open Source is to dig up a retired Win box or Mac clone, low-level-format the disk and install a copy of open BSD or Linux. Heck, the folks at SuSE offer a free, low-impact, bootable "live demo" disc image. Burn a CD, pop that disc in your Win box, boot up and drive around SuSE without even installing it on your local disk.

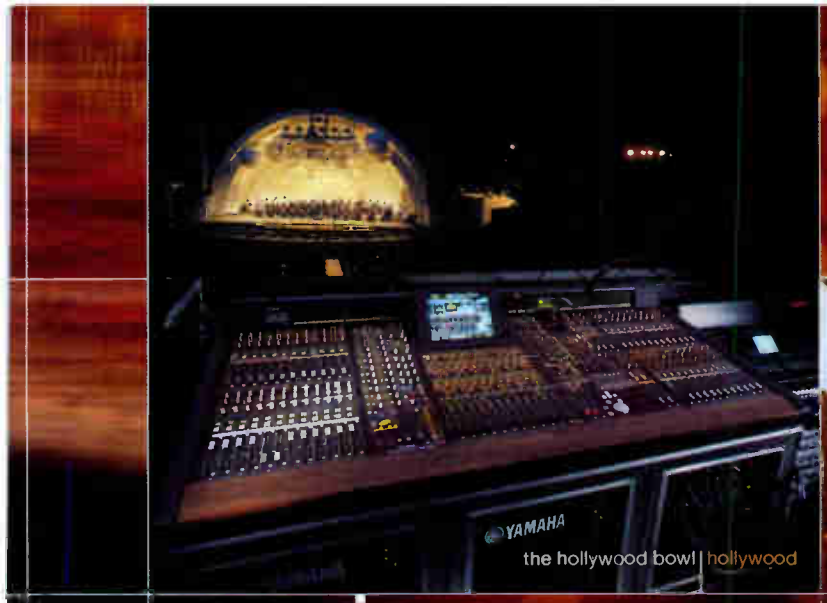
My mom, bless her heart, tends to see issues as black or white, and, being my mother's son, I've gone that route and painted a fairly rosy picture of OSS. However, all is not sweet and light. Sánchez Vega, speaking of Darwin, concludes that, for most programmers, "Contributing is simply way too hard." Turf wars and rivalries, hidden agendas and good old inertia affect OSS just as they do in the world of "mainstream," commercial software development.

Enough of politics, what can you *do* with this stuff? We'll explore that aspect of OSS next time 'round, but, suffice to say, if you can think of building it with a computer, someone's done it with Linux: TiVO workalikes to DAWs, we'll look at it all. So, until next time, keep on tweakin'! ■

This epic column, over a year in the making, was written while under the influence of James Nichols' special mix of Duke Ellington's The Far East Suite *and Beck's* Sea Change. *For techy advice, links and back issues of "Bitstream," head on over to www.seneschal.net.*



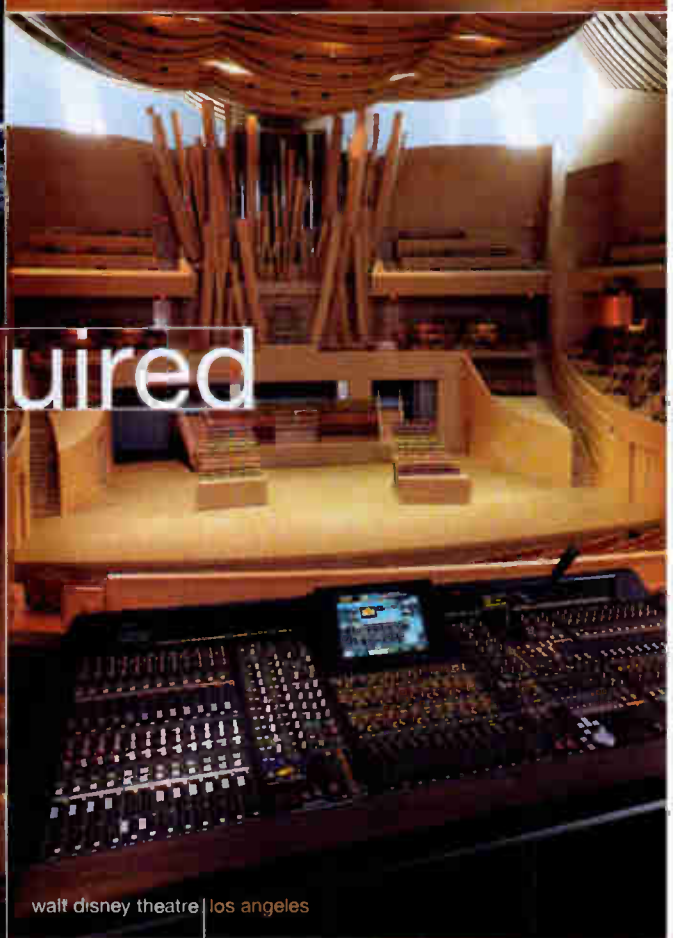
World Radio History



the hollywood bowl | hollywood

experience required

carnegie hall | new york city



walt disney theatre | los angeles

America's legendary concert venues from Carnegie Hall to the Hollywood Bowl to the new Walt Disney Concert Hall in Los Angeles have one thing in common.

They trust their art to the Yamaha PM1D Digital Audio Mixing System.

Sonic performance and reliability cannot be compromised in the big leagues. Seasoned professionals are choosing the PM1D.

If you're ready to go digital, consider our resume.

YAMAHA PM1D. REFERENCES AVAILABLE.

Mix With the Best

Yamaha Corporation of America • P.O. Box 6600, Buena Park, CA 90622-6600
For additional information, please call (714)522-9000 • www.yamaha.com
©2003 Yamaha Corporation of America.

YAMAHA Commercial AUDIO

World Radio History

Tools of the Trade

SONALKSIS SV-517 STEREO EQ PLUG-IN

Founded by four former AMS-Neve R&D engineers, Sonalksis enters the market with a 6-band stereo EQ plug-in. The SV-517 operates on both Mac and PC platforms at up to 192 kHz, and features six filter bands, two variable-slope filters and four parametric bands, two of which are switchable shelves. The plug is currently ported only for the VST format, with DirectX, Apple Audio Units and RTAS soon to follow. Sonalksis announced the upcoming release of the SV-315 Stereo Compressor plug-in, along with general support for DirectX and Apple Audio Unit plug-in formats. Price: $240. A 30-day, fully functional, free demo is available for download at www.sonalksis.com.

PRINCETON DIGITAL REVERB 2016

Princeton Digital is now shipping the Reverb 2016 through an exclusive OEM agreement with Eventide (www.eventide.com). The Reverb 2016 faithfully re-creates the original reverb algorithms of the vintage 1980s Eventide SP2016, including Stereo Room, Room Reverb and High-Density Plate, as well as enhanced versions of each algorithm. The new interface is simple, featuring one-knob-one-job controls and bright LEDs for each of the effect's parameters. Other updates include 24-bit analog audio I/O, digital I/O and a MIDI interface.

PRESONUS EUREKA

The multifeatured Eureka from PreSonus (www.presonus.com) is a mic preamp, compressor and EQ in a single-rack-space unit. The Class-A, transformer-coupled mic preamp features variable impedance (50 ohms to 1,200 ohms), tube-saturation emulation, -20dB pad, 80Hz highpass filter, phantom power and a polarity-reverse switch. The compressor offers attack, release, ratio and makeup gain adjustment, sidechain input and a soft-knee mode. The compressor is also stage-switchable with the 3-band parametric EQ. Other extras include switchable gain/output metering, a balanced insert, dual TRS/XLR outputs, and instrument, line and mic inputs. An optional AES-S/PDIF back end is capable of up to 24-bit/96kHz operation.

FAIRLIGHT STATION^{PLUS}

Back from the brink of extinction, Fairlight (www.fairlightau.com) releases the Station^{PLUS}, which doubles the capacity of the Station integrated mixer/editor that was first released in 2002. The new Station gives users an expanded workspace, taking the platform to a whopping 144 channels and 48 buses. This is accomplished by increasing the number of DSP cards (up to four) in the QDC chassis, along with some subtle changes to the user interface. To upgrade, customers can purchase a software license ($2,500) and additional DSP cards ($8,750/each). An upgraded GUI provides additional zoom windows and enhanced track-select modes on the edit display. The unit lets Nuendo and Pro Tools users store automation as part of a mix project. The Station^{PLUS} starts at $55,000.

MAXVISION MAXPAC 8020M

The MaxPac 8020M is a transportable, full-performance desktop DAW that can be torn down and set up in fewer than two minutes. Commonly equipped with Digidesign Digi 001/Pro Tools or Steinberg Nuendo or Cubase, the Pentium 4/Windows XP-based system features dual high-performance drives, a DVD/CD-RW burner and a 17-inch display. Packaged in an aluminum briefcase, the system weighs only 27 pounds and occupies one cubic foot of space. A shock-isolation system minimizes the risk of damage during transport and still allows the MaxPac to meet all airline carry-on size and weight requirements; an optional Pelican hard case

World Radio History

allows it to be checked as baggage. Prices start at $6,000. Visit www.maxvision.com.

M-AUDIO LUNA

M-Audio (www.m-audio.com) enters the mic-manufacturing arena with the slick, new, affordably priced Luna microphone. The large-diaphragm cardioid condenser uses Class-A FET electronics, and all units are claimed to be within ±1 dB of the standard reference. Price: $249.

ALESIS 16FXD

The 16FXD from Alesis (www.alesis.com) is a 16- channel, 4-bus analog mixer with built-in digital effects and S/PDIF output (44.1 kHz/16-bit). The unit features eight mic/line inputs and four stereo line inputs on balanced TRS connectors. The preamps offer switchable 75Hz highpass filters, phantom power and up to 50 dB of gain. Each I/O includes a 60mm fader, 3-band EQ and two aux sends: one fixed and one settable to pre- or post-fader. The master section features stereo LED meters, 2-track send and return, and a separate control room level control. The digital effects section offers 100 28-bit effects, including reverbs, delays, chorus, flanging, pitch and multi-effects. Price: $499.

ECHO INDIGO

Echo (www.echoaudio.com) introduces two new affordable Indigo front-end products: the io and dj. Indigo io offers unbalanced ⅛-inch analog I/O, a headphone amp with volume knob, eight "virtual" software outputs, and a 6-foot breakout cable for RCA and ¼-inch connections. The highly portable dj works on either Windows or Macintosh notebook computers, and offers the same hardware and software as the original Indigo, plus a second independent stereo analog line output. Both units are priced at $229. Not to be left out, the original Echo has been spruced up with the inclusion of software support for Echo's multi-client drivers and eight "virtual" outputs at a new price of $159.

FURMAN SOUND PROPLUGS

These new, clean power-distribution boxes from Furman (www.furmansound.com) consist of four models, each with extended-length cords and three, four or six outlets per device. A fifth Pro Plugs Power module is a three-outlet travel model with retractable phone cable specifically designed for the intrepid producer/engineer requiring stable power on the road. List prices range from $20 to $49 per device. Also available is a 25-foot 16AWGx3C heavy-duty power cord with a three-prong grounded male wall plug and three females outlets at $15 U.S. list.

SENNHEISER MD 421 SPECIAL EDITION

To commemorate the 90th birthday of Sennheiser founder, Prof. Dr. Ing. Fritz Sennheiser, the company released the new MD 421 Special Edition. The mic utilizes the legendary large-diaphragm, dynamic element of the original microphone, and is limited to just 990 production units. Each limited-edition microphone features gold-plated hardware, comes with a velour-lined wood box, a desk stand and includes a numbered certificate of authentication personally signed by Prof. Dr. Jörg Sennheiser. Visit www.sennheiserusa.com. Happy Birthday, Dr. S!

REMOTE AUDIO SPEAK EASY

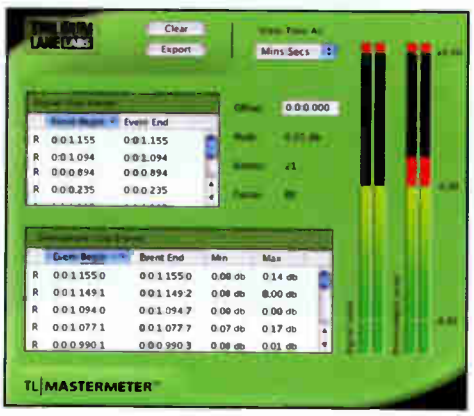
A small speaker with big features, the battery- or DC-powered Speak Easy from Remote Audio Products (www.remoteaudio.com) offers separate balanced or unbalanced inputs (XLR/RCA), front-panel volume control, and frequen-

World Radio History

cy response of 140 to 20,000 Hz, all in a 3-pound package. The 4x4½x6½-inch cabinet is magnetically shielded and can operate up to 10 hours on a single 9-volt battery or accepts 6-15VDC via the BP-90-type connector. Price $179.

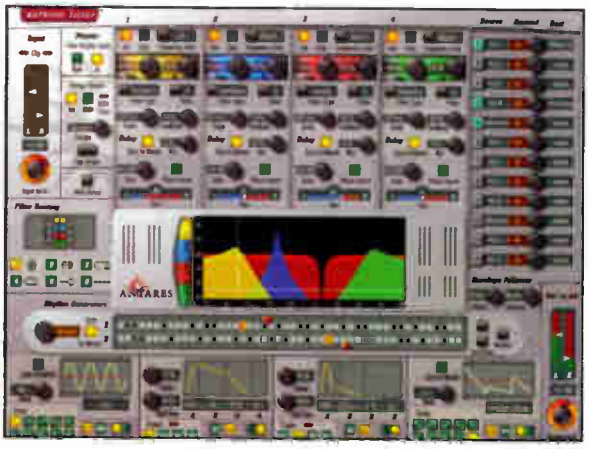
TRILLIUM LANE TL MASTERMETER

Trillium Lane Labs (www.tllabs.com) launched the TL MasterMeter for the Pro Tools platform. TL MasterMeter digitally models the same conversion process that occurs inside the D/A stage of a consumer CD player, allowing users to identify potential intersample peaks. The meter features 2x, 4x and 8x oversampling DSP models, and generates a peak list that can be saved for review. Price: $199.



ANTARES FILTER

Filter features four stereo, analog-modeled, multimode filters; four individual delay lines; and two programmable rhythm generators. In addition to the ability to harmonically slice and dice your tracks, Filter lets you animate them with a variety of tempo-synched "timbral variations," with full MIDI control, powerful routing and modulation capabilities, and the ability to lock every time-based parameter to Filter's master tempo or an external MIDI clock. Antares Filter is available for RTAS, VST (Mac and PC), MAS and DirectX. Price: $199. Visit www.antarestech.com.



MACKIE CONTROL UNIVERSAL

Mackie (www.mackie.com) has released a new control surface that combines the functionality and compatibility of Mackie Control, Emagic Logic Control and Mackie's HUI protocol into one universal controller. It features eight channel strips, each with a 100mm Penny + Giles optical touch fader, and a V-Pot to control effects and plug-ins, plus a backlit LCD and shortcut navigation and editing for all major software functions. The base unit's silkscreen will correspond to Logic Audio functions, while software-specific master-section overlays customize the unit to other supporting DAWs. Several upgrade paths allow existing Mackie Control or Logic Control owners to step up to the Control Universal. Price: $1,299.

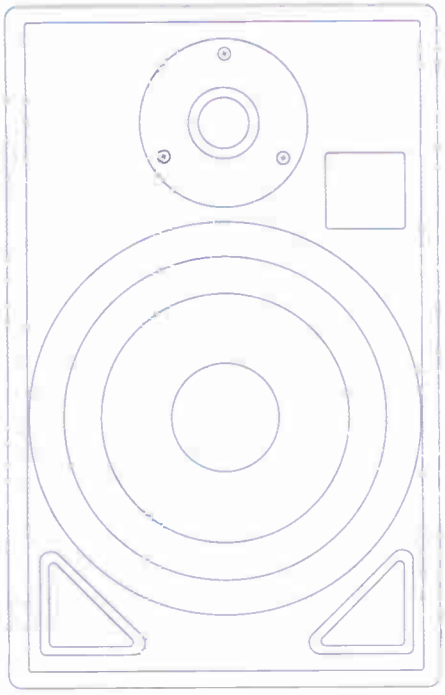
Upgrades and Updates

Emagic is now offering the **Logic Platinum 6.2** update optimized for the Apple Power Mac G5. The update is available to all Logic Platinum 6.x owners as a free download at www.emagic.de...**Digigram** (www.digigram.com) released an optional MP3 codec for its PCX and LCM card range. The codec significantly improves the performance of MP3 playback on the Digigram cards by allowing a larger number of MP3 files to be simultaneously decoded, along with the ability to record MP3s directly...**MOTU** (www.motu.com) has announced **Digital Performer 4.1**, a free upgrade for V. 4.0 owners that allows the use of TDM plug-ins from within DP4. Other features include Audio Units plug-in support and numerous other enhancements such as virtual instrument tracks...**Steinberg** (www.steinberg.net) offers a special upgrade for users of the **Waldorf Attack, PPG Wave 2.V and D-pole VST** plug-ins. Registered owners of any one of these products can now upgrade to the **Waldorf Edition** bundle, which contains all three plug-ins, for just $149...**Ableton** has released **Live 2.1**, a new free update of its award-winning sequencer. Live 2.1 brings full ReWire support to Windows, Mac OS 9 and Mac OS X. The update is a free download for registered Live 2 users at www.ableton.com... **Native Instruments** (www.native-instruments.com) offers an update to its B4 plug-in. Version 1.1 brings the legendary organ to Mac OS X and Pro Tools users on OS X and Windows XP. The update supports Audio Units, RTAS, VST and stand-alone operation using CoreMIDI and CoreAudio. Available to registered users via download for $29 or, for $68, users can get the upgrade and three additional modeled organs...**PMI Audio** (www.pmiaudio.com) is now shipping the **Toft ATC-2** designed by Trident Audio founder and audio engineer Malcom Toft. The unit offers two channels of FET compression, 4-band EQ and high-quality microphone preamps for $1,299...**Cycling '74** (www.cycling74.com) released Windows versions of the **Max and MSP** graphical-programming environments. Max and MSP will now be cross-platform products. Prices of the dual-platform software are $250 for Max and $495 for Max/MSP. Customers who purchased after July 1, 2003, will receive a free crossgrade; those who purchased before July 1 can purchase a $29 crossgrade...**Minnetonka Audio Software** has released V. 2 of its DVD-A authoring application, **discWelder STEEL** (www.discwelder.com). The upgrade adds features only found previously in discWelder CHROME, Minnetonka's flagship DVD-A authoring program. The upgrade is free to V. 1 owners or available new for $495. ■

World Radio History

THINK YOUR PASSIVE MONITORS STILL PERFORM TO SPEC?

THE KRK ST SERIES



THINK AGAIN.

Years of professional use will take it's toll on even the most durable transducer. Many of the most popular monitors over the last ten years are no longer in production and in some cases; it's impossible to get replacement parts. The fact is, your old standard is running out of gas. With the new KRK ST Series you'll be able to keep your amplifier investment and make a significant upgrade to your monitoring system.

The KRK ST Series is an all-new design that incorporates the latest in driver and crossover technology. The net result is a passive monitor that delivers the precision that professionals demand at an affordable price. The KRK ST Series – the new standard in passive near-field monitors.

KRK SYSTEMS

KRK Systems, LLC • 555 E. Easy St., Simi Valley, CA 93065
Phone: 805.584.5244 • Fax: 805.584-5233 • www.krksys.com • email: info@krksys.com

World Radio History

BY JOHN McJUNKIN

Yamaha DM1000

Midrange Version of a Flagship Digital Console

Ten years ago, there were no digital mixers in the 5-figure range, but that changed with the introduction of Yamaha's 02R. This product's lineage has been tremendously successful and continues to be so. Today, Yamaha's DM2000 flagship digital studio mixer—at a retail price of $18,300—is a mighty competitor for other products in the same price range.

This field test focuses on the DM1000, which at $5,299 (base), sports a feature set that's only a little less impressive than its larger counterpart. The DM2000 allows 96 channels at mixdown, whereas the DM1000 allows 48, certainly enough for many users and scenarios. The DM2000 sports 30 buses, compared to 18 in the smaller unit; four of those are stereo matrix buses, a feature that the DM1000 lacks. Both consoles include effects DSP: the DM2000 with eight units and the DM1000 with four. The DM2000 has 12 auxes compared with eight in the DM1000, and the DM2000 has six graphic EQs, while the DM1000 has none.

The DM1000 puts 48 mix channels into a rackmountable package.

The 02R96 and DM1000 share many similar features, but the 02R96 is intended mainly for broadcast or production, while the DM Series is equally at home mixing a concert as it is mixing a film in surround, and, of course, it is fully capable of stereo music or broadcast production. There are other consoles with deeper features for specific applications, but for a console that can handle virtually any task, the DM1000 represents a significant value considering its price. For live sound applications, the DM1000 is particularly nice, as the user-friendly and easily accessible functions aren't always found in other digital consoles. There's no racing through menus to get to the function you need: A couple of button presses, and you're there. Although it's not tiny, the DM1000 is rackmountable, a surprising feature for such a powerful console.

LAYOUT AND ERGONOMICS

This console's control surface is elegant from an ergonomic and operational standpoint. The wood panels make the console nice-looking, the layout of controls is truly eye-catching and the control layout makes sense. Indeed, there are only a handful of controls that require the user to open the manual.

One clever control surface feature is the use of diamond-shaped buttons that change the mode of operation and, correspondingly, the display. To the left of the main LCD screen is a bank of such buttons, and there are also a few scattered about the surface. Touch one of them, and you are immediately taken to the corresponding page and the data-entry controls are enabled for that function. Although many of the display's "pages" have a handful of "tabs" at the bottom, I didn't have to engage in much menu-diving to get to where I wanted. In fact, most of the tabs are used to toggle between channel banks, so Yamaha didn't have to squeeze graphical displays that represent all 48 channels on a single page.

I recorded vocal overdubs and mixed the final product on my first DM1000 project. I had not used the console prior to this project, so I forewarned my client, fully expecting to grant a lot of comp time or simply not charge for the sessions. My client and I were both pleasantly surprised at how smoothly the sessions went.

I quickly—and easily—set up equalization, dynamics and aux sends on any channel. The diamond-shaped buttons took me to the main page, I cursored using the up/down/left/right buttons and then adjusted parameters with the data-entry wheel. The EQ was particularly intuitive: I simply selected a channel, moved to the "selected channel" section and tweaked the knobs as you would on an analog console. Old-school engineers who gravitate away from digital consoles, have no fear: You will soon feel right at home with the DM1000.

Each channel has a rotary encoder that can be set to panning, auxes or other parameters. There are also Select, Solo and On buttons for each channel. The 100mm motorized faders are silky-smooth, a far cry from the herky-jerky plastic faders on my old ProMix 01. Another nice feature is the bank of user-defined keys that can be assigned to do almost anything.

Although the joystick for surround positioning is small, it's a welcome addition when surround mixing. In gener-

World Radio History

"Built to a Standard, Not to a Price"
TELE FUN KEN
Ela M 12
Ela M 14
Ela M 251
Ela M 270
1903
2003
TELEFUNKEN
100 YEARS
Telefunken North America
300 Pleasant Valley Rd, Suite E
South Windsor, CT 06074
www.telefunkenusa.com
860.882.5919
2003 Nominee
AES Booth 1228
October 10-13
New York City
TEC
World Radio History

al, the surface is clearly and thoughtfully laid out, and the LCD screen is clear and easily read. It's nice to have a graphical representation of panning information in surround. A particularly pleasant surprise is the console's ability to display surround-panning information for each of the 16 channels per page.

PC CONTROL WITH STUDIO MANAGER

Another nice feature is Yamaha's Studio Manager software. Via USB connection to a host computer, it allows control of virtually every mixer parameter from your computer. The software displays the entire console (as a virtual analog board) or each channel individually. You can edit the parameters of the effects processors, surround panning and internal connections, rendering the mixer a powerful "virtual patchbay." Additionally, a single computer can address multiple Yamaha consoles. Libraries and scenes can also be stored to the computer, making the console tremendously powerful. There are also MIDI, Word Clock, 9-pin video and 25-pin GPI connections to communicate with other devices. The SMPTE input is a pro XLR connector. With the computer's enhanced display capabilities, the software makes console operation even easier than with the console's own controls.

The Layer buttons determine which bank of 16 mixer channels is being controlled; more importantly, two layers of remote DAW control are available. During mixing, you can quickly navigate back between controlling audio that is passing through the console and control of Pro Tools, Nuendo and other DAWs that emulate the Pro Tools control protocol. I experimented a bit with Pro Tools, playing initially with level, panning and so forth. Ultimately, though, I discovered that the DM1000 also controls auxes, solo, mute, channel flip and other features. One truly powerful feature is Pro Tools scrub/shuttle control that uses the DM1000's data wheel. The console's display also reflects Pro Tool's time code. Console-to-computer communication is handled via USB, which is eminently faster than MIDI.

The DM1000 also sports Automix, a sophisticated internal automation system. It offers automation of the usual channel levels, mutes and panning, but also adds automation of surround panning, EQ, auxiliary levels and mutes, scene recalls, library recalls for EQ, gates, compressors, effects and channels. Certain effects parameters can be automated, as well. A powerful Automix feature is the ability to automate user-defined remote layers (for instance, level, panning, etc.) of your DAW. You don't actually have to pass signal from your DAW through the console in order to have control over it; automation of the entire mix is handled from one location.

COMPREHENSIVE AND FLEXIBLE I/O

The I/O available on the DM1000 is comprehensive. There are 16 mic/line inputs (with phantom power-switchable per channel) and four line-level-only inputs. Yamaha has chosen wisely to refer to the analog outputs as "Omni Outs," sidestepping the notion that each is locked into an exclusive purpose. These outputs can be configured to user preferences as stereo, bus or monitor outs, and, most importantly, input channel direct outs, which allows multichannel tracking/overdubbing or analog-domain insertion of dynamics processing. The stock digital I/O is nothing to write home about, with two AES/EBU and two S/PDIF co-ax ports intended for 2-track I/O. However, the two mini-YGDAI card slots accommodate various cards with other I/O options, such as AES/EBU, TDIF, ADAT or TOSlink Lightpipe, and even FireWire. Waves' Y56K card with DSP is also supported. The unit that I worked with was fitted with the ADAT Lightpipe card, allowing signal flow through my MOTU 828 interface.

Internally, Yamaha's DM Series consoles provide 24-bit/96kHz resolution, like many other digital mixers. However, with many other consoles, 48 kHz is the default, and 96kHz operation cuts the DSP and I/O in half. With the DM1000, nothing is lost. All functions are available at 96 kHz, and at such a high resolution, most of the complaints that typically hover above digital audio have nowhere to land. The A/D converters associated with the DM1000's analog inputs are linear 24-bit, 128x oversampling units that operate at 44.1/48/88.2/96 kHz. Yamaha's philosophy on D/A conversion reflects the notion that if you deliberately choose top-notch mic pre's, A/Ds and internal processing, then the D/A conversion should be equally good. With that in mind, the DM1000 uses the same high-quality D/A's as the DM2000.

SHOULD I HAVE ONE?

Included on my digital console "want" list are operations to make it feel like a simple analog console. I need flexible signal routing: My studio requires that the console also serves as a virtual patchbay. I want high-quality audio, especially with EQ, dynamics and reverbs. I want sophisticated control over my DAWs, not just moving fader-level control. I also require lots of I/O, both analog and digital.

Here's how the DM1000 stacks up. In terms of ease of operation, this console is intuitive and feels comfortable. Other than digital features not having a counterpart in the analog domain, the control surface feels plenty traditional. Regarding my virtual patchbay requirement, the DM1000 not only enables routing of nearly any input to nearly any output, but it also enables library storage of any routing scheme, either internally or via computer.

The converters and EQs sound great, and the dynamics processing is much better than you'd expect in the digital domain. The history of onboard DSPs reflects the development of rackmount processors also made by Yamaha. For instance, the venerable ProMix01 had many of the same presets and the same quality level represented in the classic SPX90. More recent upgrades with products like the SPX990 raised the bar, and now the DM1000 and DM2000 share many presets and the quality level featured in the SPX2000, Yamaha's latest outboard DSP. All internal DSP happens at 32-bit resolution, a step up from the 24-bit resolution of prior products. I used the reverbs on vocals, and they were smashing. Dynamics processing also sounds more natural than what people are accustomed to in the digital domain.

Implementing DAW control is impressive, but the only area that disappointed me was the I/O. The amount of analog I/O is adequate, but if you need a lot of digital I/O, you'll end up spending more money. It's understood that Yamaha wishes users to customize the digital I/O to their own needs, but some formats are so universal that they should be automatically presented without any additional purchases; specifically, ADAT Lightpipe and TDIF.

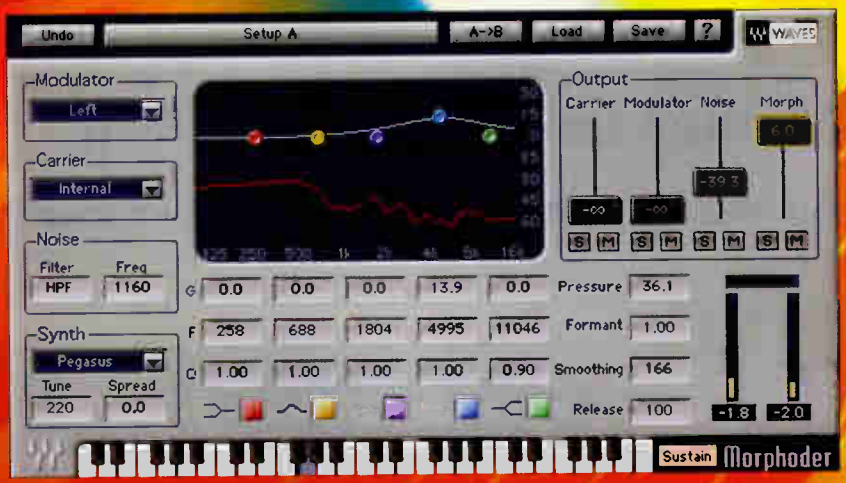
I was able to compare it to a competing (and, in fairness, less-expensive) product that already existed in my studio, and I reached the conclusion that I would unequivocally prefer the DM1000. I love the way it looks, sounds and how it operates. The DM1000 towers over other digital mixers in its class and price range.

Yamaha Professional Audio, 714/522-9011, www.yamaha.com/proaudio. ■

John McJunkin is the principal of Avalon Audio Services (Phoenix).

World Radio History

WAVES



Morphoder is for any musician or audio engineer who needs vocoding type effects. The NEW Waves Morphoder is a vocoder with ease of use and create new worlds of tone and articulation. It employs Formant shifting technology and release control laws not available in any vocoder so that you can superimpose the tone and volume characteristics like you have never done before.

TRANSFORM IDENTITY

Morphoder

TRANSFORM YOUR SOUND.

FEATURING:

ADVANCED DISPLAY of frequency information for intuitive control.

8 VOICE STEREO SYNTH comes built in with 10 Vocoding optimized waveforms.

ON-SCREEN KEYBOARD for immediate and convenient control.

NOISE GENERATOR W/ FILTER to mix with the sound source to control the articulation, edge and "Air" in the sound.

SUPER-TRANSPARENT LINER Phase EQ on the Modulator.

RELEASE CONTROL an infinite release option maintains sound until the next attack.

Q OPTIMIZED BANDS specifically for Vocoding.

FORMANT CORRECTION for superb articulation.

PRESSURE FUNCTION OPTIMIZATION of the vocoding by compression of the modulator.

Morphoder–Featured as part of the Waves Transform Bundle with:

SoundShifter–Transform Time & Pitch

TransX–A transient designer–for edge control

Doubler–Doubling, Chorusing, add Dimension

powered by Maxx

14 DAYS DEMO AVAILABLE AT YOUR WAVES DEALER OR AT WWW.WAVES.COM

(HEADQUARTERS) Azreili Center, Tel-Aviv, 67011 Israel, phone: 972-3-608-1656

(NORTH & SOUTH AMERICA) 306 W. Depot Ave., Suite 100, Knoxville, Tennessee 37917, phone: 865-546-6115, fax: 865-546-8445

World Radio History

BY BARRY RUDOLPH

Manley Laboratories SLAM!

A Different Approach to Dynamics Processing

The SLAM! (Stereo Limiter And Mic pre) defies categorization, combining an updated version of Manley's stalwart ELOP opto-limiter with a new FET-based brickwall limiter and two Class-A preamps with mic and DI inputs. The $6,000 SLAM! is a superanalog approach to louder-sounding recordings.

UNDER THE HOOD

Construction is to Manley's excellent standards. There are two Lundahl mic transformers, two more feeding the FET limiter section and four Manley-made line I/O transformers. Caps are Wima and Multicap; the resistors are mostly 1% metal film; and some two-dozen relays handle audio switching. The external PS has a large, 16-pin, mil-spec connector. My review unit included the optional $2,500 Anagram Technologies Quantum AD/DA converter board.

The mic preamp uses a 12AT7 for 99% of the voltage gain with an FET in series with the tube's cathode. This design self-corrects for drift and tube changes, and capitalizes on the complementary characteristics of tubes and FETs by canceling out each other's inherent weaknesses. The new ELOP optical limiter circuit differs from the original Manley ELOP. A conventional op amp and transistor-current amplifier driver are used for better control, wider voltage swings for flatter response and faster action.

CONTROLS

Below the large, lighted Sifam VUs and ladder LED peak meters are switches for meter modes, limiter in/out and stereo-linking, and a power switch that's dangerously close (for Mr. Clumsy here) to the other controls. Although calibrated in 1dB steps, my only wish is that the LED meter was twice the size and double the resolution.

The input knob adjusts levels of +4dB line sources and/or the DAC's output. This control usually runs straight up at 12 o'clock with ±20 dB of range; but for mic or DI sources, it operates like a standard gain knob. Likewise, the output control operates at unity gain (normally around 12 o'clock) and also has a ±20dB range. Unlike a makeup gain control on a compressor, the output does not go to zero for fade outs or muting; it's more like a master output-level trim.

The ELOP limiter has only a single control: threshold. Fully CW at +26 dB is off, and it ranges to +6 dB. ELOP's other control is the SC (sidechain) Filter switch. It has three positions: flat (no sidechain filtering); a 100Hz, 6dB/octave HP filter; and a 200Hz corner frequency up to 200 Hz that also adds +3 dB at 4 kHz. Great for mixes where hot kick and bass levels would otherwise cause pumping, the 100Hz position provides more limiting, better control and makes your mix louder. The 200Hz position is best for recording or mixing vocal tracks, and its 4kHz boost causes a subtle de-ess action. The 200Hz roll-off allows more limiter depth with less-errant gain reductions caused by "P" pops or other LF plosives.

The FET limiter has attack/release/threshold controls. Attack has three positions: moderate (10 ms), fast (1 ms) and very fast (0.1 ms). The 11-position release control varies from two seconds to 10 ms. Medium release times in the 50ms to 200ms range provide for maximum loudness. The threshold control ranges from +26 off to +6 dB. All controls on SLAM! are interactive: Every parameter change affects the other settings. Increasing the speed of attack will cause more frequent gain reductions, and overly fast release times can cause LF modulation distortion; *listen* before committing to a superfast release setting. A clip-release position simulates an overdriven electronic distortion that could work for guitars or synths.

INS AND OUTS

SLAM! accepts audio from the DAC output (if your unit is equipped); a rear-panel Neutrik Combo jack line input; DI from a dual-impedance, ¼-inch rear-panel jack (30 dB more gain than line); and mic (60 dB of gain), with or without polarity flip and/or 100Hz highpass filter.

One quirk: Both balanced line and mic inputs share the same XLR jack. To prevent accidental application of phantom power to a line source, the phantom switch is also on the back panel. Other rear connections include a TRS balanced DAC output, an unbalanced ¼-inch -10/+4dB output jack and two rows (one for each channel) of six TT patchbay jack/inserts. These are send and return paths to both the opto and FET sections to insert external EQ (or whatever) to these limiters separately. Other TT jacks let users link multiple units for multichannel or surround audio.

ANAGRAM TECHNOLOGIES QUANTUM CONVERTER

Swiss-based Anagram Technologies' optional AD/DA converter plugs into SLAM!'s rear panel and provides digital I/O. The DAC asynchronously up-converts a digital signal to 192 kHz using a high-speed SHARC DSP chip running 40-bit, floating-point software. This results in near-zero jitter, thus reducing audio "time smear." The DAC converter analog output is then routed through SLAM! for peak limiting and returned to the Quantum ADC, sampled at 192 kHz, while a second SHARC down-converts to 44.1/48/88.2/96 kHz. Future designs will include 192kHz capability when the connector issue is finalized—an easy upgrade, as the converters are already running at 192 kHz. User choices include 16/20/24-bit wordlength; dither and

World Radio History

One of music's most prolific producers, CMA- and Grammy®-Award-winner **Tony Brown** (right) has produced more than 100 albums, and lists among the beneficiaries of his talents such names as Lyle Lovett, Trisha Yearwood, Reba McEntire, Vince Gill, George Strait, Jimmy Buffett, and Steve Earle. Now, as senior partner of Universal South Records, he helms the careers of up-and-coming artists like Joe Nichols, Amanda Wilkinson, and Bering Strait.

Producer/engineer and digital pioneer **Chuck Ainlay** has worked steadily as one of Nashville's top pro audio leaders for artists as diverse as George Strait, Willie Nelson, Mark Knopfler, Emmylou Harris, Vince Gill, Reba McEntire, Trisha Yearwood, Steve Earle, Lyle Lovett, Peter Frampton, and Everclear. In the process, he's collected numerous awards and accolades, including several Grammy nominations.

For decades, these two professionals have lent their signatures to top artists across the musical spectrum, and Audio-Technica 40 Series mics are part of that signature. According to Chuck, "I've been using 40 Series mics ever since the 4050 was first introduced. I immediately discovered its flexibility and suitability for whenever I needed a crisp, detailed sound. The 40 Series range has continued in this direction. I wouldn't go into the studio without them."

Take the advice of a couple of Nashville legends and make a 40 Series microphone part of your unique signature. Who knows? You may just be making musical history—like they have.

(40) SERIES

Special thanks to Sound Stage Studios, Nashville, TN

audio-technica.

Audio-Technica U.S., Inc. | 1221 Commerce Drive, Stow, OH 44224 | 330.686.2600 | Fax: 330.686.0719 | E-mail: pro@atus.com | www.audio-technica.com

World Radio History

noise-shaping on/off (only if you are not 24-bit); Word Clock and Super Clock inputs; and three filter settings to "personalize" the sounds.

IN THE STUDIO

Setting up a limiter is more critical and time-consuming than using a compressor. A lead vocal with 5 dB of limiting can sound louder than 10 dB of constant 1.5:1 compression, where the compressor raises quieter sections but lets fast, distorting peaks hit your A/D converter. The limiting ratio of SLAM!'s ELOP goes to a maximum of 10:1 and it's soft-knee- and program/drive-dependent. The FET limiter starts at 5:1 and gradually climbs to 8:1 with a maximum, practical gain-reduction depth of 15 dB! Because the ELOP can do about 20 dB of GR, the two combined offer a total gain reduction of 35dB gain.

For all recorded sources, I used tracks and mixes from a Pro Tools|HD3 rig and a large Nuendo PC. I began with both the ELOP and FET threshold knobs set to max CW, or +26 dB. I used a 1kHz tone to set input and input-level controls to 0 dB. The controls are a little touchy at first, and I wish there were separate bypasses for both the ELOP and FET sections.

I used SLAM! on every imaginable audio source. On live kick drums, it's a godsend. You can record full digital levels and not be concerned when the drummer plays a little harder and (normally) goes into digital clip; the drummer won't with SLAM! in the way. I used the Medium and Fast attacks on drums. The VF setting was so fast that the percussive edge is rounded off too much. Lower threshold settings and VF work well for things like guitars, vocals and bass, although the ELOP section usually controls these sources very well without the FET limiter.

I tested the mic preamp section using a Lawson 47 condenser. With loads of gain, the mic preamp has a lively, open and clean sound with excellent dynamic range, most noticeable in the quieter and subtle moments. I was listening to both speaking and singing vocals on-mic. The Lawson's owner never heard his mic sound so good. He always thought it sounded a little muffled, and now considers his regular preamp the reason.

Next, I recorded a 9-foot Yamaha grand piano using two DPA 4011 cardioid condensers. I liked the mic preamp's "tube-y" sound for a round and sweet tone, even on this bright piano.

The ¼-inch DI input is dual-impedance: Plugged all the way in, it's 100k-ohm; half-way out, it's 10Meg ohm. My bass player (and I) preferred the 10M position for its more open and clear sound from his Fender P Bass pickups. I used both the ELOP and FET sections to limit the bass. *Wow*! I have always had trouble with recording bass (to digital) when the player "slapped" or "popped," causing immediate overs. Analog tape would take care of these peaks; digital doesn't. I set the ELOP to clamp most of them without killing the rest of the performance's dynamics. At a slower release and a fast attack, the FET section brick-walled the rest.

MASTERING APPS

Full analog-based mixes that you want to be loud benefit the most from using the ELOP and FET together. I use about 2 to 6 dB of ELOP limiter on certain rock songs (which consist of mostly compressed individual tracks) and then added up to about 2dB peak limiting from the FET. My average loudness came up anywhere from 3 to 7 dB, but my peak level was about the same: around 1 to 2 dB below digital full-scale. I could go hotter, but the filters in ADCs require 1 to 2 dB of headroom and you may want your mastering engineer to have some room to work, too.

Mixes from a Nuendo PC were fed using the Anagram ADC/DAC. The limiting process is the same as using the analog inputs, except that I was able to take in a session running at 44.1 kHz and output a 96kHz mastered stereo mix. If you output the same rate as the session, then you'll have to use a master word clock. I could add 3 to 6 dB of loudness and still love the overall sound quality. I could have added more, but you start to trade off good music fidelity for just "louder."

CONCLUSION

SLAM! is the ultimate analog front *and* back end for any recording studio. With the Anagram Quantum option, I could cleanly record tracks with a pair of clear, Class-A mic tube preamps with minimal peak limiting using the ADC, and then master the final mix using the DAC/ADC path and the modern-sounding ELOP/FET combo. All of my clients want this process for louder mixes, and SLAM! gets there with a gorgeous sound and a minimum of sonic mangling.

Manley Laboratories, 909/627-4256, www.manleylabs.com. ■

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

World Radio History

"Double the Features— Half the Price"

THE BEHRINGER HOTMAIL **Vol. 1**

V-TONE GUITAR PACK

GUITAR PACKS

- Everything you need to play electric guitar
- Electric guitar featuring a 22 fret maple neck, solid body, sealed chrome machine heads, three single coil pickups, five-way switching and vintage vibrato bridge
- V-TONE GM108 15-Watt modeling amplifier with 27 classic guitar amp sound presets, 8" guitar speaker, headphone output and CD input
- High quality instrument cable, adjustable guitar strap, 3 picks, padded gig bag, guitar instruction book and amp manual

US$ 99.99*

HPM1000

HEADPHONES

- Multi purpose headphones
- Ultra wide frequency response 20 Hz - 20 kHz
- High dynamic range
- High resolution capsule
- Single-sided cord
- Over-shaped ear cups
- Comfortable headband
- Sensitivity 108 dB @ 1 kHz
- Impedance 32 Ohm

US$ 9.99*

TUBE ULTRAGAIN MIC100

MICROPHONE PREAMPLIFIERS

- High end tube modeling preamplifier for studio live and hard disk recording applications
- Hand selected 12AX7 vacuum tube, dynamic limiter, phase reverse switch, +48 V phantom power and 20 dB pad for utmost flexibility
- The ultimate sound enhancing tool for virtually any sound source
- Perfectly complements studio-grade condenser mics and all other mic types

US$ 39.99*

EURORACK UB1204FX-PRO

UB SERIES MIXING CONSOLES

- Ultra low noise design 12 input 2/2-bus mic/line mixer with premium IMP "Invisible" Mic Preamps and 24 bit multi FX processor
- Phantom power, 2 subgroups, 2 aux sends and 2 stereo aux returns
- 3 band EQs on all mono and stereo channels (low cut on mono channels)
- Rack mounting kit included

US$ 149.99*

MICROPHONE XM1800S

DYNAMIC MICROPHONES

- Excellent vocal/instrumental dynamic microphone
- Presence lift in critical mid-range gives you maximum voice projection
- Cardioid characteristic with excellent feedback suppression
- Sturdy, reliable metal construction
- Balanced low noise XLR output
- Two stage pop filter
- Practical On/Off switch
- 3 pcs. delivered in a rugged hard case with mic clip and stand adapter

US$ 29.99*(3 pcs.)

V-TONE GM108

GUITAR AMPLIFICATION

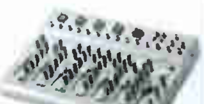
- True analog modeling 15 Watt guitar amp with original vintage design guitar speaker
- Authentic Analog Modeling for 3 classic guitar amps, 3 speaker simulation models plus 3 gain modes — providing you with 27 classic sound presets
- Wide range drive control, 3 band EQ, CD input and powerful headphone output with speaker simulation

US$ 49.99*

EURORACK MX

ANALOG MIXING CONSOLES

- 10 channel mixing console with optional battery operation
- 2 mono channels with IMP "Invisible" Mic Preamps and inserts, 3 stereo channels with IMPs plus phantom power on all channels
- Dedicated tape/return channel
- Separate gain controls for mic and line inputs on stereo channels allowing both inputs to be active



US$ 99.99*

ULTRABASS PRO EX1000

SOUND ENHANCEMENT PROCESSORS

- Professional sub-harmonics processor for super low bass sounds
- The perfect tool for PA, clubs, cinemas, sport fitness studios or your home stereo system
- Digital synthesis based on waveform analysis generates ultra low frequencies
- Dynamic punch control adds breathtaking "kick bass" to your program material
- Bass mode control allows you to fade between "ultra low" and "punchy" bass sounds

US$ 79.99*

SHARK DSP110

AUDIO SOLUTIONS

- Automatic Feedback Destroyer and multifunction signal processor
- Discrete ultra low noise mic/line input stage with gain control and +48 V phantom power
- Super musical compressor with variable density
- Delay line with up to 2.5 seconds of delay, adjustable in meters, feet and msec
- Noise gate with automatic and manual parameter adjustments

US$ 69.99*

DDX3216 — HOT SHOT

DIGITAL MIXING CONSOLES

Fully Automated 32-Channel 16-Bus Digital Mixing Console

- 32 full fledged channels, 12 ultra low noise IMP "Invisible" Mic Preamps
- 16 busses, 8 aux sends and comprehensive routing options
- Fully featured dynamic and snapshot automation
- 17 ultra precise, low-noise 100 mm motorized ALPS™ faders
- Compressor, limiter plus gate, 4 band parametric EQ, sweepable high pass and phase reverse on all 32 channels, additional delay on channels 1-16
- Additional compressor, limiter, switchable pre/post and EQ for stereo main mix
- Four simultaneously operable effects processors with dozens of first class algorithms, accessible from all 32 channels

US$ 999.99*

ULTRAGAIN PRO-8 DIGITAL ADA8000

- Ultra high-quality 8-channel 24-bit A/D & D/A converter for virtually any digital recording/mixing environment
- 8 new state-of-the-art studio grade IMP "Invisible" Mic Preamps
- Phantom power on all mic inputs
- The perfect expansion for the DDX3216
- Processes 44.1 and 48 kHz sample rates

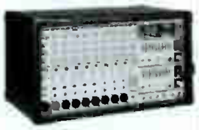
US$ 199.99*

ADT1616: 16-Channel ADAT® Interface for DDX3216 ▪ **TDF1616:** 16-Channel TDIF Interface for DDX3216 ▪ **AES808/ACB808P:** 8-Channel AES/EBU Interface for DDX3216/19" Connector Box

EUROPOWER PMX2000

POWERED MIXERS

- 2 x 250-Watt 10-channel power mixer with 24 bit multi FX processor
- 6 mono channels with IMP "Invisible" Mic Preamps and phantom power plus 4 stereo channels (3 with IMPs)
- 3 band EQ on all channels
- 9 band stereo graphic EQ allows precise frequency correction
- Optional stereo (main L/R) or double mono (main/monitor) operation possible
- Professional SPEAKON® connectors



US$ 299.99*

BASS V-AMP

MODELING AMPLIFICATION

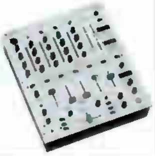
- The ultimate tone toolbox for bass/acoustic/electric guitar and keyboard amp modeling
- 32 amp models, 23 speaker cabinet simulations, mixer mounted mic
- 16 analog and digital multi-effects including ultrabass, synth, delay/loop sampler, chorus, flanger, rotary speaker, voice box, wah etc.
- Stereo aux input, extensive MIDI implementation
- 4 renowned distortion and overdrive stomp boxes

US$ 139.99*

PRO MIXER DJX700

DJ MIXERS

- Professional 5-channel DJ mixer with digital effects and BPM counter
- 4 dual input stereo channels, 1 ultra low noise microphone channel with "On Air" switch
- 47 breathtaking digital effect presets in 24-bit quality: delay, reverb, flanger, filter, vinylizer etc.
- Awesome adjustable XPQ stereo surround effect
- Super smooth VCA ULTRAGLIDE faders with up to 100,000 life cycles



US$ 199.99*

BLUE DEVIL GX112

GUITAR AMPLIFICATION

- 60 Watt RMS VIRTUBE guitar amp
- Original JENSEN™ 70 Watt 12" speaker
- Two channels with separate volume and FX settings
- Stereo 24 bit multi effects processor with 99 user presets
- 32 original VIRTUALIZER/MODULIZER presets with world class effects
- Channel select/FX bypass footswitch included

US$ 199.99*

ULTRABASS

BASS AMPLIFICATION

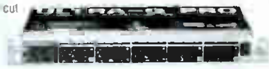
- 300 Watt RMS bass amplifier with DYNAMIZER technology for ultimate punch
- Switchable ULTRABASS sub harmonics processor & revolutionary "Shape" filter
- Extremely musical 5 band EQ with "Bright" and "Deep" functions
- Vintage style VU meter
- Dual footswitch included
- Balanced XLR DI output
- Effects loop with tuner function and line output
- 3 speaker outputs on 1/4" jack and SPEAKON® connectors

US$ 199.99*

ULTRA-G PRO

EQUALIZERS

- Ultra musical and low noise 5 band parametric equalizer
- Precision state variable filters with constant Q characteristic
- Parallel filter architecture ensures minimal phase shifting
- Sweepable high and low cut filters remove unwanted frequencies
- Each band bypassable and fully adjustable from notch filter to broadband equalization
- Broad frequency band overlapping allows extreme boost/attenuation



US$ 79.99*

EUROLIVE

PA LOUDSPEAKER SYSTEMS

- High power 2-way floor monitor
- 400 Watts program
- Titanium HF driver for brilliant natural high frequency reproduction
- BEHRINGER HF driver protection
- Professional SPEAKON® connectors
- Ultra rugged enclosure with two angles (30° and 60°)
- Rugged steel grille for optimal speaker protection

US$ 159.99*

PA LOUDSPEAKER SYSTEMS

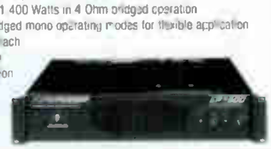
- Fully active 2-way 300 Watts PA loudspeaker
- High power 15" woofer and 1 1/4" HF driver
- Suitable as main PA and floor monitor
- Two high power amps delivering a total of 300 Watts
- Integrated limiters ensure speaker protection
- Additional ultra low noise mic input and 2 band EQ
- Integrated subwoofer output and socket for pole or stand mounting
- Extremely rugged, low-resonance plastic enclosure

US$ 349.99*

EUROPOWER

POWER AMPLIFIERS

- High-end power amp with all protection modes
- 2 x 700 Watts in 2 Ohm/1,400 Watts in 4 Ohm bridged operation
- 2 channel, parallel or bridged mono operating modes for flexible application
- Independent limiters for each channel offer dependable protection against distortion
- Precise signal and clip LED indicators to monitor performance



US$ 299.99*

The Philosophy: "Double the Features—Half the Price"

The success of BEHRINGER is the result of a partnership with YOU, our customer. Over the past 15 years, we've always listened to your suggestions, which ultimately helped us design some of the most successful products in the industry. The huge demand and our highly sophisticated factories allow us to produce products at much lower cost than most of our competitors. Isn't it fair to pass those cost savings back to you? We call this the "YOU" factor and that's what BEHRINGER stands for.

www.behringer.com

BEHRINGER JUST LISTEN.

Asia +65 6542 9313 · Australia +61 3 9877 7170 · Canada +1 902 860 2677 · Europe +49 2154 9206 4166 · Japan +81 3 3291 7401 · USA +1 425 672 0816

©2003 BEHRINGER Spezielle Studiotechnik GmbH. Technical specifications and appearance subject to change without notice. ADAT™, ALPS™, JENSEN™, SPEAKON® as well as the names of other companies, institutions or publications pictured or mentioned and their respective logos are registered trademarks of their respective owners. Their use neither constitutes a claim of the trademarks by BEHRINGER® nor affiliation of the trademark owners with BEHRINGER®. Contents in this advertisement are correct at time of printing. BEHRINGER® accepts no liability for any loss which may be suffered by any person who relies either wholly or in part upon any description, photograph or statement contained herein.
*Estimated Street Price, actual prices may vary. Products are sold through our authorized dealers only.

BY GEORGE PETERSEN

RØDE NT2000

Multipattern Condenser Studio Microphone

More than 35 years ago, Henry and Astrid Freedman founded their Australian-based Freedman Group of companies to design, manufacture and install pro audio gear. The first products from the resulting Freedman Electronics were loudspeakers, amplifiers and crossovers sold to the growing Australian market. RØDE evolved from the company's years of experimentation and research into modifying existing microphones for expanded bandwidth, smoother response and lower noise. In 1990, RØDE's first microphone, the NT2, debuted, and through the years, the company has distinguished itself as a provider of high-quality studio tools that are well outside of the "me-too" mold of so many other microphones.

So when RØDE president Peter Freedman began working on the company's latest creation, he wanted to do something completely different, and the NT2000 is the result of that quest. To give the barest of descriptions, the NT2000 is a solid-state, multipattern, large-diaphragm studio condenser mic. But besides its pristine 7dBA EIN spec and clear, smooth sound, what sets the NT2000 apart from the rest is the versatility of its "Totally Variable" controls. Set into the mic body are continuous pots for setting polar pattern (from omni through cardioid to figure-8 and anything in between); a 20 to 150 Hz tunable highpass filter; and a (also variable) 0 to 10dB pad. The pattern-selector pot has a center detent for the 12 o'clock cardioid position.

The NT2000 is a side-address design, with the control pots facing the sound source. Under the large, multilayer windscreen is the HF-1, a true (externally polarized) condenser capsule with dual-1-inch diameter, 5-micron-thick Mylar diaphragms that are gold-sputtered and then hand-tensioned and aged before clean room assembly at the RØDE factory.

Under the nickel-finished, heavy brass body is a modern, double-sided board with low-noise FET electronics in a combination of axial and surface-mount components. The fit and finish are impeccable throughout. The NT2000 has a most distinctive look, and bucking the trend of the ever-growing logos on gear with the company name only on the dark band at the base of the mic. The only obvious RØDE-looking touch is the trademark circular brass insert that marks the "front" of the cardioid direction on all of the company's side-address studio mics.

IN THE STUDIO

Once the box arrived—with its familiar logo and Sydney, Australia return address—I was anxious to get started. The NT2000's $899 retail price includes a molded, padded protective case that houses the mic and shockmount. Speaking of the latter, the shockmount is made of a tough, polymer material, with threaded metal insets for the stand-mount and angle-adjustment screw. One nice touch: A long handle with a release button really ensures the mic angle is solidly locked.

The 6-inch diameter shockmount is fairly sizable, which could make some placements difficult, should you want to use the NT2000 in a cramped space such as on a snare or in a complex percussion setup. However, most applications for the NT2000 don't involve such obstacles. The shockmount is highly effective and required, as the mic is highly sensitive and susceptible to handling noise. The mic itself is cradled within the shockmount by an inner basket supported by thick elastic cords that keep the mic aligned, yet provide ample protection from vibrations, thonks and bonks that could transmit nasty low-end rumble.

The mic is no lightweight: The NT2000 and shockmount tip the scales at a hefty 2.33 pounds, so make sure that your mic stands are sturdy, particularly when using booms.

My first session was recording a 4-string Appalachian dulcimer using the cardioid setting, about 2.5 feet above and in front of the instrument. The dulcimer's bridge end has a brighter tone, so I turned the pattern control a bit toward omni, which resulted in a nice, wide cardioid that wasn't entirely focused on the center of the instrument. It provided a tone that was rich with upper-end harmonics and a full bass from the drone strings. One thing that was evident was the NT2000's noise—or lack thereof—especially when using a clean Millennia Media HV-3 preamp.

On a later (but unrelated) session, I tried to make an uncooperative cat meow

Big Changes Down Under

Five years ago, RØDE built a 20,000-square-foot mic factory on the outskirts of Sydney, but there was a problem: With the company's growth, it soon needed a larger operation. Last month, RØDE began moving into a totally new 70,000-square-foot plant. Located in Silverwater, barely a stone's throw from Sydney's Olympic complex, the new factory houses the company's operations except metalwork for bodies, which is handled by a facility in Aussie's famed Blue Mountains. The Silverwater complex offers state-of-the-art assembly with surface-mount systems, clean rooms for capsule assembly, CAD design and special listening rooms where each mic is evaluated before shipping.

Company president Peter Freedman

World Radio History

Don't get handcuffed by your SAN software

Facilities around the world are realizing that their SAN must support multiple platforms. Will your storage network support your choice of operating systems? SANmp management software is the best choice no matter which platforms you use.

Each copy of SANmp includes a license for Mac OS 9, OS X, Windows 2000 and Windows XP at no additional charge. That means your entire facility can have true, shared centralized storage and archival – now and in the future.

- Supports Final Cut Pro®, Avid®, Nuendo®, Pro Tools®, and many others
- Supports Xserve RAID - all platforms
- Concurrent access to centralized storage
- Password protected storage
- No server or Ethernet connection required

www.sanmp.com

studio network solutions
a/v media networking
www.studionetworksolutions.com
toll free 877.537.2094

World Radio History

on cue for the mic, which was fruitless. When I decided to give up, the cat finally walked away, stopped about five feet back and gave a couple (far-field) meows. Fortunately, tape—er, disk—was still rolling at that time, and because I had an ultraclean audio path, I could just boost gain later and get a usable take.

Cutting (human) vocals was a lot more fun. Recording some doo-wop-style a cappella tracks, I decided to go the old way: one singer on either side of the figure-8 pattern. A few things became evident: The figure-8 pattern is consistent on both sides and—like the cardioid setting—exhibits a wonderful proximity effect, adding a nice bottom-end richness to the sound, without being overbearing.

Switching to cardioid for some close-in solo vocals, I had to use a stocking pop filter to eliminate popping "p" and "b" sounds. In cardioid, the NT2000's wide, fairly flat response doesn't roll-off until about 14 kHz or so, and doesn't exhibit the huge presence peaks common to many other condensers. The mic has a smoothness that's more reminiscent of a C-12 than a C414, with a round, full bottom and an unexaggerated top that worked well for male and female vocals. On certain male singers—particularly basses—you might want to add a hint of EQ for punch and clarity, but this is hardly the mic's fault.

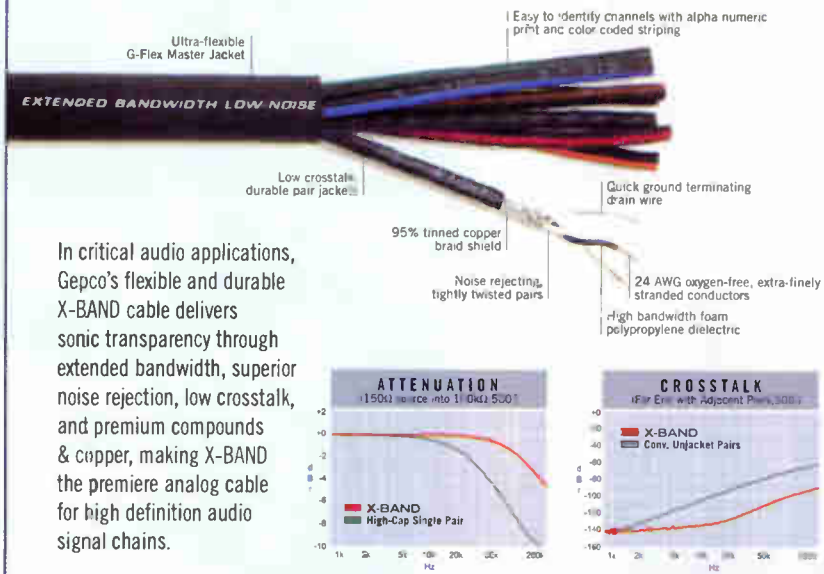
Combined with the mic's low-noise performance, the omni position was great for distance room-miking—whether on piano or rock guitar amping. Even when I used the NT2000 close in on loud amps, I never needed the pad, as the mic handles high-SPL sources without a hitch.

The continuously variable 20 to 150Hz roll-off is a gem. At the halfway position, the mic was perfect for close radio-style narration without a pop screen. The full-on 150Hz setting is more useful as an effect, such as a "your table's ready"-style narration, or for rolling off low frequencies when recording drum overheads. I only had one mic to test, so I didn't track any drums, although I switched the HP filter out and put the NT2000 over my studio kit, where its wide bandwidth and excellent off-axis response offered a natural sound on the entire kit with tons of detail.

At $899 retail (and a lower street price), the NT2000 has all of the makings of a classic, with its sweet sound and versatility to handle just about anything. Here's a top choice for your mic locker.

RØDE Microphones, 310/328-7456, www.rodemic.com. ■

X-BAND
AUDIO CABLE
MEASURE THE DIFFERENCE



In critical audio applications, Gepco's flexible and durable X-BAND cable delivers sonic transparency through extended bandwidth, superior noise rejection, low crosstalk, and premium compounds & copper, making X-BAND the premiere analog cable for high definition audio signal chains.

GEPCO INTERNATIONAL INC
800-966-0069 | www.gepco.com | gepco@gepco.com

The Industry Standard Guide to Professional Audio

2004 MIX MASTER DIRECTORY

The *Mix Master Directory* is the complete information source for businesses in the professional audio industry. Backed by more than 25 years of editorial expertise, this definitive resource includes comprehensive national listings of audio manufacturers, audio professionals, facilities and services.

Available in January 2004 wherever *Mix* is sold. Free to *Mix* subscribers.
A PRIMEDIA publication
www.mixonline.com

World Radio History

NEW! FW-1884

The best DAW control surface with built-in FireWire™ audio-MIDI interface.

It's an 18-input, 24-bit/96kHz* Firewire audio I/O box...and a 4-in/4-out MIDI interface! *And* a mapped controller for Digital Performer™, Nuendo®, Logic™, Sonar™ and Cubase®!

Assignable foot-switch jack for punch-ins or MIDI control.

Eight analog outputs for L/R and 5.1 surround sound matrices.

Fourteen DAW short-cut buttons including Save, Revert, All Safe, CLR Solo, Marker, Loop, Cut, Delete Copy, Paste, ALT/CMD, Undo, Shift and CTRL. Your mouse and keyboard will feel very neglected.

Eight channel inserts.

Channel strip rotary encoders can be assigned to 8 Auxes or Pan via keypad.

Eight channel strips with 100mm, touch-sensitive motorized faders, Mute, Solo and Select buttons, Pan, trim and access to 4-band parametric EQ.

Add banks of eight channel strips with FE-8 expanders.

Separate Phones, Monitor and Solo (AFL/PFL) controls.

Weighted jog/shuttle.

NUDGE — No more mouse-and-keyboard juggling: Dedicated transport buttons plus Nudge, cursor, In/Out/Set, Locate, function and Bank Switch keys.

Eight channels of ADAT® lightpipe I/O and stereo S/PDIF inputs & outputs.

Extra Firewire port so you can connect to external hard disks or daisy-chain to our FE-8 expander.

Word Clock in and out for accurate sync with computer systems.

CO-DEVELOPED WITH FRONTIER DESIGN GROUP

Four MIDI inputs and four MIDI outputs for sound generation and timing.

100mm, touch-sensitive motorized Master fader. Varoom!

Eight balanced ¼"/XLR analog Mic/Line inputs with studio-grade, high-headroom, low-noise mic preamps and switchable phantom power. XLR Input 8 is even switchable from Mic/Line to Guitar level.

Why spend extra on audio and MIDI I/O boxes?

Co-developed with Frontier Design Group, the new three-in-one FW-1884 has everything you need to maximize workstation productivty in a single intuitive tool. For far less than the cost of a piecemeal approach.

Fire up the FW-1884 at a TASCAM dealer or visit our web site for more information.

TASCAM

TEAC 50th anniversary

* Full 96kHz operation on all analog I/O channels with compatible DAW software.

©2003 TASCAM All Rights Reserved. All features and specifications are subject to change without notice. Sonar is a trademark of Twelve Tone Systems. Nuendo and Cubase are registered trademarks of Steinberg Media Technologies AG. Digital Performer is a trademark of Mark of the Unicorn. Logic is a trademark of Emagic/Apple Computers.

World Radio History

CONTRACTOR

www.tascam.com

DJ AND PRODUCER

PERSONAL CREATIVITY

BY KEVIN BECKA

Focusrite ISA428 Pre Pack

High-Performance Preamp/Converter System

Recently, Focusrite has offered a product line aimed at the home studio. However, as the $1,995 ISA428 can attest to, the company has not forgotten its high-end roots. This "four-preamps-in-a-box" was a pleasure to use, and lives up to the expectations of classic Focusrite gear.

The front-panel controls on the ISA428's transformer-coupled preamps are placed far enough apart so that even the small ones—such as phantom power, phase and insert buttons—are easy to adjust. Below the large analog meters (with peak LEDs) is the knob to adjust gain in 10dB increments, a gain trim pot with a continuously variable ±20dB range, and a 16Hz to 420Hz sweep, -18dB/octave HP filter control. Each preamp section has push buttons to select the maximum attainable gain (+30/+60 dB); mic, line or ¼-inch instrument input source; variable-input impedance; and HP filter in/out. All buttons except the input and impedance controls are backlit.

The unit's right side handles the A/D converter functions, with an ADC Soft Limiter in/out toggle, clock-select button (44.1/48/88.2/96/176.4/192 kHz), 16/20/24-bit resolution switch, external word/superclock select, digital lock light, and the dual-mode, six-segment LED meters. The meter's dual functionality is determined by the optional ADC card: If the card is not fitted, meters 5 through 8 are inactive and 1 through 4 read the output of each mic preamp, with the top LED representing 0 dBfs (+22 dBu). With the card installed, all meters are active and read the preconverter signal path after the soft limiter.

The back panel has the XLR I/Os for each mic preamp and four additional ADC inputs. Although there are only four mic preamps, installing the optional ADC card adds four additional *digital* line inputs; a nice add to the value of the ADC option, to say the least. In addition, each channel has three balanced TRS connectors, each carrying a line input, insert send and insert return.

The $695 ADC card has Lightpipe I/O, Word Clock I/O and two 9-pin connectors handling AES-only or combination AES and S/PDIF—eight channels of audio, a real plus. The AES-only connector can be configured as either single-wire or double-wire for backward-compatibility with older equipment. The other connector can be switched between AES or S/PDIF signals and needs only the right termination to correctly interface with its digital partner. One limitation of the card occurs when interfacing with Pro Tools|HD: With only four inputs above 96 kHz, you can't input the ADC's four additional line inputs into HD.

IN THE STUDIO

I used the 428 on a variety of instruments with several different mics. In a word, the 428 sounds fantastic. It's clean, clear, versatile and completely pro.

One of the most revealing tests for a mic preamp is using it with a ribbon mic; in this case, an AEA R84 on a number of sources. Here, the variable-impedance control became a valuable tone-shaping tool. I first used the mic on a Martin acoustic guitar and could control the sonic characteristics easily with the impedance controls. (For more on how the variable impedance control relates to ribbon mics, read the online extra at www.mixonline.com.) Ribbons tend to be low-output transducers, requiring a lot of input gain. I could get plenty of clean level out of the 428: a whopping 80 dB of gain. There was an expected bit of noise at the very top of the throw, but it was not a factor because I never needed that much boosting.

The optional digital section is especially sweet. I used it exclusively to get into Pro Tools|HD because it sounded so good. I used the 428 at 48 kHz and 96 kHz, recording acoustic instruments including dobro, upright bass, banjo, guitar and percussion. It was stellar in every application: I quickly appreciated how easily I could get a great sound. In one case, I recorded a Danelectro baritone guitar with great results. It was as simple as plugging it in and setting levels. The sound was crystalline, full-bodied and needed no EQ.

The 428's metering is perfect for digital recording. I found myself trusting it more and more with use. It's a confidence-builder that frees your mind for more creative use when you don't have to worry about checking three meters in your signal path.

The ISA428 is not simply four preamps in one box, but four preamps that sound so good. The box is pro inside and out with Lundahl 1538 input transformers, as originally spec'd by early Focusrite designs. The fit and finish are what you'd expect from Focusrite: Every knob, button, connector is top-notch. And it's a tweaker's delight, with extra touches such as variable-input impedances, dual-metering, HP filters and the optional digital back end (with added inputs).

All said, a couple of things could be better. The "low/ISA110/med/high" variable-impedance control settings are confusing. Competing boxes such as Groove Tube's VIPRE indicate values in ohms, which is easier to set in the heat of the session. However, the well-written ISA428 manual has a great tutorial on variable impedance to clear up any user questions. One minor point: On the rear panel, if inputs 1/2 were on top and 3/4 on the bottom, then hookups would be much more intuitive, especially for those blind gropes in the dark that are all too common in the working studio.

Aside from a few minor gripes, this preamp gets straight A's in all departments. If you're looking for a rock-solid, great-sounding, well-designed set of preamps—and who isn't?—then the ISA428 should be on your must-see list.

Focusrite, dist by Digidesign, 650/731-6300, www.focusrite.com.

MIX ONLINE EXTRAS

World Radio History

most people know...
..but for those who don't

no glitz
no glamour
no outrageous claims

BOYNTON PRO AUDIO

A premier reseller of professional audio products since 1953

Simply the best

800-772-8916

Main Office and Warehouse
Route 23 Melody Pines Farm
Morris, NY 13808
SALES (607) 263-5695
FAX (607) 263-2373

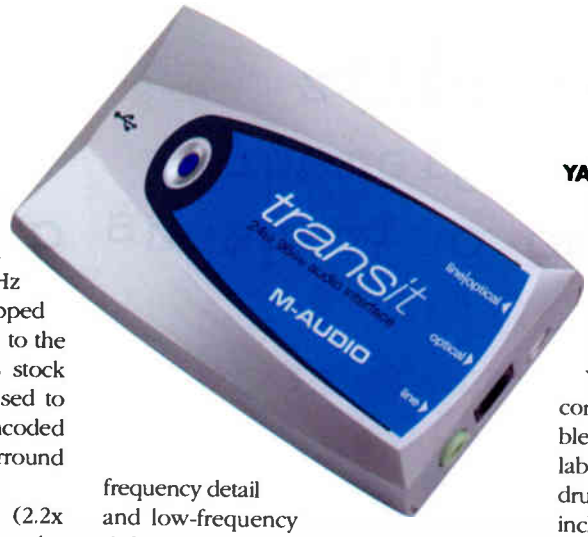
ebay store ID: boyntonproaudio

www.boyntonproaudio.com

Boynton Pro Audio West
1419 Kenmore Avenue
Kenmore, NY 14217
SALES (716) 873-7961
FAX (716)873-7965

World Radio History

Snapshot Product Reviews



M-AUDIO TRANSIT
USB Audio Interface

M-Audio's new Transit audio interface offers an inexpensive and easy way to add up to 24/96kHz stereo digital I/O to any USB-equipped (Version 1.1) computer. In addition to the obvious upgrade of a computer's stock AD/DA, the Transit can also be used to send DTS- and Dolby Digital-encoded audio from your computer to a surround sound system.

Smaller than a deck of cards (2.2x 3.6x0.9 inches and 1.6 ounces), it was the perfect portable digital audio solution for the Apple PowerBook I used for the review. To get started, I read through the manual, which is supplied on the included driver CD as a pdf file. The downside to the manual is that it isn't in a printer-friendly format and the page numbers in the pdf's table of contents are different from the actual pages. After some difficult navigation through the manual, installing the OS X driver was simple. I connected the supplied 10-foot USB cable (which also supplies the power to the Transit), and OS X's Core Audio system had no problems seeing the new device.

Stereo analog/digital input is achieved via a single ⅛-inch hybrid connector, or an included adapter allows a conventional TOSLink cable to be used. Stereo analog output is an ⅛-inch stereo TRS connector, while digital output is an S/PDIF optical TOSLink connection. All audio input and output levels are controlled through software control panels; no audio cables are supplied.

I used Emagic's Logic Audio to record various source material into the computer, and loved the fact that Transit automatically detects if you plug an analog or digital cable into the hybrid input. The analog input can accept microphone sources and can supply +5V for electret condenser computer mics. Switching between analog and digital inputs worked flawlessly in Logic, and I noticed that the output quality beat the stock Mac I/O hands down. Transit's noise floor is much lower, and no CPU interference could be heard. High-frequency detail and low-frequency definition were also noticeably better with Transit. Like the Mac, the output can drive typical line-levels and headphones.

Some features on Transit were disappointing. Unfortunately, Transit's analog input doesn't support the 88.2kHz sample rate, which is preferred when you want to track in high resolution and then convert to 44.1 kHz for audio CDs. Transit also can't simultaneously record and play back any sample rate over 48 kHz, making it impossible to use its outputs to hear what you're recording when working in hi-res mode. (This is true of all USB 1.1 devices.) One quirky and annoying thing was that plugging or unplugging an optical cable in or out of the input produced very loud pops on the analog output, even though I wasn't running an application to monitor the input. However, this seemed to be attributed more to the Mac rather than Transit because it didn't happen when I had Logic running.

If the high-resolution limitations don't concern you, then Transit is a great option for much improved analog I/O and the addition of digital and multichannel-encoded I/O to your computer. Price: $99.95.

M-Audio, 626/445-2842, www.m-audio.com.

—Robert Brock

YAMAHA SUBKICK
Kick Drum "Mic"

Using a speaker to mike a kick drum is certainly nothing new. But often the homemade setup for this device looks like it came out of a grade-school metal shop. Yamaha's new Subkick ($499) takes the concept to the next level by perfectly blending aesthetics and function. A collaborative effort between Yamaha and drummer Russ Miller, the Subkick is a 6.5-inch woofer (frequency response: 20-8k Hz) shock-mounted inside a 7-ply birch/mahogany 10-inch shell and covered with black-mesh heads. Mounting hardware and a stand are also included. The device couldn't be simpler, sturdier or more attractive. Setup is simple, with audio connection made by simply plugging a mic cable into the XLR connector mounted in the side of the "drum."

I was able to try the Subkick on three separate kick drums with stellar results. I placed it an inch away from—and centered on—the outside of the head. In every case, I had another mic on the inside of the drum to provide some "point" for the kick drum mix. There are a number of things to like about the Subkick, most of all its sound. It definitely gives you the thump you'd usu-

World Radio History

Skew the math.

Blue's great Free-for-One sale, going on now.

Here's a smart addition: Buy one of Blue's Baby Bottle mics, and you'll get our custom-built shockmount and pop filter, along with one of our hi-definition Blueberry mic cables for **FREE**. That's right, zip. Zero. Zilch. That's a $183.95 savings that adds up to one sweet deal, no matter how you do the numbers. Nominated for the **2003 TEC Award**, the Baby Bottle is a solid-state, class A discrete condenser mic with a fixed pattern of cardioid, hand-crafted with the precision Blue has become famous for. It's ideal for recording vocals, percussion, or any acoustic instrument. The Shock/Pop are custom-designed to work with the Baby Bottle, and our Blueberry cable offers the ultimate in connectivity. All together they're the perfect recording equation! So get on over to your nearby participating Blue dealer today and check out this cool deal — but do it soon, because this offer is good only while supplies last!

Blue Microphones

Think you can't afford the best? Think again.™

For a complete directory of authorized Blue dealers, visit us online at www.bluemic.com

World Radio History

ally have to dig for with EQ when using a traditional setup. Also, the rock-solid snare stand and tom mount used for "mic" placement are ingenius. In every application, it was a quick and easy setup without drift or drop. It stays where it's put.

I A/B'd the Subkick with my usual large-diaphragm-mic-outside-the-kick setup, and it blew it away. Because of the nature of the beast, it completely ignores any cymbal or drum spill over 100 Hz, making for a nice, clean track at the bottom of your mix. A nice trick is to use the naturally clean Subkick signal to feed the key on a gate used for the internal kick mic, resulting in an easily accomplished clean kick signal.

The Subkick was also used to record a cajon, a large wooden box that a percussionist sits on and hits with a combination of open palm and fingers to get various tones. The Subkick was placed in front of the port at the front of the box, and was used in addition to a pair of cardioid mics at either end. The Subkick offered all of the low end you'd need for this instrument and mixed in nicely with the other mics. I imagine that you could also use it to mike the bottom of a floor tom with equally good results, although I didn't get a chance to use it in this application.

The Subkick is something that every engineer and studio should have in their bag of tricks. It was a winner in every application, and although it's a one-trick-pony, what a fantastic trick it is!

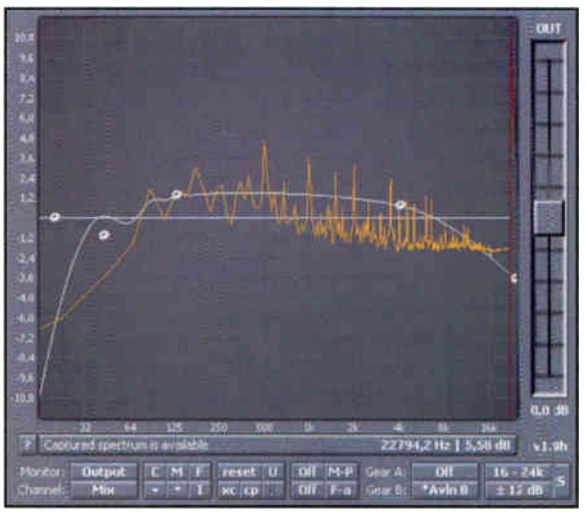
Yamaha, 714/522-9011, www.yamaha.com/drums.

—Kevin Becka

VOXENGO CURVEEQ
EQ VST Plug-In

CurveEQ VST from Voxengo is an advanced equalizer that runs as a plug-in in any VST 2.0 host like Cubase, Nuendo or Logic Audio. CurveEQ gives you the ability to see a real-time graphic image of the frequency spectrum of a vocal, instrument or complete track mix as it looks before and after you apply equalization from CurveEQ. With this "visual" representation, you'll quickly see which frequencies are problematic and have to be reduced or are in need of enhancement. I liked that, rather than turning knobs as on a conventional equalizer, you use the mouse to design and "draw" a very specific EQ curve.

CurveEQ also features SpectruMatch technology, a way to match a sound's frequency composition and response and superimpose it over another sound. You could take a spectrum "picture" of a mix that you particularly like and apply it to a completely different mix. Conceptually similar is Voxengo's Gear-Match Technology, in which databases of sonic impulses from various high-end analog devices are available to be applied to any sound. In theory, you could take the basic sound coloration caused by tubes, transformers and design (but not the actual compression) of a multi-thousand-dollar vintage compressor followed by the sonics of a 1960s British EQ and add it to any of your song's tracks or the entire stereo mix.



CurveEQ is primarily intended as a mastering equalizer, but I used it on individual channel inserts with great results. It came in very handy when clearing up the lower midrange of a muddy-sounding mix. It is much easier to pinpoint annoying frequencies using CurveEQ's "what-you-see-is-what-you-get" interface than a parametric EQ, which is often a laborious trial-and-error process.

CurveEQ uses a math-intensive process and eats a fair bit of CPU overhead, but once you have shaped your sound, you can turn off the spectrum-analysis processor and regain some lost horsepower. For Windows PCs only, Voxengo sells for $98 and is available as a download.

Voxengo, info@voxengo.com, www.voxengo.com.

—Barry Rudolph (Thanks to David Gamson for his help on this review.)

PRIMERA BRAVO
CD Publisher

The ability to burn CDs is essential to any audio house. Even if it's just a few minutes of VO fixes for post or a sound design project in progress waiting for approval, the audio CD is the universal platform for exchanging .AIFF, .WAV and CD-DA tracks.

Now, using a package from Roxio, Nero and others—along with a Sharpie—works fine for the occasional one-off burn. But when a client wants 10, 20 or even 50 discs, the process of moving plastic in and out of the burner becomes a bit tedious. Magic marker, even in your best cursive, doesn't look professional. And stick-on labels are okay for a while but over time tend to lose their "stick" and can cause playback problems and possible damage to the equipment.

Primera Technology sells a line of CD/DVD disc-duplication and printing products; the newest, the Bravo Disc Publisher, burns and labels discs, is tightly integrated and is one of Primera's most accessible products to date. The Bravo is also the first product available for both Mac and PC users, running on Windows 2000, XP or Mac OS X. Bravo's integrated design makes for an easy installation, provided that the connected computer sports both FireWire and USB ports. Because the CD drive, robotics and printer are

World Radio History

Up to 48 channels. 192kHz. DSD.

Next generation digital audio recording from Genex.

GENEX GX9048

Up to 48 channels of single wire 192kHz recording and playback · Up to 48 channels of DSD recording and playback · Twin removable drive bays with disk mirroring · Seamless DSD punch in/out · Bidirectional PCM (any sample rate) to DSD conversion · PCM sample rate conversion up to 192kHz · AES31 file format · DSD IFF file format · Genex linear file format · High speed SCSI and FireWire interfaces · Options: GXR948 controller · 48-channel meter bridge · Take logging / editing software · MADI card · Analog / DSD / AES3id card · DSD / AES3id card · AES3 / AES3id card

GENEX GX9000

8 channels of single wire 192kHz recording and playback · 8 channels of DSD recording and playback · Twin removable drive bays with disk mirroring · Seamless DSD punch in/out · Bidirectional PCM (any sample rate) to DSD conversion · PCM sample rate conversion up to 192kHz · AES31 file format · DSD IFF file format · Genex linear file format · High speed SCSI and FireWire interfaces · Options: Take logging / editing software · MADI card · Analog / DSD / AES3id card · DSD / AES3id card · AES3 / AES3id card

Once again, Genex sets the standard for digital audio recording. The new GX9000 and GX9048 are the first and only recorders to combine both single wire 24-bit / 192kHz PCM and DSD recording in a single unit. Data is written simultaneously to twin removable drives saving valuable post-session copy time, while recording in industry-standard AES31 and DSD IFF file formats enables instant interchange with popular workstations. Seamless DSD punch in / out (another Genex first) delivers all the post production flexibility you're used to with conventional formats and both recorders feature bidirectional sample rate conversion between PCM and DSD. So no matter how you work now – or in the future – only one manufacturer gives you the best of both worlds.

Genex.

Remote take logging/editing software

DSD Direct Stream Digital

SUPER AUDIO CD

Genex

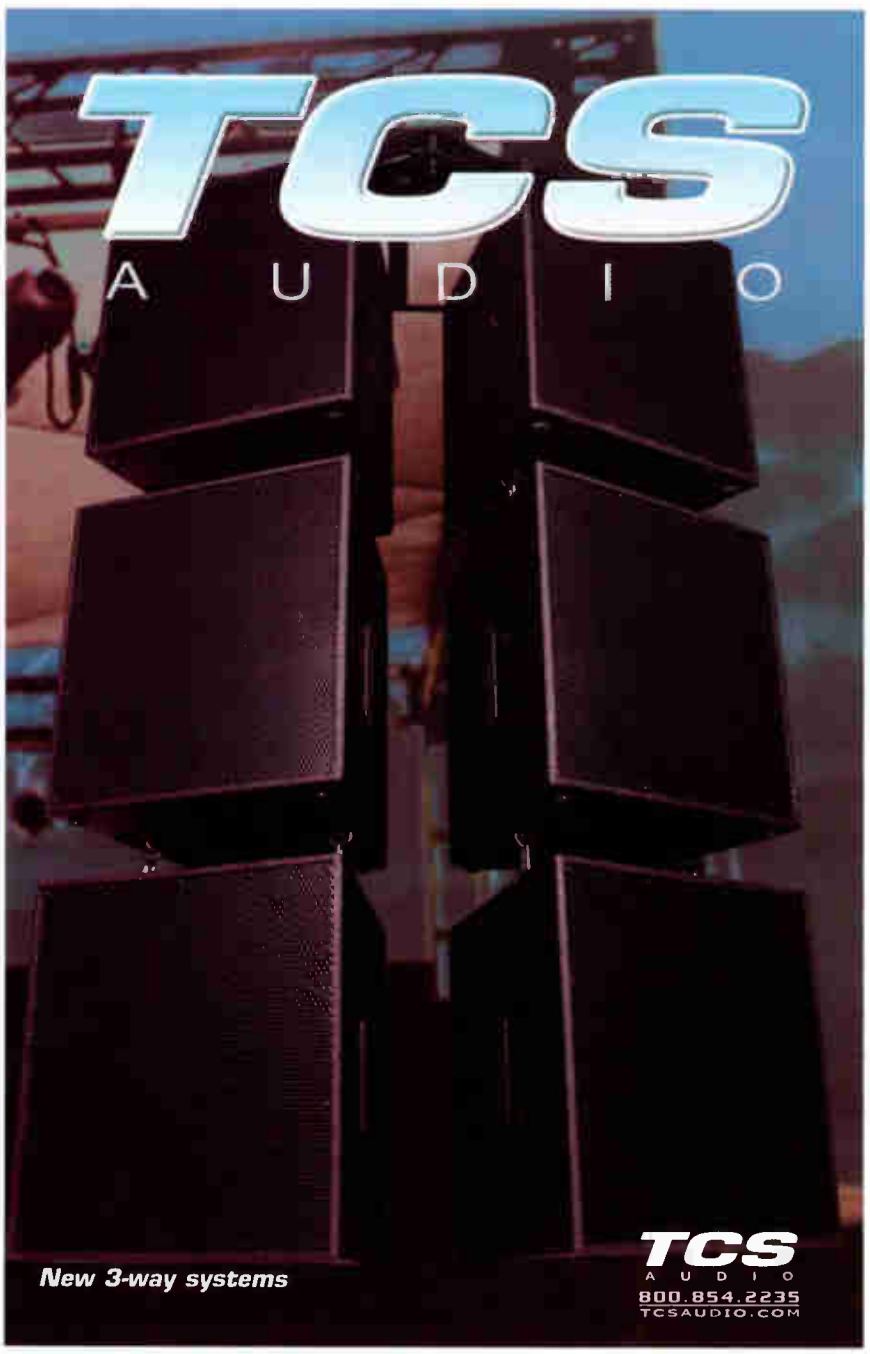
Genex Audio, Inc. 2116 Wilshire Blvd, Suite 210, Santa Monica, CA 90403
T: 310 828 6667 · F: 310 828 2238 E: sales@genexaudio.com

www.genexaudio.com

World Radio History

all in the same chassis, the Bravo has a fairly large footprint. But it guarantees that CDs will be picked and placed with greater accuracy because the various components aren't subject to subtle movements. With the Bravo duplicator, running off a batch of CDs while running an errand is a reality. When you return, the input bin is empty and the output bin is full. Capacity is limited to 25 discs, but a Kiosk mode (PC-only) will do 50 discs and spit them out the front.

Primera offers two flavors of the Bravo Disc Publisher: The DVD+R/CD-R version features a Pioneer A06 drive with 4x DVD and 16x CD-writing speeds. The CD-RW setup currently uses an LG Electronics 52x burner. I tested the CD-RW version and was very impressed with the results using Taiyo Yuden and Mitsui media. Primera includes Veritas' Prassi Primo software to create discs and Sure Thing CD Labeler to create—what else?—labels. Both of these programs are straightforward, easy-to-use packages and a good match for the Bravo line. Prassi and Sure Thing are now included under the Sonic brand, but they function as separate products and aren't highly integrated. They work fine, but don't share a common interface.



Compared to other Primera products I've tested, the Bravo seems to have improved mechanics to pick up and place discs. It works better and appears to make less noise than similar designs used in the Composer Series of duplicators; part of the reason may be the reduced capacity. With smaller bins, the robotic arm travels less during each step. The Bravo also includes a little hood that closes during the duplication process, which probably lowers the noise a bit, too. It looks a little funky and gives the appearance of an oversized breadbox, I'll take function over fashion any day. The important thing is, the Bravo Disc Publisher works.

The only problem I encountered was a disc appeared to burn correctly, but when placed in an audio CD player, it showed time elapsed but no corresponding audio. Primera acknowledged the quirk but says it has not been able to duplicate the problem and recommends users avoid this by selecting the test, record and verify option in the software program.

Bravo prints directly onto the discs, so no labels are required. The printing element offers 2,400 dpi printing and uses separate black and color cartridges. At the highest-quality setting, the results on shiny silver-inkjet printable surface media were exceptional. The response to artwork printed on these discs was simply, "Wow!" However, the ink cartridges used in the Bravo are not large and at the highest-quality setting won't last long. It's like driving a Hummer and watching the gas gauge move in real-time toward "E" after just seconds on the road. The good news is, at 1,200 dpi, the full-color prints still look very clean and Bravo consumes a lot less ink. I found myself using the higher-quality settings with full-color artwork because it just looked so good. It may be of interest to note that the ink on the completed discs appeared to dry rapidly enough as to not cause any problems or bleeding onto successive discs stacked in the output bin.

I would like to see Primera offer a more tightly integrated software package that takes both the labeling and burning elements and combines them with a consistent flavor. And any additional reduction in mechanical noise is always welcome; I already have enough fan and hard drive noise. Overall, though, I'm impressed with the Bravo Disc Publisher. It's fast, friendly and affordable. Well done, Primera. Bravo indeed.

Primera Technology, 763/475-6676, www.primera.com.

—*Rick Spence* ■

World Radio History

"Brilliant!"

Tony Romano, Front of House, Diana Krall

"With more microphones emerging than ever before, the cream always rises to the top. Enter the SCX-25. The warmest mic off axis I've ever heard, no proximity effect here! I have recorded acoustic bass, tuba, violin, clarinet, guitar piano, and vocals—all with unsurpassed clarity."
Larry Cumings,
Grammy Award Winning Engineer,
David Grisman Quintet

"The SCX-25 is my go-to mic for acoustic guitar. It adds a gentle presence boost that makes any acoustic sound better, and its lack of proximity effect makes the bass more natural than other mics I have used."
John Gatski, PRO AUDIO REVIEW

"Two SCX-25s in a Baby Grand and my work is done! There's just nothing else like it."
Pat Lucatorto, Audio Engineer,
The Tonight Show

"My First choice on Grand Piano. Easily one of the finest acoustic guitar mics ever! The size and unique design make them very camera-friendly. I love them for the sound... television directors love them for their looks."
Vaughn Skinn, Audio Producer,
Live from the Bluebird Café

"What you hear is what you get. Not only is it the best sounding piano mic available, the shape, size and mount allow you to get right on top of the soundboard."
Paul Mitchell, Front of House,
Joe Sample and The Crusaders

"I have miked dozens of bands at recent bluegrass festivals with just one mic—the SCX-25. The band's response is always the same—they can't believe the tremendous sound that comes out of a microphone with such a small footprint."
Paul Knight,
Knight Sound Systems

"I honestly think the SCX-25 is one of the best mics available, and destined to become a classic."
Dennis Leonard, Supervising Sound Editor, Skywalker Sound

"In a world suddenly crowded with cheaply made studio condenser microphones desperately trying to outwarm and outsheen each other, Audix has managed to push forward with the SCX-25. A cool-looking and innovative microphone that captures detail very accurately without sounding abrasive or harsh, the SCX-25 has a great future in the day to day workings of any studio."
Andrew Gilchrist, engineer, Ani DiFranco

"I put a pair of SCX-25 mics in Diana's piano in July 2001 and they haven't come out since. These are the best piano mics I have ever heard—Brilliant!"
Tony Romano,
Front of House, Diana Krall

"I license piano samples to major keyboard companies like Emu and Ensoniq. In what I do, every note is like a mastered CD. It is painstakingly hand crafted and has to be perfect. I have chosen the SCX-25 mics simply because they produce better source material."
William Crowley, Sound Designer,
PERFECT PIANO SERIES

"Those in need of an excellent piano mic need look no further. As an overhead drum mic, it provides a transparent and full-sounding presentation that is up there with the best. It's also a great choice for a sizable range of vocal recording duties."
Richard Salz,
ELECTRONIC MUSICIAN

"On Merle's current CD we recorded Willie and Hag with a pair of SCX-25s in the middle of the band to get a "live" feel—and the vocals sounded great."
Lou Bradley, Engineer/Producer,
Merle Haggard

"I essentially just set the mics up, bring up the fader... and just sit back and enjoy the mix!"
Pete Horne, Horne Audio

"It behaves like a mic twice its size, a condenser with solid highs but no excessive top, and with a robust midrange and upper bass range that belie its visual appearance."
Marty Peters,
RECORDING MAGAZINE

"Having played the roles of artist, engineer, and producer, there is a fine balance between the technical and the artistic side of music. I find that the SCX-25 has really helped to bridge that gap as it faithfully reproduces vocals and acoustic guitar regardless of the style or content of the music."
Phil Keaggy, legendary guitarist

"...destined to become a classic."

Dennis Leonard, Supervising Sound Editor, Skywalker Sound

AUDIX
PERFORMANCE IS EVERYTHING

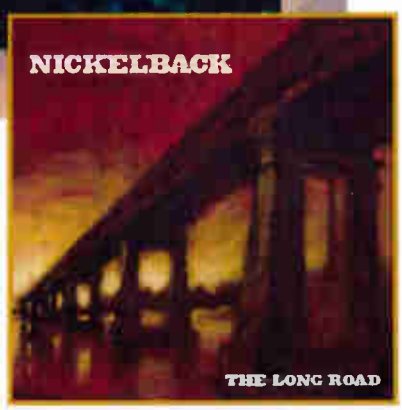
FOR A DEALER NEAR YOU CALL: 800-966-8261
TEL: 503-682-6933 FAX: 503-682-7114 www.audixusa.com

Audix Corporation, PO Box 4010, Wilsonville, OR 97070
In Canada, C-Tec, Tel 604-942-1001, Fax 604-942-1010

©Audix Corp 2003. All rights reserved. Audix and the Audix logo are trademarks of Audix Corporation.

World Radio History

Pictured from left: drummer Ryan Vikedal, bassist Mike Kroeger, guitarist/lead vocalist Chad Kroeger and guitarist/vocalist Ryan Peake



IN THE STUDIO WITH NICKELBACK

RECORDING *THE LONG ROAD*

By Bryan Reesman

Sometimes, things just don't go the way you plan them, and that can be a good thing. When the Canadian hard-rock quartet Nickelback set out to create *The Long Road*, their follow-up to the quintuple-Platinum release *Silver Side Up*, they planned to bring in producers to work on the key singles. But instead, their self-admitted procrastination and their label's enthusiastic response to their demos encouraged them to produce themselves for the first time. While recording commenced at Greenhouse Studios in Vancouver, frontman/lyricist Chad Kroeger, tired of the hour-long commute and wanting his own personal recording facility, bought all the gear in the A room and moved the production into his renovated barn.

"He got a design for the studio, called up a contractor and gave them 30 days to do it," reveals engineer and co-producer Joey Moi. "The guys worked around-the-clock; people were pulling favors left and right to make sure that it happened."

The band kept "before and after" pictures of the barn upstairs, and they chronicled a dramatic transformation. The upstairs mixing room—complete with a vocal booth and a view of the sprawling acres behind the studio—was once the hayloft, while the downstairs rehearsal and recording facility originally comprised horse stalls.

A massive SSL console now inhabits the mixing room, but there is still plenty of space for other gear and even a sofa. A neatly groomed, longhaired cat roams the premises, and for some odd reason, the cat can tolerate sitting between the monitors while they are blasting out in-

—CONTINUED ON PAGE 136

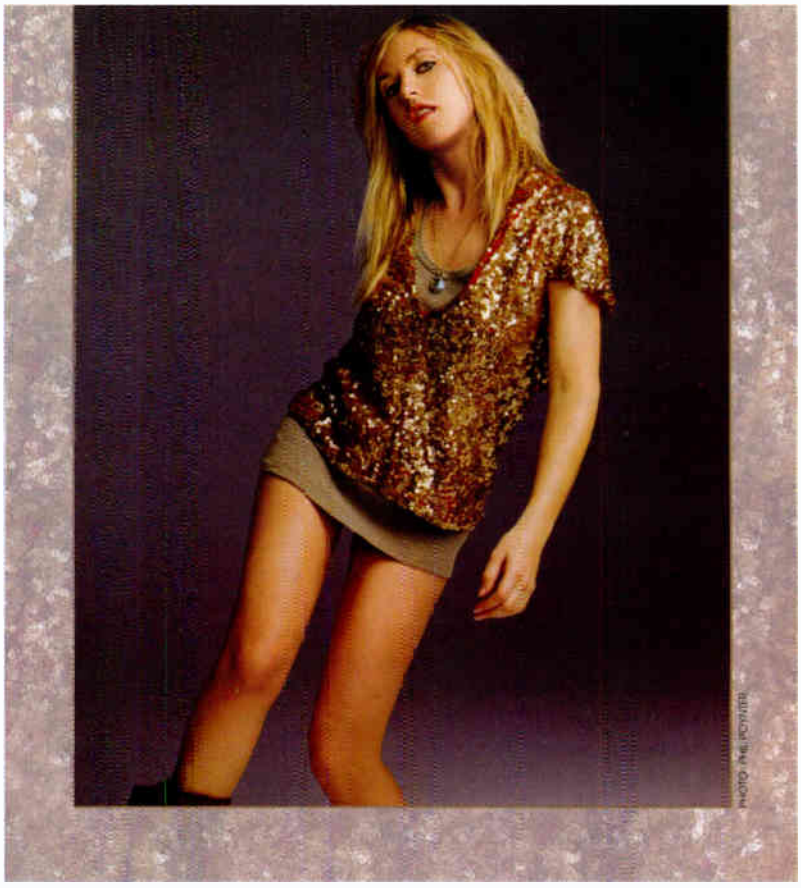
L to R: Joey Moi, Chad Kroeger and Mike Kroeger

PHOTO: LAURENCE BAKER

World Radio History

LIZ PHAIR

LOOKING FOR SUCCESS IN THE MATRIX



By Chris J. Walker

The mid- to late '90s saw a blossoming movement of young female singer/songwriters, who mostly sang sweet, introspective songs of loves won and lost. One artist who stood apart from the pack, though, was Chicago-based Liz Phair, who always had a harder, indie-rock sensibility that was in stark contrast with the top sellers of that era, such as Sarah McLachlan, Paula Cole and Sheryl Crow, but never showed the aggressive tendencies of Courtney Love, PJ Harvey or Juliana Hatfield. Instead, Phair was closer in artistic temperament to early Beck: acerbic and coolly humorous, but with a strong veneer of sexuality on top.

Unlike Beck and some of the others mentioned, Phair never became a household name, instead remaining a cult favorite who garnered heaps of accolades from music critics and considerable exposure on MTV. Her CD sales were respectable, but never amounted to the blockbuster numbers her label and industry types projected. Then, she purposely lowered her profile after getting married and giving birth to a son at the end of 1996. Two years later, she released her third recording, *whitechocolatespaceegg* (Phair's description of her baby), which was mildly received and ushered in a period of the singer focusing on her home life.

Fast-forward five years later to 2003: Phair is now divorced and a single mother. Throughout her career, Phair's personal life has always served as source material for songs and, undoubtedly, she had plenty to draw from when creating her recent self-titled CD. However, in the spirit of being an indie artist, she doesn't always do the predictable. The results are a varied collection of songs that weigh heavily on the lighter side. "I'd just come out of a real heavy relationship and I just wanted to lighten up and make some more upbeat music," she commented during a radio interview in late June 2003. KCRW, the Santa Monica, Calif., NPR affiliate, was broadcasting a live performance by her band during its well-known *Morning Becomes Eclectic* program, long a magnet for acts somewhat outside of the pop mainstream.

"The funny part is that I just rolled with what was going on at the time," Phair continued. "Every song on the CD was recorded at a different session. Over the five years, I worked with different producers and we never really had a plan. We just recorded whatever songs we happened to think were the best at the time." That kind of "seeing what sticks to the wall" methodology led to her working with a diverse group of producers that included multi-instrumentalist R. Walt Vincent, the highly successful Matrix team and fellow artist-turned-producer Michael Penn.

Actually, Penn produced an entire CD for Phair, but she and the label opted to intersperse tracks by other producers and scrap his mix. Understandably, Penn was somewhat miffed by the politics and creative maneuvering, yet he also says that he understands the decisions and wishes Phair much success. "The story goes that Liz delivered the record to Capitol and they thought it was good and would get good reviews, but they felt it wouldn't be a smash," Penn comments from his L.A. home studio. "So she went back in with the Matrix and I just figured that none of that stuff [that he and Phair did] would come out." In the end, though, Penn has more production credits than anyone else on the CD, including the Matrix and Phair.

Prior to Penn becoming involved as a producer for most of 2002, Phair had made a batch of demos with Vincent and pop songwriter Gary Clark. From listening to that body of work, Penn sensed that Phair was trying to find a balance between her own idiosyncratic material and more structured pop that didn't come as naturally to her as a writer. "I took her songs and tried to find ways of doing them that appealed to what she was trying to do," the producer recalls, "and also how I felt they would best be served." To keep costs down and to accommodate Phair's spur-of-the-moment creativity, he

—CONTINUED ON PAGE 138

World Radio History

THE ISLEY BROTHERS' "THAT LADY"

By Blair Jackson

By the time the Isley Brothers scored their 2 million-selling smash hit "That Lady" in the summer of 1973, they'd already been in the music business for nearly two decades. The first incarnation of this family band sprouted as a gospel group in their native Cincinnati in the mid-'50s, but in 1957, the singing brothers Ronnie, Rudy and O'Kelly (later just Kelly) Isley relocated to New York to be a part of the burgeoning East Coast doo-wop and R&B scene. They were signed to their first recording contract in 1959, and their maiden efforts for the label, including the moderate hit "Shout," were produced by then-newcomers Hugo & Luigi, who would become a veritable hit-making machine during the next several years. Though not exactly a smash, "Shout" and revenues from the group's exhausting touring regimen allowed the brothers to move the entire Isley clan to Teaneck in northern New Jersey.

The Isleys' second hit, in 1962, was "Twist and Shout" (later popularized by The Beatles); the next notable event in the band's history was the addition, in 1964, of a hot young guitarist who went by the name of Jimmy James: This, of course, was Jimi Hendrix, who recorded his first sides with the Isleys and later—after he became famous on his own—would have a tremendous impact on the Isleys' sound. In 1965, sans Hendrix, the Isleys signed with Tamla/Motown, and a year later, they had a huge pop and R&B hit with a tune written and produced by Holland-Dozier-Holland called "This Old Heart of Mine (Is Weak for You)." No doubt label kingpin Berry Gordy thought he'd found yet another group he could successfully mold in the Motown image, but it was not to be. Their next singles stalled on the charts, and the group felt overly restricted by the label's formulaic approach. Still, in late 1967, "This Old Heart of Mine" became a hit all over again in England, and the group even moved there for a period of time to cash in on their unexpected success. But the following year, the Isleys moved back to New Jersey, formed their own label, T-Neck Records (initially as a subsidiary of Buddah Records), decided to produce themselves and almost immediately scored the biggest hit of their career—"It's Your Thing," *still* one of the funkiest soul workouts ever committed to vinyl, and which helped define the group's style in the public's eye.

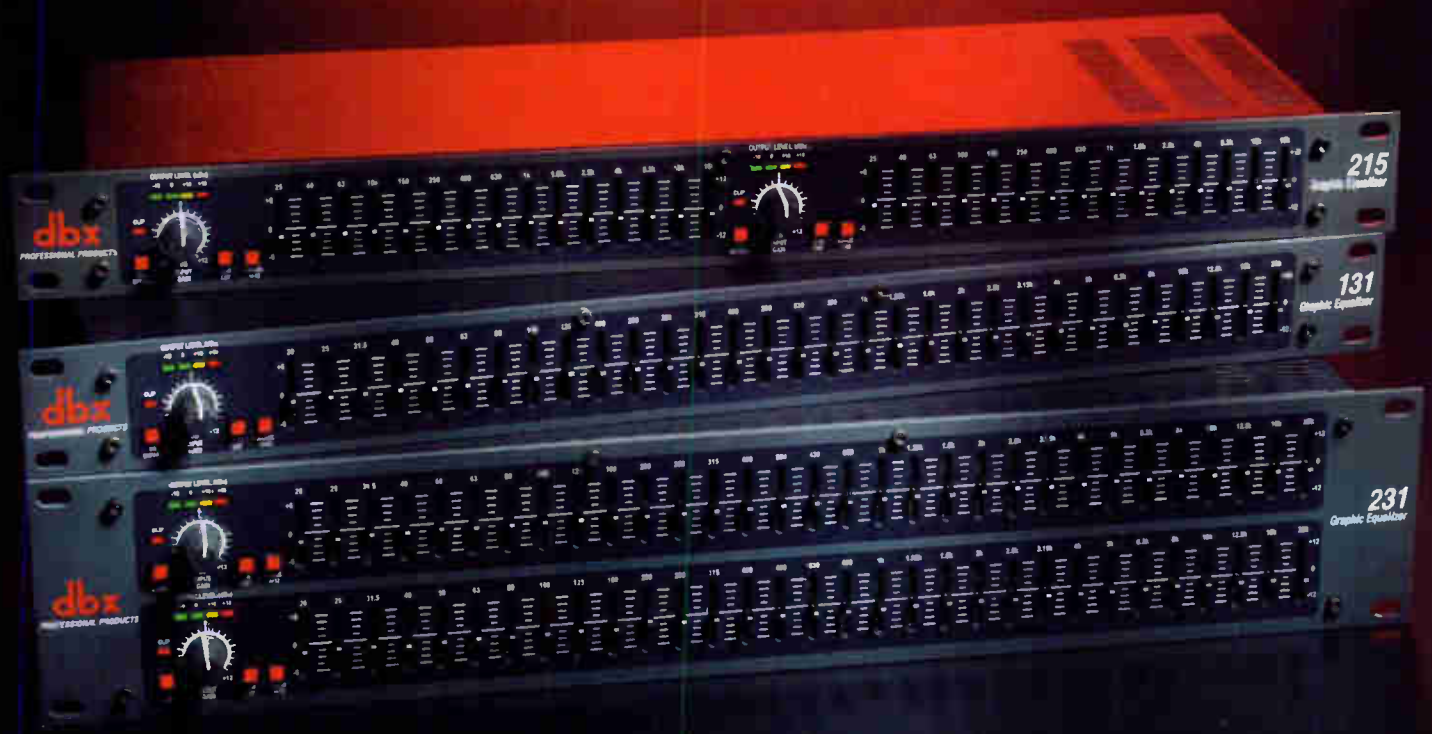
Engineers Robert Margouleff (left) and Malcolm Cecil in Studio A at Electric Lady in New York City in 1972, around the time they first started work with the Isleys.

In 1969, too, the Brothers added some new blood to the lineup: younger brothers Ernie and Marvin, on Hendrix-inspired guitar and funky, funky bass, respectively, and brother-in-law Chris Jasper on keys. The days of faceless backup players for the three older singing Isleys were over. Now, it was truly a family *band*. The group had always had a keen ear for cover tunes, and in the early '70s, they began to enjoy some crossover FM rock success with their soulful readings of such tunes as Stephen Stills' "Love the One You're With," James Taylor's "Fire & Rain," Bob Dylan's "Lay Lady Lay," Carole King's "It's Too Late," and even the politically charged combo of Neil Young's "Ohio" and Hendrix's "Machine Gun." At the same time, their own songwriting continued to mature and incorporate the sounds of the full brotherhood.

While all this was going down, Malcolm Cecil and Robert Margouleff were quietly becoming a much sought-after studio team, first for their creative work with early-generation synthesizers, and then for their overall studio

World Radio History

There's no longer any excuse for compromising your sound



2-Series™

Graphic Equalizers

The **2-Series™** represents a major step forward in the performance of small-profile graphic equalizers. From its amazing 10Hz to 50kHz frequency response, to its 108dB dynamic range, and internal torodial transformer, the 2-Series offers out of this world specifications with a down to earth price point. Sure to find a home in the studio, on tour and with installed sound venues, the 2-Series is destined to take its rightful place in the lineage of great dbx® signal processors that are the Professional's Choice™. With such affordable quality, there's no longer any excuse for compromising your sound. For more information, check us out on line or head on down to your local authorized dealer.

Features

- 1/3 & 2/3-octave Constant Q frequency bands
- Switchable boost/cut ranges of ±6 or ±12 dB
- 12 dB per octave 50Hz low-cut filter
- Front panel bypass switch
- ±12 dB input gain range
- 4-segment LED ladders for monitoring output levels
- XLR and TRS Inputs and Outputs
- Internal Toroidal Transformer
- Frequency Response of 10 Hz to 50kHz
- Dynamic range of greater than 108dB

dbx®
PROFESSIONAL PRODUCTS
The Professional's Choice In Signal Processing™

For more information contact us at: (801) 568-7660 Fax (801) 568-7662 • www.dbxpro.com • 8760 S. Sandy Parkway, Sandy, UT 84070 USA

A Harman International Company

World Radio History

> They were *all* marvelous musicians. No one got away with anything. They were very disciplined and very self-policing in the studio. —*Malcolm Cecil*

engineering and production savvy. "I had been fooling around with synthesizers since the mid-'60s," Margouleff says from his current L.A. base, Mi Casa Studios. "I got my first in 1966. It was serial number three or four from the Moog factory; definitely one of the first ever made. Bob Moog used to come and sit on the floor of my studio to fix the keyboards because the pitch would drift. By the time Malcolm and I found each other at Media Sound [in New York] in 1970, he was already an accomplished jazz musician, but also running the studio operation and maintenance department for Media Sound. We made a deal: He'd show me how to be a recording engineer if I'd show him how to use a synthesizer."

Cecil and Margouleff became deeply involved in building new modules for the Moog instrument, and eventually they operated the largest synth in the world, nicknamed TONTO (The Original New Timbral Orchestra), and their electronic music system became the basis of a booming business for the duo, playing on records and soundtracks, and even making their own albums under the moniker TONTO's Expanding Headband.

"We put out an album called *Zero Time* [1971], which was on Embryo Records, a vanity label owned by Herbie Hancock and distributed by Atlantic," Margouleff says. "We didn't even think that what we were doing was music in the pop music sense. But there was a big spread on us in *Rolling Stone,* and the bass player in Stevie Wonder's band, Ronnie Blanco, saw it and picked up the album and then brought Stevie to meet us. Back at that time, we were making a lot of noise and a lot of people were coming to us. The thing is, the reason we became so indigenous in the business is the fact that we worked with everybody, whereas most of the other synthesizer players like [Morton] Subotnick and Wendy Carlos and Beaver and Krause mostly worked for themselves. We put ourselves in a major recording studio and worked for everyone who wanted to come through the doors; we made ourselves a ubiquitous comestible."

Margouleff and Cecil's introduction to Wonder couldn't have come at a better time: the 21-year-old had recently earned his "freedom" from the Motown production cookie-cutter and given the right to produce his own albums. Working with Margouleff and Cecil allowed him to experiment to his heart's content, with the three of them pushing TONTO—and Wonder's musical palette—in exciting new directions. The first two albums they produced together, *Music of My Mind* and *Talking Book*, established Wonder as a formidable artiste and changed the face of "soul" music forever.

So, it's not surprising that the Isley Brothers, who themselves were becoming increasingly adventurous and independent in the early '70s, would tap Cecil and Margouleff to work on an album with them. "I think the Isley Brothers *got* what it was that we could do," Margouleff says. The pair continued to work with Wonder for the next couple of years—"Sometimes we'd be working with the Isleys and Steve would make us fly back immediately,"

MAKE HISTORY

The world's top albums are made at Westlake Audio.

And the world's top producers, mixers and companies rely on our Pro Audio Sales staff for their gear purchases.

We'd like to add your name to this list.

Seriously.

Upgrade your career with Westlake's legendary service and support:

WORLD CLASS RECORDING STUDIOS

INCREDIBLE PRO AUDIO SALES STAFF

AWARD WINNING LOUDSPEAKERS AND MONITORS

TECHNICAL SERVICES DEPARTMENT

ARTIST DEVELOPMENT PROGRAM

Make more than music... make history.

Get the details at:

www.westlakeaudio.com

If you're serious about success - we can help.

323.851.9800

Westlake Audio
HOLLYWOOD, CALIFORNIA

World Radio History

BURN WITH THE BEST

Pictured: HHB CDR830 BurnIT PLUS CD Recorder
Also available: HHB CDR830 BurnIT standard model

Why compromise when you can afford to burn with the best? The wallet-friendly HHB CDR830 BurnIT is packed with pro features like 24-bit AD/DA converters, an advanced laser assembly, SCMS-free digital inputs and both analog and digital synchro recording modes. And if you need even more connectivity, a little extra money buys the new BurnIT PLUS, adding professional mic/line switchable balanced analog I/O, balanced digital I/O, a word clock input and parallel remote control to the already impressive BurnIT spec.

Of course the best hardware deserves the best media. While most discs are optimized for high-speed data recording, new HHB CD-R discs are designed specifically for 1X - 24X use, which includes all professional audio CD recorders. So don't take chances with your valuable recordings. Visit the HHB web site or contact your HHB dealer for more information on the HHB CDR830 BurnIT and BurnIT PLUS CD recorders, and HHB Professional Recording Media.

NEW HHB CD-R MEDIA

CDR74, CDR80, CDR80IP, CDR80 Bulk IP and CDR80 Bulk Thermal, optimized for professional audio recording from 1X-24X. Inkjet and thermal printable discs feature new ultra-white surfaces for enhanced print quality.

For further information, visit **www.hhbusa.com**

Exclusively distributed in the USA and Latin America by:
Sennheiser Electronic Corporation T: 860 434 9190 E: HHB-Sales@sennheiserusa.com
In Canada: **HHB Communications Canada Ltd** T: 416 867 9000 E: sales@hhbcanada.com
In other territories: **HHB Communications Ltd** T: +44 (0)20 8962 5000 E: sales@hhb.co.uk

HHB
FIRST WE LISTEN

World Radio History

Margouleff recalls with a laugh—and collaborating on two more masterpieces: *Innervisions* and *Fulfillingness' First Finale*. Wonder convinced them to move their operation to L.A., and though the first work they did with the Isleys was on the East Coast, eventually Margouleff and Cecil lured the group to L.A. so they could record at the Record Plant.

"Working with the Isley Brothers was much more business-like than working with Stevie," Margouleff offers. "With Stevie, it was like living inside this world; it was a lifestyle, and we were really part of every aspect of the creative process: shaping the songs and getting sounds and all. We were much more on the outside of the Isley Brothers' trip than we were with Stevie. They were a *very* close-knit family, and with them, we were more like hired guns. They'd show up at the studio and that's where we'd see them. We didn't go to their rehearsals, we didn't socialize with them. They'd show up at the studio at 10 o'clock and work until 4:30. I remember them coming to the studio with a briefcase and paying us in cash," he says with a laugh.

"That's the way they were with live performances, too," adds Cecil, who joined in on our three-way interview from his New York area home. "Rudy Isley had a .357 magnum that he had a license to carry around. I think the Isleys always got paid," he adds wryly.

"But I don't want to give the impression that we weren't into the Isleys; we were. They were great to work with and really good musicians. I mean, some of the guitar sounds we got with them were absolutely rippin'!"

Indeed, one of the most remarkable aspects of the group's sound, especially on "That Lady," was Ernie Isley's incredible, obviously Hendrix-inspired lead guitar line.

Cecil says, "What happened was, Ernie Isley was nine years old when Jimi Hendrix was playing with his brothers, and he was very, very motivated by Jimi. Jimi came to him one day and gave him his first guitar, showed him a few things and said to him, 'You know what, when you grow up, you'll be playing with your brothers.' He was right, of course, and this totally changed Ernie's life!

"When he came to us, he brought his Stratocaster and I took him over to meet Roger Mayer, who was another Englishman I'd known since my childhood in England in the late '40s, when we'd go over to surplus stores on Edgeware Road in London to pick up old bits and pieces to build equipment, because that's what we liked to do. There were all sorts of surplus equipment around after the war. Roger went on to become Jimi Hendrix's guitar tech and then Jimi brought him back to the States. I bumped into him in New York and he helped me build some of TONTO, as well as working on audio treatments and [building] limiters.

L to R: Ronald Isley, Kelly Isley and Rudolph Isley

"Anyway, he took Ernie's guitar and completely re-modified it exactly the way Hendrix had his, and he also built him an Octavia box, which is part of what allowed Hendrix to get that screaming sound. And Roger taught Ernie how to use it. So, we essentially Jimi Hendrix-ized Ernie when he was 18. He was so blown away and enamored with it; he took to it like a duck to water. He'd be in there just playing and playing; he wouldn't give it up.

"They were *all* marvelous musicians," Cecil adds. "No one got away with anything. They were very disciplined and very self-policing in the studio. There were the younger brothers and the three older brothers—"

Margouleff: "And the olders made sure the youngers didn't look up from their instruments, I'll tell you."

Cecil: "O'Kelly, who has since passed away, was like the lord and master."

Margouleff: "He was the disciplinarian. Boy, nobody fooled around when he was in the studio! What he said went. I don't know if it was because he was the oldest or what. But he was also a really nice guy."

Cecil: "He was like a big Buddha."

Margouleff: "And Ronnie, who has that incredible voice, was modest and shy and would hardly say anything. I always thought that Rudy was jealous of Ronnie. He was a good singer himself, but let's face it, there's no one like Ronnie. He's just phenomenal."

Margouleff and Cecil had so much clout in the business at this time that Record Plant owners Chris Stone and Gary Kellgren had a special studio built for them. "Malcolm and I were really like the first freelance engineers in the business out here," Margouleff says. "Normally, studios had staff engineers. But we worked for the client; for instance, we represented Stevie's interests in the recording. So what happened was we went and booked a studio by the year at the Record Plant. I remember we were up at Gary Kellgren's Tudor house up on Camino Palamero and we stood up in the kitchen and he poured the Courvoisier to toast the fact that we'd booked the studio for a year. We clinked our glasses and immediately there was an earthquake! Remember that, Malcolm?"

Cecil: "Oh yes, it was quite propitious."

Margouleff: "So, since we were going to be there so long, Gary and Chris Stone had a studio built to our specs. We had John Storyk, who had built the cases for TONTO, to work with us. The room itself was probably about 15 by 40. In the control room, we had an API console with a 3M 24-track, Ampex 440 2-track, LA-2As, 3As, 1176s, Universal limiters, four EMTs and these four huge Hidley monitors, because we used to monitor in surround when we recorded. We believed it was much easier to hear everything that way because you didn't have to overlay one sound over another until you mixed to stereo. These Hidley monitors were so big that the rear ones stuck out through the wall into the hallway!"

Cecil: "They had to put rubber on them so people wouldn't bang into them."

Another unusual feature of the studio was the special bass trap on the roof above the control room.

The engineers say that the Isleys came into the studio very well-rehearsed, so the recording of basic tracks was quite straight-foward. "They knew exactly what they wanted to do," Cecil says. "They had

World Radio History

MTR to HDR.
The Legend Continues.

Are you ready to record your projects a better way?

From the "MTR" Series to the latest "HDR" Series.

As the long-acknowledged leader in professional recording systems, Otari has since made the leap to advanced digital audio products for recording, broadcast, fixed installation and post-production users. Our reputation for premium quality audio recorders is maintained and rightfully enhanced by the introduction of the new *Otari DR-100* 48-track digital audio hard disk recorder.

The *DR-100* features 48-track recording at 24-bit, 44.1/48 kHz sampling, and 24-track at 24-bit, 88.2/96 kHz, direct to a super high performance 15,000 rpm 72-GB SCSI hard drive. In addition, there are 208 virtual tracks with five editing layers totaling 256 tracks including 48 nominal tracks.

MADI digital audio interface is standard as is a dedicated 48-track direct access remote control connected to the audio recording engine via a 100Base/T Ethernet network. The *CB-179 Remote* also features a graphic user interface for easy to use recording and editing, with cut, copy, paste, move, delete and other features easily accessed at the touch of a button.

For operational security, the *DR-100* easily connects to any SCSI storage device for full project backup/restore functionality.

Unlike many non-linear recording systems that rely on a conventional general-purpose desktop computer, the *Otari DR-100* is based around a custom-designed rack-mounting recording engine that was developed specially for the purpose.

Also, unlike many recording systems that rely on consumer type operating systems with needless overhead, the DR-100 engine runs on the Unix-like Linux operating system, offering superior reliability, efficiency and the proven ability to work around the clock under the pressures of a professional recording environment.

The removable SCSI hard drive offers up to 170 minutes of multitrack recording time, and the system will sync to internal clock, to standard external word clock, or to video sync, and locks flawlessly to SMPTE/EBU time code.

All trademarks & copyrights are property of their respective rightsholders.

OTARI

www.otari.com

Otari Corporation • 8236 Remmet Ave. • Canoga Par CA 91 4 • 800/877-0577 Fax: 818/594-7208 • email: sales@otari.com
Otari Europe GmbH • Rudolf-Diesel-Strasse 12 • D-40670 Meerbusch, Germany • Tel: 49/2159-50861 Fax: 49/2159-1778 • email: euro@otari.de

World Radio History

Relive the Magic.

There's a reason why the classic microphones have endured for over 50 years. It's what happens when you put one on the mic stand and plug it in. And that's all you have to do. The classic microphones have a built-in character that makes things easy, so easy that it feels like magic.

There are two ways you can relive that magic. If you have a small fortune and can find a classic mic that works--that's one way.

The other way is with a Lawson microphone like the L47MP or the new L251--both large diaphragm condenser microphones that we hand-craft in the USA with all the look, feel, and sound of a true classic. Magic included.

Experience the magic for yourself with our ten-day, no risk trial.

NOSMV LAWSON

LAWSON, INC.
2739 Larmon Avenue
Nashville, TN 37204 USA
Phone 615-269-5542
FAX 615-269-5745
Visit us at
www.LawsonMicrophones.com to see how others are reliving the magic!

a complete plan when they walked in the door." On "That Lady," which was actually a slinky re-working of a mid-'60s Isleys tune originally titled "Who's That Lady," the basics consisted of Marvin's bass line, a rhythm part by Ernie, electric piano from Chris Jasper, Truman Thomas' organ and drums from George Morland. Vocals, additional keyboards, congas (by someone credited only as Rocky) and the famous lead guitar line were added later.

The lead guitar part alone took several tracks: "We had the Octavia box, a direct from the guitar, a Berwin noise suppressor, limiters, all sorts of things going," Cecil says. "The Octavia made a tremendous amount of noise, so we had to use whatever means were available to minimize it. One small turn of a knob and all the parameters would change. It was trial-and-error. Ernie would play a line and we'd try different sounds on it. He'd come back in the control room and we'd listen to it, decide if it was right. Then, when it came time to mix, because we had four or five tracks for the guitar, we'd find the blend that worked best. Ernie was always very cooperative, and he could really play."

"The mixes," Margouleff adds, "were four hands on the console: Run the tape, if we made a mistake, leave the 2-track running, back up the multitrack and start it up again to right where we were before we made the mistake, then keep going, then go back and edit the 2-track."

"That Lady" would become a double-Platinum smash for the Isley Brothers in the summer of 1973, and the popularity of that single and the nearly six-minute album version (where Ernie *really* cut loose) propelled the group's *3 + 3* album (named for the three original members and the three newer additions) into the Top 10. "What It Comes Down To" and the band's version of the Seals & Crofts chestnut "Summer Breeze" were lesser hits. By the way, Margouleff and Cecil schooled Jasper extensively on the use of synthesizers and, not surprisingly, it became an integral part of the Isleys' sound for a while, though not on "That Lady."

Cecil and Margouleff would make a couple more discs with the group in the mid-'70s, including co-producing *The Heat Is On*, which contained the Top 5 hit "Fight the Power." The Isleys would have their share of ups and downs during the next decades, including a period when Ernie, Marvin and Chris Jasper broke off to form their own group. O'Kelly died in 1986, and Rudy left to become a minister. But the group has shown amazing resilience and staying power, in part because Ronnie Isley has *one of those voices*, but also because they continue to choose their collaborators well; these days, the likes of R. Kelly and Jimmy Jam & Terry Lewis are helping keep the group up-to-date. In the current decade, the band, now fronted by Ronnie and Ernie, has continued to notch hits, such as the 2001 intoxicating "Move Your Body," which almost sounds like an updated version of "That Lady." Hey, why mess with success?

MIX ONLINE EXTRAS

NICKELBACK

FROM PAGE 128

tense hard rock. The adjacent room has been converted into a lounge with a full kitchen, a well-stocked refrigerator and a couch facing a big-screen TV. One might wonder how Kroeger's neighbors have tolerated the high volume levels, but considering that the renovated structure is located on an isolated farmland in rural British Columbia, there probably aren't many within hearing distance.

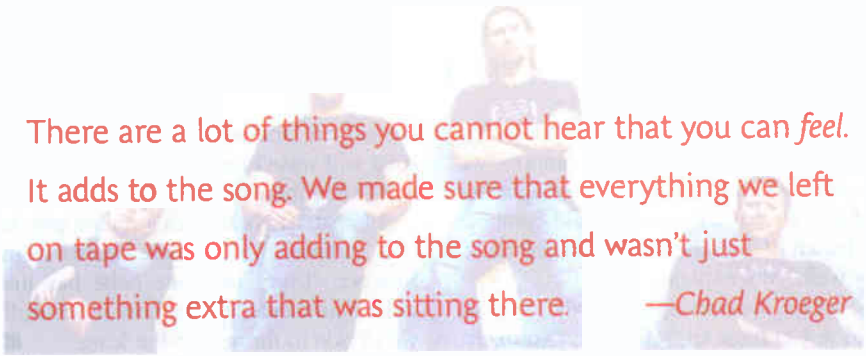
Nickelback spent the first two-and-a-half months recording *The Long Road* at the Greenhouse. After a week break during the facility conversion, the last few weeks were spent at Kroeger's rural Mountain View Studios. The construction took just 35 days, after which, someone from Greenhouse transplanted the gear into Mountain View.

The transition did not seem to hurt production. The finished version of *The Long Road* finds Nickelback getting heavier, as evidenced by the aggressive track "Flat on the Floor" and the ultrahard "Because of You," a stomping rocker in the vein of Metallica. Like its predecessor, this album has its reflective moments, such as the acoustic guitar-laced single "Someday," a tune that Kroeger calls "the anthem for lost promises."

Nickelback's music is direct and immediate: There are no extended preludes or codas to be found in their repertoire. They eschew lengthy solos or overt displays of virtuosity, preferring heavy, detuned guitars for power. Still, the group does put a lot of time into making their music.

"The one thing we really got to do with this album that we didn't do with any other album—because we had time to do whatever we wanted—was [to incorporate] layers and textures," says Kroeger, as

World Radio History



There are a lot of things you cannot hear that you can *feel*. It adds to the song. We made sure that everything we left on tape was only adding to the song and wasn't just something extra that was sitting there. —*Chad Kroeger*

we sit on the patio outside the studio's second-floor lounge on a warm, late-summer day. "Lots of layers and textures, and recording tons and tons of stuff. We would record everything and listen to it all. There's a mandolin on 'Someday,' but you'll never hear it. But it's sitting there. I love it when you can feel something, and you're not sure what it is you're feeling but you can't hear it. You can't pick it up and know exactly what it is."

The singer says that "Someday" is the song the band focused on the most. It contains over 100 tracks of audio and features a dry acoustic guitar cutting through the heavy mix. A Gibson Jumbo acoustic was recorded without amplification through both a Coles ribbon mic and a Neumann M147. And it doesn't get buried. "You have to be very aware of what the song requires and what it calls for," expounds Kroeger. "If you just do everything balls-out, you're not going to have the dynamics that you're looking for."

For this album, Nickelback recorded live to Pro Tools in the studio. "We set it up so they had a full P.A.," says Moi (whose last name rhymes with his first). "We made it like they were onstage: They all had monitors and good headphone mixes. They would just go in there and jam, and I would sit in here and have tape rolling [figuratively] the whole time that they were rehearsing and coming up with ideas. That's how we would start: Get a good performance of the song that way, and then if the guys play the song well enough—there's a good tempo and a good vibe—we'd start overdubbing drums on top of that."

Naturally, bleed-through becomes an issue when recording drums over pre-existing live tracks. "When the guys play downstairs, it's all bleeding and really loud," confirms Moi. "But when we record it up here, we use a program called Amp Farm from Line 6. We just take a split off of their guitar amps so we can have everything modeled as though they're playing live, but we just sneak an extra cable in there that comes up to the computer. We have the amp-simulator program and record a direct, clean guitar tone—the same with the bass—with no leakage, DI'd into the mixing board and then into the computer, which then processes it. You create the amp sound in the computer and it records it. You can simulate any amp you want [with Amp Farm]. It sounds good. When the drummer re-tracks the drums, he plays to the clean guitar tracks, which don't have any leakage in them, and a click."

One song that did not include the entire band playing together is their testosterone-fueled interpretation of the Elton John/Bernie Taupin hit, "Saturday Night's Alright for Fighting," which includes vocal contributions from Kid Rock and guitar work from Pantera guitarist "Dimebag" Darrell. Due to time constraints and schedule conflicts, Nickelback sent music

World Radio History

files to each of those guests, and they added their parts in studios in Michigan and Texas, respectively.

While that song required a bit of preparation and arrangement, particularly as it was a cover, the originals on the album often flowed from studio jamming. Some songs developed from rehearsals or demos, but this was nothing new for the band. The hit "How You Remind Me," which helped propel *Silver Side Up* to multi-Platinum status, was practically the original demo, according to guitarist Ryan Peake. "We just put a few more things on top of it, but most of tracks were from the demo on that one," he says.

The band now has a nice studio to play in. Kroeger also owns a famous SSL console: Aerosmith's *Pump*, Mötley Crüe's *Dr. Feelgood*, The Cult's *Sonic Temple*, Bon Jovi's *Slippery When Wet* and parts of Metallica's black album were all recorded on it. The board originally resided at Bruce Fairbairn and Bob Rock's downtown Vancouver studio, Little Mountain, which was relocated to suburban Burnaby and renamed Greenhouse Studios.

Four songs from the new album were recorded at Mountain View: "Flat on the Floor," "Believe It or Not," "Should Have Listened" and "I Need You." While the gear was essentially the same as at Greenhouse, it took the studio crew a couple of songs to adjust to the new environment. "It was different, but we got used to it really quick," says Moi. "At the same time, we were putting up baffles and treating the room and making it better. The process went relatively fast for getting the studio to an acceptable level. [Moving the gear] took the least amount of time. It took a day, and the room was pretty much ready to go. At the same time, the guys were working on new tunes."

The engineer miked the guitarists' amps with SM57s. The amps included a Mesa Boogie Triple Rectifier with a 4/12 cabinet, Peavey Triple X amp with a 4/12 Peavey cabinet, Vox AC30 and Fender Twin. Moi used one mic per cabinet. "We had one performance on either side," he says. "We would record one mono track and then record another mono track. It makes it really thick. We'd blend all of the amps down into one track and record two tracks: a left and a right. Then, when the chorus comes, you get them to do it four times and have two guitars on each side."

Recording Mike Kroeger's Spectre bass (with CompTortion compression/distortion pedal) was similar to that of the guitars. SM57s were used to mike a Peavey GPS Power Amp, Peavey Pro Bass 500 amp and Peavey Triple X combo. "We would record a direct signal, straight out of the bass, and then we would combine a bunch of amplifiers down to one track, as well," Moi explains.

As for the drums, Ryan "Nik" Vikedal has got "a *huge* kit," Moi says. "Normally, we don't have to use this much. A modest drum kit is a kick, snare, two toms, a couple of cymbals and a hi-hat." But Nickelback's skinbeater has two snares, four toms, two hi-hats and a surplus of cymbals. To record Vikedal, Moi says they placed one mic inside and outside of the kick (a combination of a D-112 inside and Neumann M147 and NS-10 outside), plus one on top and below the snare (an SM57 and a RØDE NT5). They used SM7s on the hi-hats, two KM184s on the Zildjian cymbals, a RØDE NT5 on the ride cymbal, two RØDE NTKs as overheads and 421s above each tom with SM57s below them. Room mics included two RØDE NT1000s and a Coles ribbon mic.

Vocals were recorded in the upstairs vocal booth with a simple setup of a RØDE NTK tube mic running through a Neve 1084 preamp, UREI 1176 compressor and Avalon 737 SP mic processor. "If I'm screaming, we need to be able to have a diaphragm that's going to be able to handle the screaming and is not going to gut out some of the stuff," explains frontman Kroeger.

"He's got one of the loudest voices," declares Moi [a notion that Peake quickly seconds]. "He's like a *weapon*. He can destroy microphones quickly. We used the same one the whole time. He would turn it away on certain syllables, like 'p's and 'f's." Kroeger evidently became very adept at his special technique.

Vocals were recorded mono; for choruses, they were doubled. "It all depends on the song," says Moi. "Some songs need all those layers." Some of the mono harmonies were later treated with stereo effects (such as chorus or reverb) by Randy Staub during the mixing process at The Warehouse in downtown Vancouver on an SSL 4072 console. George Marino later mastered the album at Sterling Sound.

While *The Long Road* ultimately features a few songs with dozens of tracks layered on top of each other, the album does not feel like a bloated production. "I'm glad that it sounds like that, because there *are* a million things going on," says Kroeger. "There are a lot of things you cannot hear that you can *feel*. It adds to the song. We made sure that everything we left on tape was only adding to the song and wasn't just something extra that was sitting there."

Ultimately, Nickelback's philosophy is best summed up by these words from Kroeger: "Every cake we bake has the same ingredients, it's just how much stuff we decide to throw into the icing." ■

LIZ PHAIR

FROM PAGE 129

did most of the work in Capitol's Pro Tools room. If drums or guitars were needed, they booked short blocks of time at Sonora Recorders, Sage & Sound and Sunset Sound.

While recording Phair's CD, she and Penn discussed how they wanted to texturally shape the work on a song-by-song basis. Penn would normally go through sounds and beats, and record the backing musicians. Phair would occasionally work with the players and mostly preferred to come in later and listen to what had been done and then do vocal overdubs. Penn comments, "The one that I'm most proud of, which didn't show up on the record, is 'What You Can't Have.' It was a song she wrote with Gary Clark and I heard it in a way where it didn't have a standard trap [drums] set. We made this cool, groovy loop thing out of the sounds of arc welders and other stuff. It created this enchanting vibe that was unusual and really worked. Basically, it was done in the spirit of what just sounds good, with no consideration whatsoever of marketplace or recapturing former glory."

In contrast to Penn's organic and intuitive approach, the Matrix producing team—Lauren Christy, Scott Spock and Graham Edwards—brought a more overtly commercial perspective to the undertaking, focusing primarily on constructing appealing and accessible melodies and lyrics. On the surface, it might seem unusual that Phair would be attracted to a group of producer/writers best known for their work with Avril Lavigne, Ricky Martin and the Backstreet Boys, but Phair noted, "It was just as exciting and rewarding as any other recording experience. They are really wonderful and talented people, as are R. Walt Vincent and Michael Penn."

From the trio's homey Decoy Studios located in the San Fernando Valley, Spock describes the Matrix philosophy: "Whether it's Liz Phair, David Bowie or

World Radio History

whoever we're working with, we try to hold up a magnifying glass and magnify the coolest things about an artist so that it's accessible to lots of people, not just a small market. And we try to write good songs. That's all we're about, really."

The Matrix team felt that the five songs they wrote and recorded with Phair complemented the body of work she had previously done with Penn; in fact, they all thought what the duo had created previously was beautiful. Christy remembers the listening session, which set the course for the Matrix's work on the CD. "Liz said, 'My only worry is that it's a little bit mellow. I'm just in a mood to do things that will shake things up and not be so passive.' So we knew straightaway not to hit her with any mid-tempos or things like that; just uptempo stuff. She was open to it and ready to do something fun."

When working with Phair, the team would play around on guitars and piano, throwing around ideas until there was a general consensus. From there, they'd refine the songs and start putting down tracks. Generally, the Matrix likes to build everything around the vocals, so they often have a raw vibe initially. "The drummer plays to the singer so he can really feel where to pull back and to lift up at the end of bridge," remarks Christy. "The same goes for the guitars, which Graham does, and then we'll have Corky James come in to supplement." Despite the layering and the Matrix's vocal harmonies, Phair's singing is by far the tracks' most distinctive feature. Christy stresses, "We've worked with a lot of singers, and sometimes it's hard to distinguish who's who. Liz's voice doesn't sound like anyone else's. It has a huge character, and I think she's underrated as a singer. She has quite a range and is truly an indie poet."

Similar to Penn, the Matrix did their own recording (to Pro Tools/Logic Audio) and production, with drums produced at House of Blues Studios in Encino by Krish Sharma. However, when it came time for mixing, Phair chose Serban Ghenea at Windmark Studios in Virginia Beach to handle nine of the 14 final mixes, with Tom Lord-Alge doing the remainder at South Beach Studios in Miami. Ghenea, originally a Canadian guitarist, came up under the guidance of R&B producer Teddy Riley and is adept at melding different styles. "A lot of times, this happens," he explains from his new studio. "If you've got a bunch of producers with very different approaches and sounds, it's nice to get one guy to make it all flow together into an album package. You can tell a Matrix song the minute it comes on; they got a signature that's really cool. To be quite honest, I didn't know who all of the producers were [for Phair's CD].

"Everything was well-recorded and pretty easy to work with," he continues. "But these days, [the recordings] may sound simple, but there's 50 to 60 tracks going on." Ghenea, who's worked with N.E.R.D., Jill Scott, Justin Timberlake, Britney Spears and Faith Hill, never met or spoke with Phair, Penn or Vincent, but he did go over some minor points with the Matrix, who, unlike Penn, were happy with his work, which utilized a slew of Pro Tools plug-ins. He says it wasn't necessary to talk to Phair; he just mixed by feel, as he's accustomed to. Ghenea also recently worked on Jewel's new CD, which is as much a departure for her as Phair's.

It was a long and, at times, hard road bringing the *Liz Phair* CD to life, and not all of the critics have been kind: Some have accused her of pandering for commercial gain; others loved the new style and attitude. Phair looks at the whole thing as an extensive learning experience: "The cool part about being an artist is that you get to work with a lot of different people, and you're creative. I love the recording process, because in your creativity, you come into contact with someone else's. You learn from each other, change and develop something new between the two of you. That's what really excites me." ■

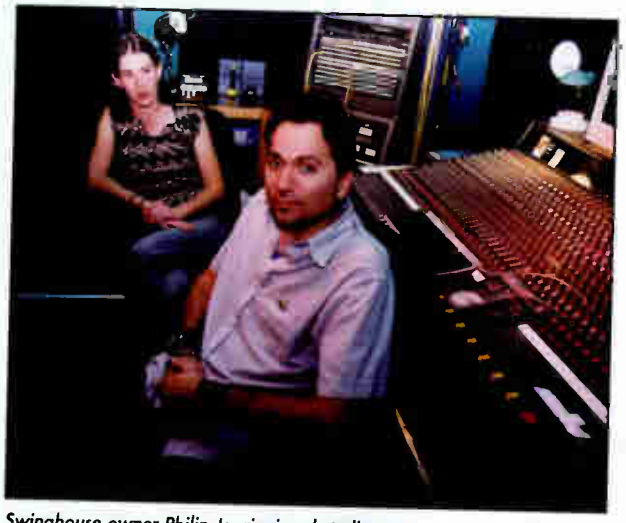
> Liz said, "I'm just in a mood to do things that will shake things up and not be so passive." So we knew straightaway not to hit her with any mid-tempos or things like that; just uptempo stuff. She was open to it and ready to do something fun.
>
> —*Lauren Christy*

World Radio History

L.A. GRAPEVINE

by Maureen Droney

Hollywood's popular recording and rehearsal facility Swing House (www.swinghouse.com) celebrated its latest venture—the release of a split CD by local faves Silent Gray and The Pacific—with a mid-September Monday night bash at the Knitting Factory. Ten other bands, all Swing House clients, also graced the KF's two stages in an evening that turned into a meeting of the minds for some of L.A.'s hippest young performers.



Swinghouse owner Philip Jaurigui and studio manager Crystal Weaver in their native habitat.

"It went great. We had a good turnout, and all the bands were amazing," proclaims a weary Philip Jaurigui (Swing House owner, show promoter, equipment provider and house mixer for half of the bands), when I spoke with him the day after the event. "I wanted to have a night to show our appreciation for the bands who work here, and also to promote Silent Gray and The Pacific, two bands that Warren Huart is producing. They co-headlined, and we picked the other bands from ones we really liked who've recorded here over the past year."

The CD is the first release on the Swing House imprint, and Jaurigui sees it as having a twofold purpose. "We think the CD as a promotional EP will help take things to the next level. It will promote the bands, and also promote the studio because [the CD] sounds great."

The concert and CD are a part of a natural progression for the energetic and personable Jaurigui, who started Swing House in 1994 at its previous one-room location with little more than a P.A. "I was working for a friend at his little rehearsal room and 16-track studio," he recalls. "Just as I was getting really good at booking the place and getting to know all of the bands, the earthquake happened and the building was red-tagged [declared uninhabitable]. It was, 'Now what?' I had no money, but I cash-advanced two Visa cards, bought his little P.A. and started looking for a place in Hollywood. Between the [1992] riots and the earthquake, the neighborhood was really depressed; I found a place for dirt-cheap. Basically, I put in the P.A. and some extension cords, turned on a lamp and went. We didn't even have air conditioning. The first few bands

—CONTINUED ON PAGE 144

O' Henry

In the October issue of Grapevine, Harold Kilianski, O'Henry's chief engineer, was incorrectly identified as owner Hank Sanicola. *Mix* regrets the error.

NASHVILLE SKYLINE

by Rick Clark

While I was over at Kyle Lehning's The Compound studio recently, I discovered that they had used Gary Hedden to fine-tune certain aspects of their studio. Hedden knows a lot more about music and recording than most folks who are in the industry, but he's one of those guys who doesn't talk himself up, so you almost have to bump into the many people who have employed his services and let them do the talking about him. Their opinion of his work is *always* good. Since he first went into professional audio some 40 years ago, Hedden has engineered well over a thousand albums and CDs. His achievements include five Grammy™- nominated albums, one of which was a winner: *A Tribute to Steve Goodman*. His credits include albums and videos by Pink Floyd, the Grateful Dead and Gloria Estefan, as well as four national CLIO Award-winning spots and one Emmy®-winning special. Hedden currently splits his time between mastering at his home-based studio and designing/consulting under the name GHL Audio in Franklin, Tenn.

Besides his dealings with Lehning, Hedden's studio design work includes clients such as Adrian Belew, Chester Thompson, Michael Omartian, Bruce Sudanno (Donna Summer), Ed Cash, County Q (Berry Hill, Tenn.), Dark Horse Studios in Franklin and Moraine Music in Nashville. He was also responsible for the acoustic and technical systems design of the new Grace Chapel in Leiper's Fork, Tenn. Recently, Hedden has been doing quite a bit of consulting work focused on subwoofer systems, thanks to his 20-plus-year association with Bag End. "Bag End has a couple of home theater-powered setups that are in the $1,500 range. The professional realm involves a line-level processor, a power amp of your choice and an ELF driver sized to the amount of output you need," explains Hedden. "Madison Square Garden has one of these Bag End systems, with 64 18-inch

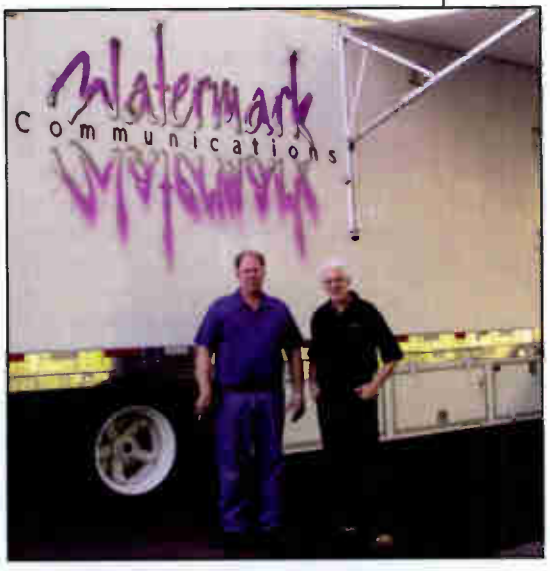
World Radio History

speakers for the low end. But they also make a single 10-inch cabinet, which is fine for a very small room. Because of the process involved, the frequency response is identical between the two. You choose the driver based on how much acoustic output you need."

Besides wrapping up work on Clint Black's studio, Hedden also completed a Bag End system install for Ricky Skaggs' studio. "Everybody has their favorite near-field console speakers, but they often don't deliver the low end that's needed," says Hedden. "These days, we are quite interested in what is down there. In the old days, nobody seemed to care. Now, everybody at home can hear it. We have to be more careful and know what is there."

While I was talking with Hedden, Lee Groitzsch, the studio manager and an engineer for Skaggs' studio, drove up. The timing couldn't have been better, so I asked him about the installation and if it made a difference. "It has definitely been a life-saver," he says. "It has helped us out tremendously, because we had a hard time hearing the low end in there, which was probably more of a problem with the

—CONTINUED ON PAGE 148



David Habegger (left) and Gary Hedden in front of Habegger's 40-foot Watermark Communications rig.

NEW YORK METRO

by David Weiss

Just as it is for life in general, when it comes to music, New York City is one big university. It's hard to not get schooled in something here on a daily basis, whether the topic is human nature or patch bays. While lessons on the latter are purely optional for residents, New York City offers an impressive range of choices when it comes to classes dedicated to the art and science of audio engineering.

Institute of Audio Research dean of faculty Noel Smith

From the biggest colleges to underemployed engineers advertising advice-by-the-hour on the walls of rehearsal studios, it's easy to find ways to advance your knowledge when you live in and around the five boroughs, in part because music recording and audio post-production are still integral to the local economy. "This is, as you know, the hub of commercial production and corporate headquarters for Fortune 500 companies, broadcast and, of course, it's still a music hub," says Noel Smith, dean of faculty for the Institute of Audio Research (www.audioschool.com). "The music demands that the engineering skill be of a really high level, acoustically and sonically; however, there's a fair amount of, 'If we don't nail it the first time, let's do another take.' But to do commercials and corporate, you can throw that out the window; it's got to be done *now*. That puts a different emphasis on engineering skills."

"New York City is the heartbeat of so much in the music industry," agrees Mark Martin, VP of marketing for SAE Institute (www.sae.edu), which is opening an expanded, 11-control room facility in the heart of Herald Square. "That's true for creative media arts, digital media, film and, of course, audio."

"The nature of this city is that it's this huge cosmopolitan place, and that, with the exception of country, every vital music style in America has made more than a footprint here," adds Fred Winston, who oversees audio engineering education at the New School University as the director of Guitar Studies Center, part of the School of Jazz and Contemporary Music (www.newschool.edu). "We have a university that welcomes adult learners—people who may already have a foothold in one career and are interested in pursuing another—looking to further their skills in the musical arena."

A flexible mind-set and the ability to instantly change the curriculum are considered a must at these varied campuses. "Our goal is to train engineering talent for entry-level positions in the industry," Smith says. "As the industry changes, its operating paradigms and personnel requirements likewise have to change. Our curriculum has changed to acknowledge the fact that most people are using DAWs

—CONTINUED ON PAGE 150

World Radio History

SESSIONS & STUDIO NEWS

The Stradivarius afterglow: David Wilson (left), Cups 'N Strings engineer/studio owner Bruce Maddocks (seated) and producer Benedikt Brydern

NORTHEAST

Grammy™-winning Russ Titelman (Paul Simon, Eric Clapton) produced the Columbia Records debut of Kentucky-based band **Robinella** at **Bearsville Studios** (Bearsville, NY)...Dominic Chianese (*The Sopranos*) completed his first solo CD of Italian guitar ballads, *Ungrateful Heart*, at **Hot Sound Studios** (NYC); the effort was produced by Nick Addeo and engineered by Rob D'Aquino; V.P. Record's reggae/soca singer **P.J. Browne** has been working toward a new release; sessions were engineered by **Jeff Phillips** and assisted by **Theresa Stopak**...**Sound on Sound** (NYC) welcomed soul/R&B songstress **Erykah Badu**, who was on-site mixing with producers **James Poyer**, **Rashad Smith** and engineer **Brian Stanley**...**The Cutting Room**'s (NYC) Studio A saw some action, hosting Dave Dar while he mixed projects for **Soulive** and **Jean Grae** on the SSL 9000J; he was assisted by Steve Rakidzioski. Engineer **Rich Travail** mixed the single for **John Oszajca**'s upcoming release; and Fat Joe worked with **DJ Green Lantern** on a mixtape project. De La Soul were in Studio B with engineer **Joe Nardone** to track their upcoming release, as was Geffen Record's artist **Matt White**.

MIDWEST

Music Masters (St. Louis) was in good company with blues pianist and Rock and Roll Hall of Famer **Johnnie Johnson**, who just finished recording, mixing and mastering a double-CD project with engineer Greg Trampe; the project also features performances by **Bruce Hornsby**, **Bonnie Raitt**, **John Sebastian** and **Johnny Rivers**...Producer **Bill Thomas** completed the third release from Denver rock group **Rubber Planet** in **Raven Studios'** (Lafayette, CO) analog room. Also on his roster: producing tracks for new artists the **Gann Matthews Band** and country group **Koriena and The Bottom Dwellers**.

Stephen Marsh and Keb' Mo' in Threshold Sound +Vision's mastering suite

NORTHWEST

Nettleingham Audio's (Vancouver, WA) engineer **Kevin Nettleingham** mastered releases for Paul Lesinkski's band, **Isor Wallobee**, jazz singer **Mary-Jo Casasanta**, the **Bassoon Brothers** and **Susie Blue**; Deep Elm Records artists **Desert City Soundtrack** and engineer **Robert Bartleson** were in to master a new CD, *Funeral Car*. Headless Human Clones guitarist, **David K. Hopkins**, mastered his solo effort, *Noble Gases*, while the **Duffy Bishop** band came in with producer **Terry Robb** to master their new CD, *Ooh Wee!* **Tim Current** continues to track **The Martindales**...Drumming legend **Alan White** (Yes, John Lennon, George Harrison) and **Ted Stockwell** (Treason) have been working in both **Treason Studios** and **Colorsound Studios** (Seattle) recording White's first full album since his 1973 Atlantic release, *Ramshackled*. White's new band, Merkaba, has yet to title their upcoming release. **Steve Boyce** and **Ted Stockwell** co-produced the effort; **Zack Reining** is scheduled to mix the album at the end of the year.

SOUTHEAST

Masterfonics (Nashville) mastering engineer **Benny Quinn** mastered the audio for **Tim McGraw**'s music video and upcoming radio single "Real Good Man/The Ride," which was produced by **Byron Gallimore**...**Dave Harris** of **Studio B Mastering** (Charlotte, NC) worked with **Trailer Bride** on mastering their new Bloodshot Records release. The album was recorded at **Kudzu Ranch** and produced by **Rick Miller** of Southern Culture on the Skids. **Disasterpiece Theatre**—comprising Soni Sonefeld, Mark Bryan and Dean Felber of Hootie & The Blowfish—were in the studio to cut a CD of instrumentals; Harris mastered the effort...At **Zone Studios** (Norcross, GA), TVT Records' **Ying Yang Twins** recorded and mixed their new album, *Me and My Brother*; **DJ Smurf** produced, **Devin Johnson** engineered and **Billy Hume** mixed and backed on guitar. **David Banner** stopped by to remix his single "Like a Pimp," featuring guest spots from **Busta Rhymes** and **Twista**.

SOUTHERN CALIFORNIA

Bernie Grundman Mastering (Hollywood) hosted producer/engineer **Michael Stokes** and **Smokey Robinson**, who went in the

World Radio History

"I Switched"

Who: "Prince Charles" Alexander

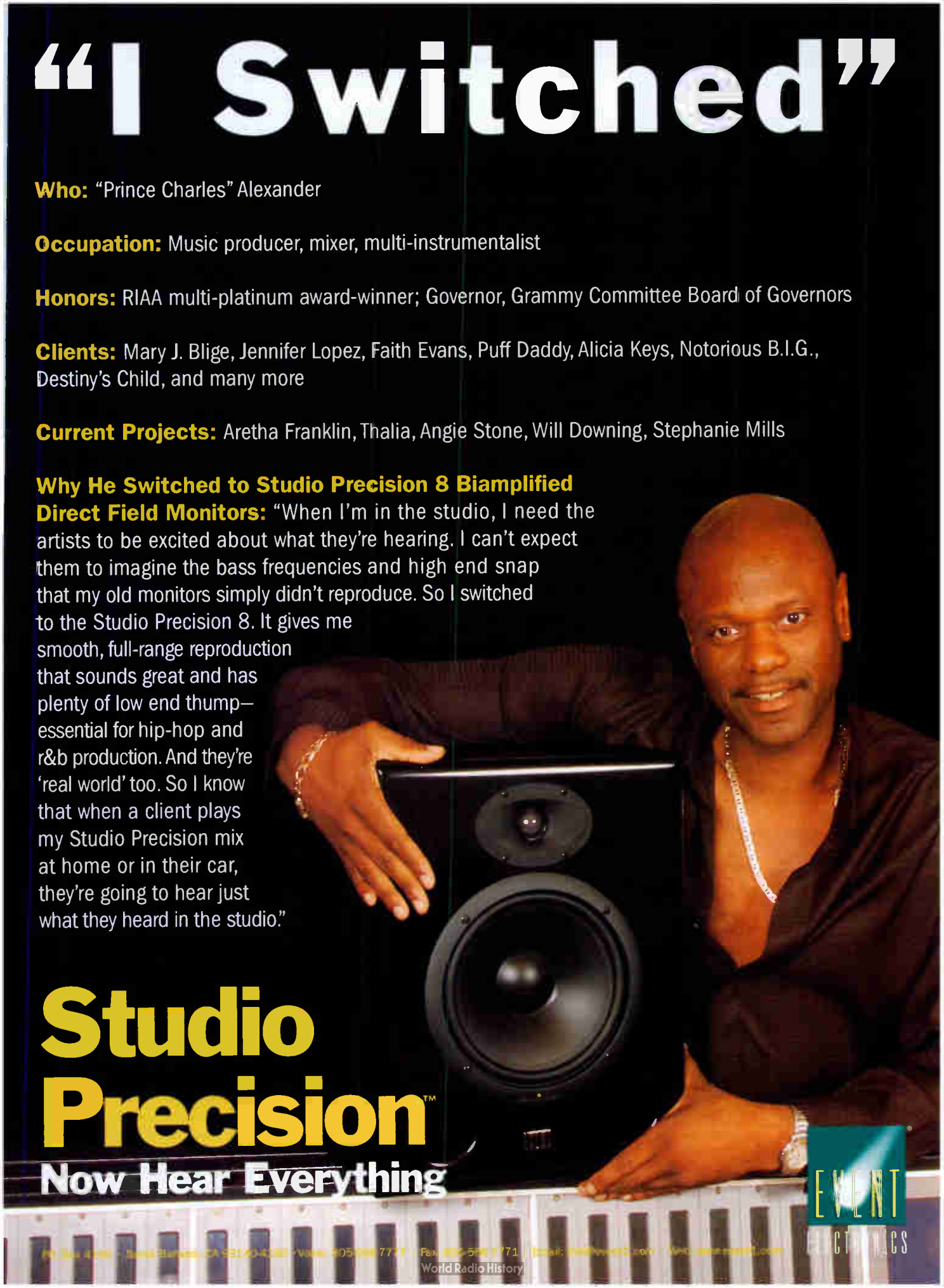
Occupation: Music producer, mixer, multi-instrumentalist

Honors: RIAA multi-platinum award-winner; Governor, Grammy Committee Board of Governors

Clients: Mary J. Blige, Jennifer Lopez, Faith Evans, Puff Daddy, Alicia Keys, Notorious B.I.G., Destiny's Child, and many more

Current Projects: Aretha Franklin, Thalia, Angie Stone, Will Downing, Stephanie Mills

Why He Switched to Studio Precision 8 Biamplified Direct Field Monitors: "When I'm in the studio, I need the artists to be excited about what they're hearing. I can't expect them to imagine the bass frequencies and high end snap that my old monitors simply didn't reproduce. So I switched to the Studio Precision 8. It gives me smooth, full-range reproduction that sounds great and has plenty of low end thump—essential for hip-hop and r&b production. And they're 'real world' too. So I know that when a client plays my Studio Precision mix at home or in their car, they're going to hear just what they heard in the studio."



Studio Precision™

Now Hear Everything

EVENT ELECTRONICS

World Radio History

argosyconsole.com
ARGOSY.
Specialized Studio / Control Room Furnishings
Free Color Catalog 800.315.0878 / 573.348.3333

United States Postal Service STATEMENT OF OWNERSHIP, MANAGEMENT and CIRCULATION Required by 39 USC 3685

1. Publication Title: Mix
2. Publication Number: 0047-3870
3. Filing Date: 09/29/03
4. Issue of Frequency: Monthly except semimonthly in January
5. Number of Issues Published Annually: 13
6. Annual Subscription Price: 52
7. Complete Mailing Address of Known Office of Publication (Not Printer): Primedia Business & Media, 6400 Hollis Street #12, Emeryville, CA 94608-1052
8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not Printer): Primedia Business & Media, 6400 Hollis Street #12, Emeryville, CA 94608-1052
9. Full Names and Complete Mailing Addresses of Publisher, Editor and Managing Editor - Publisher: John Pledger, 6400 Hollis Street #12, Emeryville, CA 94608-1052; Editor: George Petersen, 6400 Hollis Street #12, Emeryville, CA 94608-1052; Managing Editor: Tom Kenny, 6400 Hollis Street #12, Emeryville, CA 94608-1052
10. Owner - Full name: PRIMEDIA Inc., 100 Fifth Avenue, New York, NY 10151 USA
11. Known Bondholders, Mortgagees and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities: None
13. Publication Title: Mix
14. Issue: Datefor Circulation Data Below: October 2003

	Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
15. Extent and Nature of Circulation		
a. Total Number of Copies (Net press run)	60,123	59,069
b. Paid and/or Requested Circulation		
(1) Paid/Requested Outside-County Mail Subscriptions Stated on Form 3541. (Include advertiser's proof and exchange copies)	41,461	39,798
(2) Paid In-County Subscriptions Stated on Form 3541 (Includes advertiser's proof and exchange copies)	0	0
(3) Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution	7,276	8,005
(4) Other Classes Mailed Through the USPS 0 0		
c. Total Paid and/or Requested Circulation [Sum of 15b (1, 2, 3 & 4)]	48,738	47,891
d. Free Distribution by Mail (Samples, Complimentary and other free)		
(1) Outside County as Stated on Form 3541	1 1,307	1,311
(2) In-County as Stated on Form 3541 0 0		
(3) Other Classes Mailed Through the USPS	0	0
e. Free Distribution Outside the Mail (Carriers or other means)	1,129	3,010
f. Total Free Distribution (Sum of 15d and 15e)	2,435	4,321
g. Total Distribution (Sum of 15c and 15f)	51,173	52,182
h. Copies not Distributed	8,950	6,887
i. Total (Sum of 15g and 15h)	60,123	59,069
j. Percent Paid and/or Requested Circulation	95.24%	91.80%

16. Publication of Statement of Ownership - Will be printed in the November 2003 issue of this publication.
17. I certify that all information furnished on this form is true and complete. Signature and title of Editor, Publisher, Business Manager, or Owner - John Pledger/Publisher, 09/29/03

COAST TO COAST

studio to track Robinson's latest album, *Food for the Spirit*...Violin stylist **David Wilson** mixed his new album, *Elegancia*, at **Cups 'N Strings Studios** (Santa Monica). Wilson used a $3 million Stradivarius, and recorded several tracks in 5.1. The sessions were engineered by **Bruce Maddocks** at **Firehouse Studios** (L.A.)...**Nancy Matter** from **Moonlight Mastering** (Burbank) was at the helm to master the remains of two big tours from 2003, including **Peter Gabriel**'s *Up* (19 double-CD sets) and **Duran Duran**'s world tour (eight double-disc sets)...**Mary J. Blige** was in with producer **Def Jef** tweaking the remix of "Could It Be Love at First Sight" at **Skip Saylor** (Los Angeles); **Chris Puram** mixed, with **Bill Bennett** assisting; Nappy Roots were in with producer **Mike Carin** to track and mix for an upcoming release...**Winston Reed** recorded tracks for his new CD at **Sunset Sound** (Los Angeles); the project was produced and engineered by Grammy Award-winner **Steve Pouliot**...In at **Threshhold Sound** (West L.A.) was blues guitarist **Keb' Mo'** and engineer **Stephen Marsh**, working to master a bonus track for his forthcoming *Best Of* collection.

SOUTHWEST

Dick Clark Productions called on the **Reelsound** (Buda, TX) mobile audio truck for the 2003 American County Music Awards Show to broadcast the **Dixie Chicks** from their Austin concert. The crew assisting was **Malcolm Harper, Gene Krieger, Gerard Bustos, Gordon Garrison, Bob Corneilus** and **Carl Harper**...Houston punk band **Mark Needs a Chick** finished their second CD at **SugarHill Recording Studios** (Houston); the new release was mastered by **Jim DeMain** at **Yes Sound** (Nashville), produced by **Dan Workman** and engineered by **Steve Christensen**...**Wire Recording** (Austin, TX) hosted **Pushmonkey** to mix tracks for their new release. Studio owner and mix engineer **Stuart Sullivan**, vocalist **Tony Park**, producer **Paul Leary** (Sublime, U2, Meat Puppets) and guitarist and co-engineer **Will Hoffman** were on hand to capture the moment. ■

Send your session news to blingle@primediabusiness.com. High-resolution photos encouraged!

L.A. GRAPEVINE *FROM PAGE 140*

worked in 100° heat. A few months later, Sugar Ray came along, just another struggling band that couldn't pay their rehearsal bill. They liked how the rehearsal room sounded and, with producer David Kahne, ended up recording most of their first two hit records there. After that, we got popular and had in Green Day, the Goo Goo Dolls and the Chili Peppers."

With more bands wanting time than he had room for, Jaurigui began looking for a larger facility. The search and the process of funding the larger business with an SBA loan took two years. The result is today's Swing House. The facility encompasses three stages, a preproduction room, a recording studio with two iso booths and its own lounge attached to a 1,000-square-foot stage. Housed in a building that was once home (literally) to film director Tim Burton and his production studio, Swing House also offers P.A. and equipment rentals, cartage and storage.

Another separate business in the friendly complex is Brad Vance's busy Chris Cooper-built Red Mastering. Vance, known for his work with Newfound Glory, Young Noble and Emerson, Lake & Palmer, was previously at DNA Mastering. Since settling in at Swing House, he's done projects for Toto, Richie Blackmore, Six Feet Under and Mr. Big.

The three stages each have a different size, color scheme and vibe, but all are outfitted with cozy couches and JBL speaker systems. Stages 1, 2 and 3 all have Electrotec P.A.s. Stage 1 has a 40-channel Soundcraft SM-12 console. Stage 2, which is connected to the recording studio, has a 32-channel Soundcraft SM-12. Stage 3's board is a 32-channel Allen & Heath, and is a favorite for pre-production by such busy producers as Neal Avron and Lou Giordano. Room 4 comes with a 16-channel Soundcraft Spirit, a drum kit, Ampeg bass cabinet and Marshall guitar cab. And, yes, in this incarnation of Swing House, all of the rooms have air conditioning.

The recording studio boasts some nice vintage gear to complement its Tac Scorpion console, along with Pro Tools MIX-Plus. A 12-channel (circa 1971) Cadac sidecar with Class-A EQ, an alumnus of England's Pye Studios, is among the notable outboard. Other gear includes Brent Averill Neve 1272 and 1064 mic pre's; Neve, Urei, Calrec, Altec and dbx (original 160) compressors; and several esoteric items from a vintage BBC stash. Mics include Neumann, Audix, AKG, Sennheiser and Shure, and there's a 6-channel headphone system.

Business is on the upswing, according to Jaurigui. Clients have included N.E.R.D., Black Eyed Peas, the Trauma Club, DH Peligro, and producers Mike

World Radio History

TASCAM

a whole world of recording

DAW Control & Interface solutions for every situation.

FW-1884
Professional Control Surface
& Audio/Midi Interface
(shown w/ optional FE-8 sidecar)

Firewire transfer
8-100mm motorized faders
8-mic preamps, w/ phantom power
8-channels ADAT, Stereo S/PDIF I/O
24/96kHz converters, L/R & 5.1 capable
Multiple MIDI banks

US-122
USB/Audio/Midi
Interface

2-XLR/TRS inputs, inserts
2-outputs w/ level control
Phantom power
USB powered
16 ch's MIDI I/O
Includes Gigastudio 24

Take Control.

US-224
DAW Controller
USB Interface

2-inputs-XLR/TRS
2-outputs
24/bit-USB powered
16 ch's MIDI I/O
Includes Cubasis VST
& Gigastudio 32

US-428
DAW Control
Surface &
USB Interface

24-bit converters
4-inputs(XLR/TRS/TS or S/PDIF)
2-outputs, 2 banks of MIDI I/O
EQ/AUX/Pan controllers
Includes Cubasis VST & Gigastudio 32

Audio Video A/V Lighting

FULL COMPASS

Low Prices. Smart People.

800-356-5844

www.fullcompass.com

COMPASS XPRESS

Not a 9 to 5 shopper?
Call us at 800-476-9886
8am - 10pm M-F CST
10am - 6pm Sat CST

World Radio History

Clink and Johnny K. "9/11 almost killed us, then SARS, the Internet and no one selling records...things have been bad," he admits. "But this past four or five months are starting to feel normal.

"Something good rises up out of every bad musical economy," he continues. "In the early '90s, it was companies like Epitaph and Sub Pop making independent music that became the normal, popular music. I think that's what's happening now."

Chances are that Swing House will be part of that new wave; plans are in the works for more CD releases and, maybe, more shows. "We're breaking the ground," says Jaurigui. "I'm feeling my grass roots way into Swing House recordings by producing and helping bands that come through that I really like. The next step is to take the recording studio to another level, like we did for the rehearsal rooms. There's a plan in there somewhere."

Because this issue's focus is audio education, it seemed appropriate to take a trip downtown to the hallowed halls of the University of Southern California for news about its music industry program. USC, of course, is famous for its marching band. It's also renowned for the Thornton College of Music, which houses the well-respected Music Industry Degree program headed up by musician/engineer/producer—and, until recently, studio owner—Richard McIlvery. Over dinner in the faculty dining room, McIlvery, who founded the program 10 years ago, described how the curriculum, particularly the music recording segment, is changing with the times to offer a broader education in both business and technology.

USC's multitalented program head Richard McIlvery

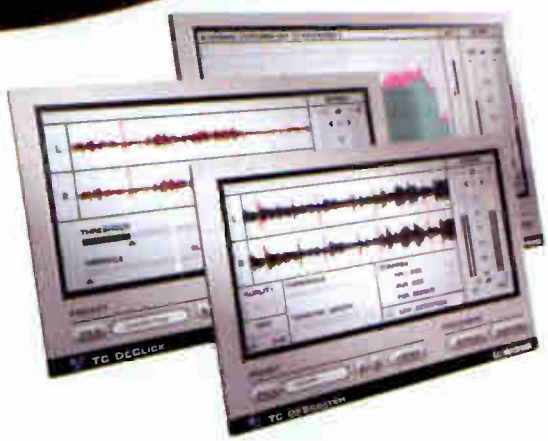
"The new emphasis will be part of the Bachelor of Science in the Music Industry but with a new specialized track in technology, replacing what used to be a Bachelor of Science in Music Recording," he explains. "There's still a heavy emphasis on recording, with a strong listening component, but now we also include courses in such areas as video editing, how to build Web pages, how to stream audio—all those kinds of things. We want to supply students with the basics to deal with change, because the more skills you have, the better off you are to move with a changing world.

"The traditional path of starting as a runner or a second engineer, generally speaking, is gone. We teach our students skills where, if they actually did get a job as a runner, they could do it. But to be specialized only in audio is going to be difficult. We want our students to have a broader perspective."

World Radio History

Remove. Repair. Restore.

Ultimate Restoration tools for PowerCore



TC RESTORATION SUITE - THE SOUND OF SILENCE

DeScratch

This new tool employs unique patented technology that eliminates clicks, scratches and even long disturbing dropouts. DeScratch is perfect for removing extreme impulsive-type errors in digital signals or scratched vinyl recordings. At last it's possible to eliminate extremely large scratches without audible artifacts.

DeNoise

DeNoise removes broadband noise, from tape hiss to static environmental noise. The Denoiser is fingerprint-based and offers manual adjustment for very precise and predictable processing results.

DeClick

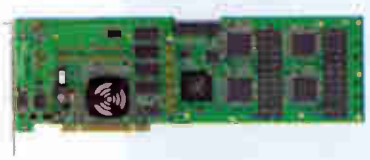
The DeClicker repairs crackle and clicks with an extremely easy and fast user interface. The Audition feature allows monitoring of the removed signal parts for optimal results. In combination with the DeScratcher, small and large artifacts can be reduced dramatically in just one pass.

THE POWERCORE PLATFORM

PowerCore is the open platform DSP engine for professional signal processing. Serious processing power that seamlessly integrates with any Audio Units- or VST-compatible host application.

PowerCore FireWire

PowerCore PCI



Includes Nine Virtual Processors: PowerCore comes with a complete production and mastering set of Plug-Ins: ClassicVerb, MegaReverb, MasterX3 Virtual Finalizer, 247C Limiting Amplifier, Vintage CL, VoiceStrip, Chorus/Delay, EQSat Custom and PowerCore 01 Synthesizer
Add even more: From mastering to restoration, inspiration to innovation. You can expand PowerCore with Plug-Ins by Sony Oxford, Waldorf, TC-Helicon, D-Sound or TC – New optional TC and 3rd party Plug-Ins are constantly being offered. 11 products are already available!

t.c. electronic
ULTIMATE SOUND MACHINES

TC ELECTRONIC A/S DENMARK ▸ ✆ + 45 8742 7000
TC ELECTRONIC INC USA ▸ ✆ (805) 373 1828 ▸ [FAX] (805) 379 2648
WWW.TCELECTRONIC.COM

World Radio History

COAST TO COAST

Although classes in economics, business administration, accounting and math are required, along with various general-education requirements, plenty of audio courses are still part of the curriculum. Classes include traditional recording arts and theory, remote recording, film scoring, multichannel mixing, acoustics and speaker design, studio maintenance, and ,of course, digital recording and editing, with a flagship Pro Tools program that McIlvery, who himself is certified by Digidesign, is particularly proud of.

"I've been dealing with Andy Cook, who runs Digidesign's training, for a year-and-a-half," McIlvery notes. "I was very impressed with what they're doing. We've taken their course and materials and adapted and expanded them, applying the expertise of our faculty members who have years of experience in audio. That's something you really need. Students need to be taught—not only answers—but what the problems are. To know that, you've got to have actually done the work."

Instructors who are industry vets are a cornerstone of the USC program. The faculty includes, among other notables, Grammy™-nominated mastering engineer Andrew Garver, technical wizard Thomas Beno May—currently chief engineer at Bernie Grundman Mastering—and Record Plant founder Chris Stone.

"Our kids have to put together a package set of business skills," McIlvery elaborates. "They have to take micro- and macro-economics along with statistics and accounting. They learn copyright law and publishing, and they have to learn how to play the piano, which is a real pain for some of them! When they're dealing with musicians, they'll understand what they've gone through to get where they are. We want all of our students to understand recording, even if it's not their industry track. That way, when they're working at a record company or a management company, and someone says, 'We've got to remix this,' they'll understand the parameters: why they're doing it, as well as what it's going to cost. And the artist will be speaking with someone who has an understanding of what's going on.

"We're seeing how things are changing," he concludes, "and we're recognizing what a student is going to need to get into the industry now. We're looking at what's happening and how our students can best take advantage of it." ■

Got L.A. news? E-mail MsMDK@aol.com.

NASHVILLE SKYLINE FROM PAGE 141

room dimensions than anything else. But with the Bag End system and our Tannoy AMS-10s, it's a really good complement. The last two records we did and mastered since the installation of the Bag End sound incredible. This helps us get the right information on tape, and when we go to mix, we are really able to address all of the frequencies in a way that the mastering guys are thrilled about." (One of those albums was *Ricky Skaggs Live at Charleston Music Hall*, while the other was a trio gospel record with Ricky's wife, Sharon, Connie Smith and Barbara Fairchild.) Besides doing the Skaggs studio and other related design, installation and consulting, Hedden also has engineered scores of remote recordings for artists from DC Talk and Wynonna to George Jones and Paul Stookey. Much of his remote work was done with the GHL truck, which he built in the mid-'80s around the time he moved here from Columbus, Ohio. Hedden sold the 40-foot trailer in 1998 to David Habegger of Tampa-based Watermark Communications Inc.

"My interests changed, and I decided to sell the truck," says Hedden. "David ended up being the purchaser, and we became friends as a result. He modernized it with some major improvements in gear and it is quite a fine showplace of audio these days." Habegger, who has more than 25 years of recording experience, told me, "We do a lot of gospel—black gospel and contemporary Christian—and we also do a lot of audio for video production. We've done a Britney Spears concert from the truck, as well as live telecast events like awards shows and different things where they need some fairly serious audio for broadcast, including a large, several-week-long simulcast event at Madison Square Garden. We are pretty much all over the place."

The Watermark truck features an 80-input Amek Rembrandt console; 72 tracks of RADAR; Genelec, Dynaudio Acoustic and Bag End monitors; and a load of new and classic gear. Habegger is particularly enthused about RADAR: "We've jumped very heavily onto RADAR. As far as I know, we are the only remote truck in the country that has six units that live onboard. I typically have those six units configured as two 72-track systems when we are tracking live; we have both systems running independently for a primary and a backup. That said, it could be configured to run 144 tracks of RADAR live. We have the 96kHz converters and all of the software upgrades.

"From a live recording perspective,

World Radio History

ORDER 24/7 FROM OUR SECURE WEB SITE

BSW focuses on the best in Pro Audio. So you can focus on what's important.

BSW specializes in pro audio.

We're different from the big "box" stores. We focus on the best pro audio equipment, with no drums, stomp boxes or video cameras to distract us.

We've been selling to the recording and broadcast industries for over 30 years. So not only can we line up great deals, we're used to seeing the stuff tested in the trenches. It doesn't take long to sort out which products survive and which don't.

Moreover, most of us are total gearheads who take equipment home at night to try in our own home studios. If something's fishy, it won't make it onto our shelves.

We sell what works, so you can work...at prices that let you get more of what you need.

Call for our free 144-page **catalog** or log on to see our extensive selection of gear at rock-bottom prices.

Call for a free 144-pg. catalog!

699

TC HELICON • VOICEWORKS • new processor with multi-voice harmonies, transparent pitch correction and fat automatic double-tracking • mic preamp/compressor • EQ • effects • four independent harmony voices • much more • call your sales rep today to order

699

HHB • CDR830PLUS • popular CD-R burner with Word Clock and balanced XLR inputs • amazing low price for professional unit • SCMS-free digital input • reliable, durable mechanism

499

BLUE • BABYBOTTLE • cardioid condenser mic • hand-crafted quality • gold-sputtered diaphragm • ideal for vocals or acoustic instruments

449

MACKIE • HR624 • powered studio monitor • 6" woofer/1" tweeter • 100/40 watt biamplification • wide "sweet spot" • shielded for nearfield use • priced as each

299

SHURE • KSM27 • rugged, affordable studio condenser mic • large 1-inch diaphragm • Class A transformerless preamplifier • switchable 15 dB pad

99

SONY • 7506 • popular studio headphone • wide 10 Hz-20 kHz response • comfortable sealed-ear design • maximum isolation

We're Your #1 Source For Pro Audio Gear

FREE BAG (with purchase)

699

MARANTZ • CDR300 • portable CD recorder • stereo XLR or 1/4" mic/line inputs • built-in preamp - no external mixer or preamp required • FREE carrying case!

459

JK AUDIO • HOST • Broadcast Host desktop digital hybrid • gets quality phone audio In/Out of mixers or sound cards • excellent caller and studio separation • stereo caller/studio outputs and XLR caller-only output • auto answer/disconnect

www.bswusa.com • 1.800.426.5780

ORDER 24/7 FROM OUR FAST-LOADING WEB SITE • RING US UP 6AM-6PM PACIFIC TIME

BSW®

World's Best Source for Pro Audio Products

World Radio History

the only way I would talk about hard disk recording was if somebody could prove reliability. RADAR was the one format doing that, plus it sounds great, too, which is always a benefit," says Habegger with a laugh.

Recently, Habegger (davidh@watermarkinc.net) opened a new office in Franklin, Tenn. Contact information is 615/794-5246, 813/986-4477 (Tampa), http://watermarkinc.net. While Hedden isn't formally involved with Watermark, the friendship between him and Habegger has been a helpful and deciding factor in bringing the truck to the Nashville area.

"Gary [Hedden] has been a really strong contact for us here. Ironically, at a time when Nashville is probably not looking for more new recording businesses, it has been a good thing for people to be encouraging us to come up here and get involved," explains Habegger. "While most of what we do is out of town, more and more of our contacts are working out of this area, and we are also seeing a convenience factor of being based out of this area and traveling out, as opposed to being based in Florida, which is the far corner of the country. We're obviously trying to expand our client base and serve some of the clients that we're picking up in this area. The truck will just go back and forth and that is the beauty of it being mobile: I can run wherever it needs to go." ■

Send your Nashville Skyline news to Mr Blurge@mac.com.

NEW YORK METRO FROM PAGE 141

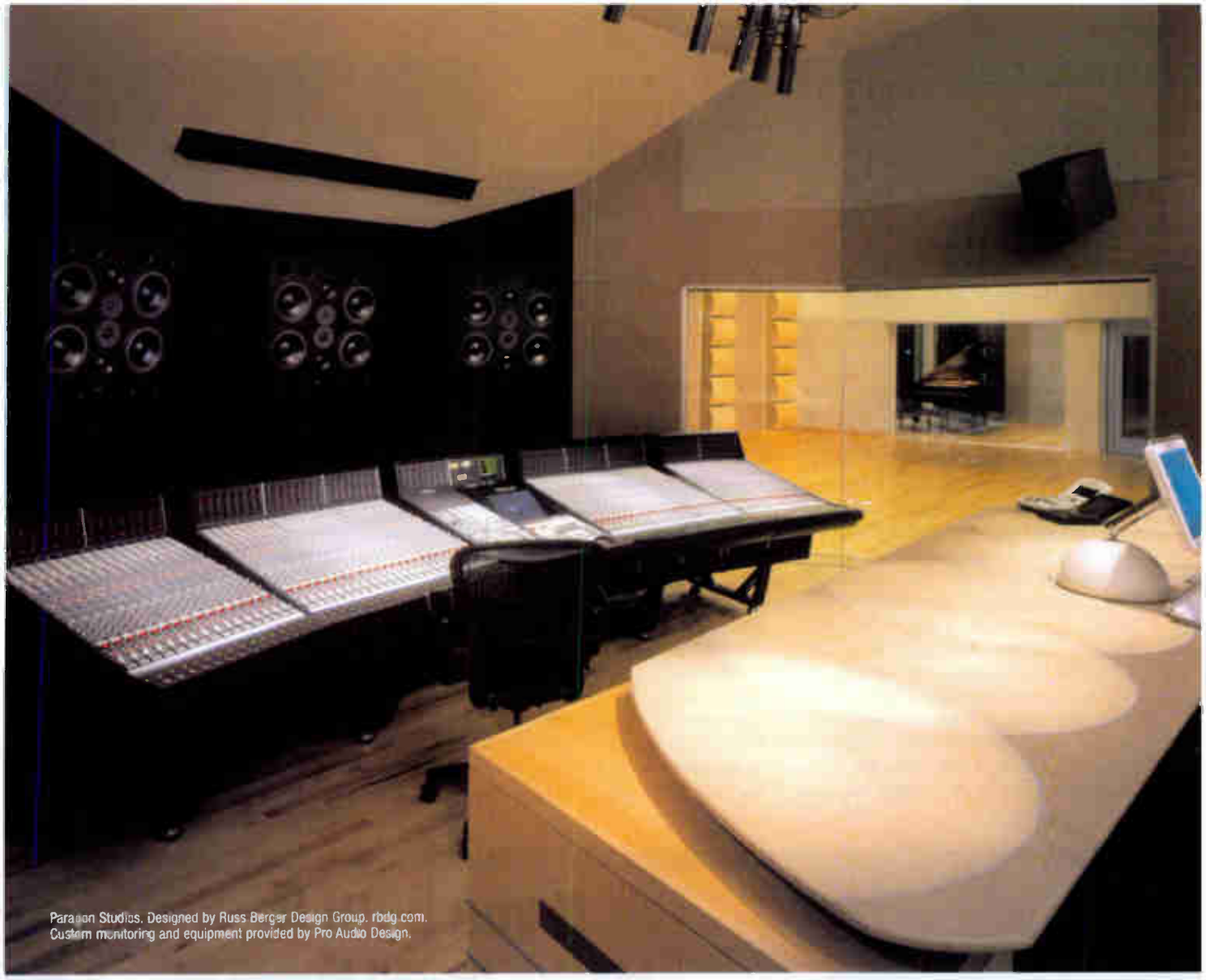
somewhere in their production chain, and we have added machine language understanding and operation of computers, in general. We have, however, recognized that people are still using analog for its sound, so we still keep our Studer multitracks operating and are in the curriculum. But the theoretical classroom approach can almost instantly change. Now, it's a loose thing that changes with the demands of the industry, practically on a daily basis."

This semester, SAE expects to see about 150 students working in its 32 studios and workspaces equipped with everything from an SSL 4000 G+ to a Mackie Digital 8 Bus and, of course, Pro Tools. The faculty keeps an eye on what the students like and don't like, as well as what they are already capable of doing. "They enjoy working with sound-to-picture the most, no question," Martin says. "They like authoring to DVDs, creating soundbeds, sound effects, doing Foley, as well as taking information from sound libraries. They're less enthusiastic about digital theory, but it's necessary: A student has to fully understand bit depth. They're not interested in it because of the math, and the reason they're there is that they don't want to go to a university and learn those topics. We do a high concentration on interfacing A/D and vice versa. There are so many consumer-based programs out there now, plus free versions of Pro Tools, students come in knowing how concepts like digital editing work, so I've found we've had to step up the intensity of our teaching to embrace those who are learning on their own. They may not have an SSL 4000 at home, but they will have Pro Tools."

While SAE and IAR both mainly attract students looking to make audio engineering their full-time occupation following a 900-hour minimum course schedule, the New School sees a different demographic at their night classes, which can be taken individually or as part of a certificate program. "It's hard to say semester to semester, but I don't think the majority of my classes are destined for working at a recording studio," notes Scott Noll, an adjunct professor of audio engineering at the New School (whose alumni include this author). "Keep in mind this is very different from SAE or IAR: I only have 36 hours to cover the entire curriculum, not a nine-month, six-hour-a-day program. Some plan on making a career out of it, but a lot of them have a studio at home and are saying, 'I wish I knew how to do this better.' It gives you the basic knowledge to be in the studio and not be totally ignorant. Every couple of semesters, I get a wave of A&R people who want to get into production, and I've had accountants from record companies come in because studio bills come across their desks and they want to know what they mean."

As DAWs have matured, so have the teaching techniques for the software. At IAR, equipped with 60 Mac G3s and G4s running Pro Tools and Reason, the key is being project-oriented. "We can't just develop a list of how to do these things or what keys to push: There has to be a goal in mind," Smith states. "In our Pro Tools-based courses, we present the student with pre-recorded multitrack recordings—a bubblegum thing, a cover of a James Brown tune, a soft jazz song, classical string quartet, a dance mix—that need to be processed and mixed. We'll give the students the job of replacing a crashed ending by cutting and pasting the last eight bars and fading out, cleaning up back-

World Radio History



Paragon Studios. Designed by Russ Berger Design Group. rbdg.com.
Custom monitoring and equipment provided by Pro Audio Design.

We're always in tune with your needs.

Pro Audio Design provides complete turnkey integrated solutions for recording professionals, large or small. We offer over 100 brands of new, used and vintage gear. All backed by experienced engineers, producers and technicians who consult with you before designing and installing a system that perfectly meets your needs. No matter the size of the studio you have in mind, talk first to the people who take the time to listen and understand. Pro Audio Design. Visit us online or call 877-223-8858. You'll find we're music to your ears.

Professional Audio Design Inc.

ALWAYS A SOUND DECISION

357 Liberty Street, Rockland, MA 02370 877-223-8858 or 781-982-1600 Fax: 781-982-2610 **www.proaudiodesign.com** Email: info@proaudiodesign.com

World Radio History

ground vocalists' mumbling and headphone leakage with gates, etc. With Reason in our MIDI course, we have them use Subtractor or another of the application's virtual sound modules to create some music lines, and we move gradually from there to full-blown mixes. We also use a hardware sound module in conjunction with Reason, so the students can get all kinds of voices and layers going in it."

With the breakneck release rate of new DAW updates, soft synths and plug-ins, the schools have to keep close tabs on what emerges as an industry standard and act accordingly. "We ask, 'Is it used on a large scale in the industry? Not just at Ocean Way, but by Leroy in Arkansas?'" explains Martin. "This is definitely a nonexclusive school: We have MOTU next to Pro Tools. We want our students to walk out with as many tools as they can get. So, for example, we may have three projects with Pro Tools, but then we may pull something off of that and put it on Nuendo. We also have the ability to affect our curriculum locally. In Miami it's very MIDI-based, while New York City has no local flavor: It's everything. If the U.S. is the melting pot, New York City is the burner!"

As one of the professions where a no-frills apprenticeship is still considered an entry-level rite of passage, many prospective audio engineers today are wondering why formal schooling in the field would be necessary. "Everyone knows that you can get a GigaStudio or some other type of sampler, cut and paste some loops, and then do a rhyme into a Shure SM58. There's no mystery in that, so what do you need an education for?" IAR's Noel Smith posits. "Because after you buy all of that stuff, and it still doesn't sound like a record, that's where education can help. Learning to be a critical listener, ear training, understanding dynamics, the ability to hear distortion and know what or what not to do with it, these are the fundamentals of audio that have not changed over the years, and this is the value of educational programs like ours."

VP of marketing for SAE Institute, Mark Martin

"To have it laid out in a formal curriculum, with 2.5 million dollars' worth of equipment and apply it in theory courses—that can't be replaced," SAE's Martin adds. "If you go to work at a major studio as an intern, how long will you be in the room doing stuff vs. having a good foundation to grow upon once you get out of school?"

No matter how many degrees you have and how many studio hours you log, Scott Noll of the New School points out that the big audio quiz is really just one question, and after a lifetime of study you either know the answer or you don't. "On the pro side, you're learning from others, working with other engineers, seeing what they do, how they juggle their craft, see what you like and dislike, and you experiment," he says. "Regardless of the school, it still comes down to how do you make something sound good?" ■

Send your Metro news to david@dwords.com.

THE WALL
RECORDING STUDIO
The WALL Specializes in Surround Production, Mixing, and Authoring.
Recent Clients Include:
Music History Live
Dianne Durrette
Boots Randolph
Mr. Groove
featuring Bonnie Bramlett
Pro Tools HD3/192
Pro Control
Manley
TC System 6000
and everything you'd expect.
Tracking • O/Dubs • Mixing
For Booking Contact
Robert Gilliam
thewallman@earthlink.net
877.WALL.777
thewallstudio.com

If you built it... let the world know it!
Mix Studio Showcase found monthly in Coast-To-Coast
(800) 544-5530

World Radio History

THE HEMI-HEADS ARE HERE!

▲ A-48

▲ Area 51

▲ ST

▲ LE

▲ S

"I've now used the ADK Model "S" on almost everything including vocals, guitars, and drums. They remind me of very expensive German mics I have tracked with before."

–Adam Kasper, Producer/Engineer, Cat Power, REM, Pearl Jam, Soundgarden, Foo Fighters

---

"ADK Commemorative Tube Mics are a Gas! We used them with the Cincinnati Pops Orchestra and our Vocals Really Soared!!"

–Tim Hauser, Vocalist, Manhattan Transfer

"I use ADK LE Matched Pairs for recording my toms, and two ADK Transformerless for overheads. Warm and accurate, the perfect complement to my sound!"

–Joel Rosenblatt, Spyro Gyra Drummer

"The sound is huge and wide open when tracking vocals. The accurate and transparent sound reproduction, especially on the acoustic grand piano, is nothing short of amazing!"

–Dale Sticha
Piano Tech for Sir Elton John

"We took ADK Microphones on our Christmas tour last year with Jaci Velasquez. The entire band was totally impressed by the sound! From the violins to percussion, ADK covered it all. We will be using these mics again in future tours."

–Jay Lipschutz, FOH Engineer, Jaci Velasquez

THE NEW GENERATION OF ADK MICS HAVE ARRIVED.

Coming Very Soon:

STEALTH
PRO AUDIO

MADE IN U.S.A. AEROSPACE-TECHNOLOGY HIGHLY FEATURE-LADEN
PSYCHOACOUSTIC DIGITAL AND ANALOG SONIC-IMAGING DEVICES.

ADK
MICROPHONES

First in Affordable Retro-Sonics. sm

800 NE TENNEY ROAD SUITE 110-215
VANCOUVER WA 98685-2832 U.S.A.
TELEPHONE: 1-360-566-9400
FACSIMILE: 1-360-566-1282
www.ADKMIC.com Info@ADKMIC.com

World Radio History

—FROM PAGE 24, THE ART OF NOISE

a much more simplified, bluesy variation on what he was doing, gracefully allowing me to keep my head above water.

Having escaped with my life—barely—we then went downtown, where he played an open-air concert and I heard him live for the first time in my life. And as I sat just offstage, I had a good old American flashback and saw the light.

STAY AWAY FROM THE LIGHT!

Once I was crossing a busy city street when I saw a car coming and somehow knew that all hell was about to break loose. I looked around and realized that many, many things were going wrong, and that there was no place for the approaching vehicle or myself to go. It was painfully obvious that this was about to be a film-at-11-worthy event. It looked like I had a little less than two seconds.

With the time-dilated clarity that the onset of eminent disaster oft provides, the correct action revealed itself. I crouched down, and at the right moment, jumped straight up in the air. Four cars slammed into each other directly underneath me, and I landed on one of their twisted hoods—with reasonable poise and grace, given the circumstances.

I slid off and walked away, literally. Had there not been five witnesses, the cops would never have even written down what I told them. (One actually became angry when I first recounted the events.)

So. You know that hollow rush—that chilled, lightheaded feeling you get when you realize that you have very narrowly escaped a very bad thing? Well, I got it an hour after that accident, and then again years later in the middle of that Oscar Peterson concert.

From that day on, I knew that though I was pretty good, I was no Oscar Peterson.

And that was when I began to see the art of making music—and getting paid for it. Only then did I see that the *art* deal was a crutch, and that I was not really even playing the total game.

The game isn't to starve while you make music that you like. It's not to declare your own exempt class of music and hide there. What the hell good is being a big fish in a little pond when you are the only fish there? No, the game is—the art is—creating innovative, expressive music that can also stand on its own in a commercially competitive environment and be heard and...Sold.

AND THE ANSWER IS...

Both. Unless you're a calculating mercenary, what is the point of making music that you don't even like? No, you would do the best that you possibly could. And there is a certain validation that comes from financial success and critical acclaim. (For many, the Porsches are enough, to hell with the critics.) And there is the incredible fun of success, made even better when you achieve it doing something you like, something artistic.

Good music is stuff that you are happy with, that you constantly stretch to evolve. Good music is music that your friends actually like and want to hear and your neighbors don't call the cops about. Yeah, that's it. Good music is when you discover that the number of friends you have listening to it has grown from eight to a million—and you still sleep great knowing it's the absolute best you can do. ■

St.Croix broke some stuff last week.

World Radio History

—FROM PAGE 28, SHRINKING THE CLASSROOM

"Thankfully, this hasn't dampened the serious student's appetite for basic skills and in-depth knowledge. In many ways, the new tools have enormous potential for developing these. If every one of our tech majors has an Mbox, they can spend untold hours learning what a compressor does without needing to be in an expensive production studio. They can work toward mastery offline. On the other hand, they could spend eight hours doing stutter edits on a verse."

Dan Pfeifer, an associate professor in the recording industry program at Middle Tennessee State University in Murfreesboro, agrees: "Every production and technology student wants to learn Pro Tools." But at the same time, MTSU is careful to keep more traditional configurations available. "We are very fortunate to have three fully equipped studios: Otari, SSL and Studer digital," he says, "as well as five labs: electronic music, hard disk, post, mastering and critical listening. We use analog, DASH and hard disk multitracks."

As computers have brought recording and production technology down the economic ladder and made it more available to a wider population, computer-based teaching studios and labs, with their smaller footprints and lower cost, have become appropriate for a wider range of students, including those who are not necessarily concentrating on becoming producers and engineers. Where once music technology was seen as an esoteric specialty, many now consider it a necessity for *anyone* looking for a career in the music industry.

Jeff Wolpert, a Juno Award-winning engineer/producer who has taught for many years in the Tonmeister program at Montreal's McGill University, and who recently joined the faculty of the more vocationally oriented Humber College in Toronto to develop a music technology program, explains his plans: "At Humber College, the proposed curriculum is entirely designed to accommodate the change in music education. It addresses the need for *all* working musicians to become literate and skilled with music technology. Students both young and old are requesting that we provide instruction and equipment for them to practice on."

At Berklee, says Bierylo, "Music education courses used to be a reason for musicians to justify getting a college degree, since it was a good way to hedge one's bets on a possible paying job. To many students today, music tech offers the same thing: the sense that one's creative endeavors will lead to a paying gig. Many students don't even have a clear career plan; they just feel that tech skills will be their ticket to earning a living in music."

But what of the negatives? Perhaps the most obvious is listening to the music. When labs are small and have multiple workstations or when students are working in their dorm rooms, where do you find the space to put anything but the nearest-possible-field monitors? "The big issue with us is real estate," says Bierylo. "Being in a very pricey urban area ties our hands in terms of the amount of space we have to build studios. For the students, that translates into the infrastructure, the type of recording and listening environments they have to work with. What good is a high-end mic pre or converter if you're going to end up mixing on headphones?"

> I regularly tell students that the most important class they take for enhancing their skills as producers is their [instrumental or vocal] ensemble.
>
> —*Scott Metcalfe*

Another issue is that, with all of the fancy tools available to students and so much of the production process now seeming so easy, the basics could get lost. Many educators feel that those need to be stressed even more. "The front end of recording hasn't changed much in the past few years," says Wolpert, "in terms of microphone applications, preamps and signal processing to the recorder. Therefore, there must be a strong emphasis on the use of transducers and routing. At McGill, we have the luxury of requiring that the students spend most of their first year recording ensembles live to 2-track."

Metcalfe relates, "One of my favorite assignments is to have students do a recording with microphones that cost less than a few hundred dollars. They can't rely on the U87s, TLM193s, 414TLIIs, etc; they have to understand the limitations of the microphones they're using and use them effectively. I like to tell them that if Ansel Adams were alive today, he'd be able to take brilliant photographs with a disposable camera from the local convenience store."

In audio education, just as in every aspect of the modern world, new technologies bring new opportunities and new problems. But it's important to keep in mind what is supposed to be served by these technologies: the music. Metcalfe says, "You can have the knowledge to set up all of the equipment for a session, rip apart a studio and rebuild it, and make custom modifications to equipment, but without a thorough understanding of music, you won't make good recordings. I regularly tell students that the most important class they take for enhancing their skills as producers is their [instrumental or vocal] ensemble."

Pfeifer sees the same issue, although from a different perspective. "We are in a College of Mass Communication, not a school of music," he says. "So musicality is often an issue with our students. All production and technology majors are required to take a semester of music theory or our Musicianship for Engineers course. In any production class, we constantly incorporate music and listening skills throughout the course, and the focus is much more on the artist, songs and music than on engineering. Now, I might sound old, but I find the musicianship of the average student has been dumbed down: Many lack any sense of melody and harmony. Bad intonation, rhythm and ensemble playing don't seem to matter much to many of them. This is more a reflection of what they listen to than anything else."

For better or worse, students—and how they relate the technology to their own musical ideas—will have a major role in the shape of the music industry in the years to come. Computers and music software have made the means of production available to the musicians themselves, and audio education programs have raised musicians' level of awareness so that they can use these new tools effectively and professionally. The result is that recording engineers are no longer passive players in service to musicians; now, they *are* the musicians. As Wolpert puts it, "The term 'music production' tends to mean more and more that you are now the artist, engineer, producer and mixer. In other words: The person you are most likely to produce will be yourself." ■

Paul D. Lehrman teaches at Tufts University, in Medford, Mass., among other things.

World Radio History

Advertiser Index

ADVERTISER	WEBSITE	PAGE
Acoustical Solutions	www.acousticalsolutions.com	62
Acoustics First	www.acousticsfirst.com	63
Adam Audio USA	www.adam-audio.com	12
ADK	www.adkmic.com	153
AKG Acoustics (Headphones)	www.akgusa.com	13
AKG Acoustics (D 3800M)	www.akgusa.com	28
Alesis (HD24/96)	www.alesis.com	IBC
API Audio	www.apiaudio.com	83
Apogee Electronics	www.apogeedigital.com	71
Argosy Console	www.argosyconsole.com	144
Audio-Technica	www.audio-technica.com	113
Audix	www.audixusa.com	127
Auralex	www.auralex.com	102
Aviom	www.aviominc.com	89
Avlex	www.avlex.com	100
B&H Photo-Video	www.bhphotovideo.com	171
B.L.U.E. Microphones	www.bluemic.com	123
Behringer	www.behringer.com	115
Boynton Pro Audio	www.boyntonproaudio.com	121
Broadcast Supply Worldwide	www.bswusa.com	149
Bryston	www.bryston.ca	11
Cakewalk (Sonar 3)	www.cakewalk.com	25
Cakewalk (Project 5)	www.cakewalk.com	61
Conservatory of Recording Arts & Sciences	www.audiorecordingschool.com	70
Crest Audio	www.crestaudio.com	87
dbx Professional Products (2-Series)	www.dbxpro.com	131
Digidesign	www.digidesign.com	69
Disc Makers	www.discmakers.com	137
Discrete Drums	www.discretedrums.com	35
Dolby Labs Inc.	www.dolby.com	IFC
DPA Microphones	www.dpamicrophones.com	7
Earthworks	www.earthworksaudio.com	56
Echo Digital Audio	www.echoaudio.com	139
Emagic	www.emagic.de	80-81
Event Electronics	www.event1.com	143
Eventide	www.eventide.com	3
Ex'pression Center for New Media	www.expression.edu	77
Focusrite	www.focusrite.com	43
Full Compass	www.fullcompass.com	145
Full Sail	www.fullsail.com	54
Furman Sound	www.furmansound.com	33
Genelec	www.genelec.com	15
Genex Audio	www.genexaudio.com	125
Gepco	www.gepco.com	118
Grace Design	www.gracedesign.com	51
Guitar Center	www.gcpro.com	35
HHB	www.hhbusa.com	133
House Ear Institute	www.hei.org	65
IMWS	www.discmakers.com/sw04	45
Institute of Audio Research	www.audioschool.com	64
iZ Technology	www.izcorp.com	2
JBL Professional	www.jblpro.com	29
Key Code Audio	www.keycodeaudio.com	114
Klein+Hummel North America	www.klein-hummel-northamerica.com	42
KRK Systems	www.krksys.com	107
Lawson, Inc.	www.lawsonmicrophones.com	136
Lexicon	www.lexicon.com	73
Los Angeles Recording Workshop	www.recordingcareer.com	75
Mackie (Conrol Univ)	www.mackie.com	39
Mackie (UAD-1)	www.mackie.com	85
Mesa Engineering	www.mesaboogie.com	52
Millennia Media	www.mil-media.com	99
MOTU	www.motu.com	BC
Musicians Institute	www.mi.edu	146
Musictech College	www.musictech.com	68
Neumann/USA	www.neumannusa.com	19
Neutrik USA	www.neutrikusa.com	95
NHT Pro	www.nhtpro.com	27
Ontario Institute of Audio Recording Tech.	www.oiart.ca	63
Otari	www.otari.com	135
Pioneer New Media	www.pioneerprodj.com	9
Primacoustic	www.primacoustic.com	97
Professional Audio Design	www.proaudiodesign.com	151
Recording Workshop	www.recordingworkshop.com	70
RØDE Microphones	www.rodemicrophones.com	4-5
Rolls Corporation	www.rolls.com	84
Royer Labs	www.royerlabs.com	148
Sabine	www.sabine.com	41
SAE Institute of Technology	www.sae.edu	67
Schoeps	www.schoeps.de	12
SE Electronics	www.seelectronicsusa.com	150
Sennheiser	www.sennheiserusa.com	34
Solid State Logic Ltd.	www.solid-state-logic.com	1
Soundcraft	www.soundcraft.com	93
SRS Labs	www.srslabs.com	154
Steinberg	www.steinbergusa.net	53

World Radio History

ADVERTISER	WEBSITE	PAGE
Studio Network Solutions	www.studionetworksolutions.com	117
Sweetwater Sound	www.sweetwater.com	23
Sweetwater Sound	www.sweetwater.com	172-173
Sweetwater Sound	www.sweetwater.com	174-175
Tannoy North America	www.tannoy.com	49
Tascam (SX-1/SX-1-LE)	www.tascam.com	21
Tascam (FW-1884)	www.tascam.com	119
TC Electronic	www.tcelectronic.com	147
TCS Audio	www.tcsaudio.com	126
Telefunken NA	www.telefunkenusa.com	109
Toft Audio Designs	www.toftaudiodesigns.com	79
Universal Audio	www.uaudio.com	101
Waves Ltd. (TransX)	www.waves.com	59
Waves Ltd. (Morphoder)	www.waves.com	111
West L.A. Music	www.westlamusic.com	102
Westlake Audio	www.westlakeaudio.com	132
Yamaha (PM1D)	www.yamaha.com	103
Zaolla	www.zaolla.com	57
Z-Systems Audio Engineering	www.z-sys.com	24

MARKETPLACE

ADVERTISER	WEBSITE	PAGE
AEA	www.wesdooley.com	160
Alter Media	www.studiosuite.com	161
Artist Development Association	www.artistdevelopement.com	160
Audio Dynamix Inc	www.cdxdvd.com	161
C & C Music	www.candcmusic.com	159
Clearsonic	www.clearsonic.com	159
Crystal Clear Sound	www.crystalclearcds.com	161
Dreamhire	www.dreamhire.com	159
D.W. Fearn	www.dwfearn.com	159
Goodlife	www.goodlifeaudio.com	158
Ground Support Equipment	www.biomorph.com	158
Hot House	www.hothousepro.com	162
Lonely Records	www.lonelyrecords.com	160
Marathon Computer	www.marathoncomputer.com	159
Media Manufacturing Company	www.mediamfgcorp.com	162
Media Services	www.mediaomaha.com	162
Mediatechinstitute.com	www.mediatechinstitute.com	158
New Song Media	www.newsongmedia.com	155
Pendulum Audio	www.pendulumaudio.com	161
Progressive Music	www.progressivecds.com	158
Rainbo Records	www.rainborecords.com	161
Sonic Circus	www.soniccircus.com	162
Sound Anchors	www.soundanchors.com	162
Vancouver Film School	www.vfs.com	159

FOR FREE INFORMATION FROM MIX ADVERTISERS, VISIT

www.mixonline.com

Mix's Online Reader Service is the quick and easy way to contact advertisers to receive **FREE** product information. Simply go to **www.mixonline.com** and select "Free Product Information" under the Resources heading. From our Online Reader Service page, you can then select the issues and the advertisers you are interested in. It's that simple. Your request is immediately e-mailed to the advertiser.

IMPORTANT NOTICE TO READERS:
Reader service inquiries are sent directly to the advertiser, who is solely responsible for sending product information. *Mix* magazine cannot guarantee a response from all advertisers.

MIX ADVERTISER SALES REGIONS AND REPRESENTATIVES

Northwest/North Central
Greg Sutton
847/968-2390
gsutton@primediabusiness.com

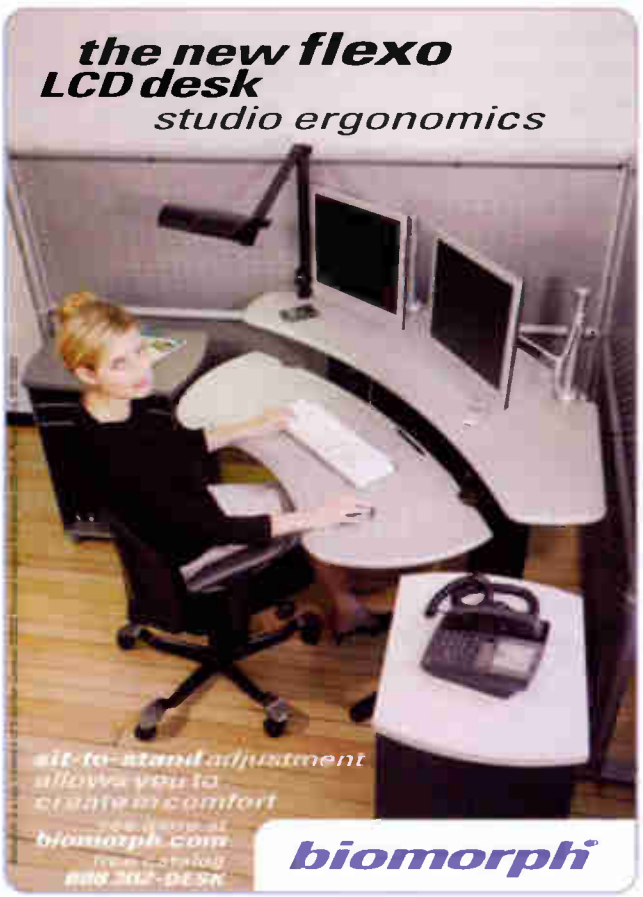
Southwest
Albert Margolis
949/582-2753
amargolis@primediabusiness.com

East Coast/Europe
Michele Kanatous
718/832-0707
mkanatous@primediabusiness.com

Classifieds
Kevin Blackford (West Coast)
Jason Smith (East Coast)
800/544-5530 or 510/653-3307
mixclass@primediabusiness.com

World Radio History

MARKETPLACE



GET IT FAST

There's a reason we've been here 27 YEARS!

Progressive Media & Music

Avail: VISA & Master Card

2116 Southview Ave.
Tampa, FL 33606

progressivecds.com

Toll Free: (800) 421-TAPE

"Fastest Turn-Around in the Known Universe"

CD, DVD & Cassette
Retail Ready Packages
&
State of the Art A/V Facilities
Mastering·Editing·Authoring
Award Winning Art Dept.
The Best Customer Service

GoodLife audio

Call the others first

Then Call Us!

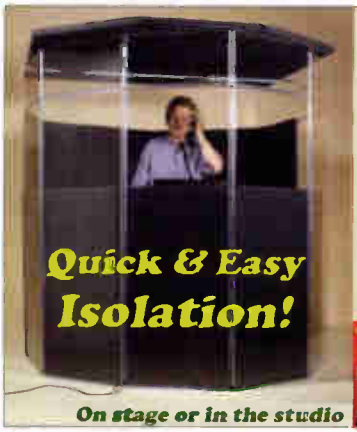
Not only will be beat any reasonable price but we will do our best to offer the highest level of service.

Call toll free 1.877.815.3027 or visit www.goodlifeaudio.com

World Radio History

MARKETPLACE

all under one roof!
deal direct & SAVE
Compact Disc Replication
Cassette Duplication
Complete Packages
Digital Mastering
Graphics and Printing
FREE CATALOG or CUSTOM QUOTE
C&C MUSIC
Toll Free
www.CandCmusic.com
OUTSIDE THE U.S. CALL: 631-244-0800
You'll Hear & Feel the Difference
800 ☆ 289 ☆ 9155



CLEARSONIC PANEL
SORBER
Absorption Baffles
NEW! LID SYSTEM
&
AX12 Height Extenders
Cost Effective
Free Standing
Portable
Great For Drums!
www.clearsonic.com
1.800.888.6360
CLEARSONIC

Sound Design
for Visual Media

Intensive One-Year Diploma Program

Learn the art of digital surround sound production for the film, television, animation and gaming industries at the only authorized Digidesign® Pro School in Canada. Train on the latest Pro Tools equipment in a real-world, production-based environment. Graduate with Digidesign® Pro Tools Operator Certifications in music and post, and with an impressive portfolio—all in one year.

Be here. Be heard. Call 1-800-661-4101.

VFS Vancouver Film School www.vfs.com

Rack Your Mac

G•Rack

MARATHON COMPUTER

www.marathoncomputer.com · info@marathoncomputer.com
800·832·6326 · 615·367·6467

we got your back
in a bright red box
on point
Dreamhire
professional audio services
nyc 800 234 7536 ■ miami 305 725 4008 ■ main 888 321 5544

VT-2 Dual-Channel Vacuum Tube Microphone Preamplifier
Anyone who has heard it knows . . .

D.W. FEARN
www.dwfearn.com
610-793-2526
610-793-1479 fax
PO Box 57 • Pocopson, PA • 19366 • U.S.A.

World Radio History

MARKETPLACE

Lonely Records

CD, DVD, CASSETTE, GRAPHIC DESIGN, MASTERING, POSTERS, DVD AUTHORING, BUSINESS CARDS, POSTCARDS, BARCODES

Friendly, knowledgeable service ~ 10% National Price Guarantee

MANY OF OUR COMPETITORS WILL CHARGE YOU UP TO 30% MORE FOR THE SAME PACKAGES! LONELY RECORDS HAS A 10% PRICE GUARANTEE. WHY PAY MORE?

$990
2 PAGE CD PACKAGE
100 $198
$875
$990
1000 $1190

4 PAGE CD PACKAGE
100 FOR $350
500 FOR $950
1000 FOR $1190

VHS-DVD TRANSFERS
MAKE A MUSIC VIDEO!
1000 BULK DVD $1090

GET A FREE CATALOG
WWW.LONELYRECORDS.COM
1.800.409.8513

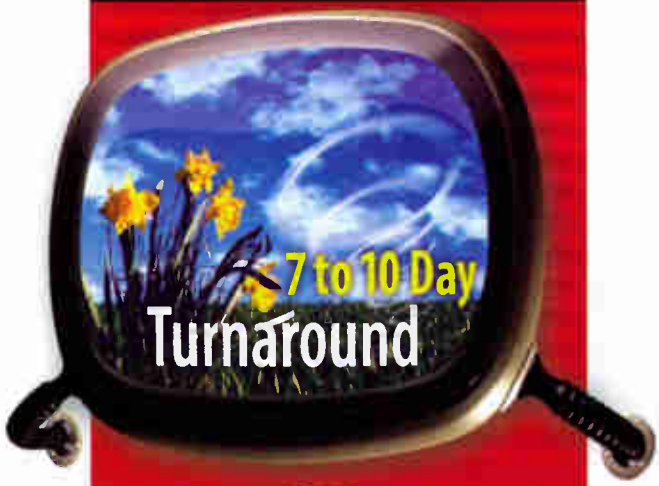
"I've used one of your (R84 ribbon) mics on almost all of the tracks we've taken, and always on jazz acoustic guitar. **WOW**. Double wow. This thing's got high-end like I don't remember."

George Massenburg
producer / engineer

R84
$1,000.00

www.wesdooley.com 800-798-9127

CDs FAST!



NEWSONG MEDIA

telephone number 800-964-DISC

fax number 714-704-1733 + newsongmedia.com

*Limited time offer. Please call for details.

small ad = BIG $AVINGS

CD CDR & DVD DUPLICATION
1000 retail ready complete CDs, films, glass etc... $1099*

AUDIO MASTERING
One of the top rooms in the NE. Project special: $349

GRAPHIC DESIGN
Professional designer deliver you a look that sells!

INSTANT WEB PRESENCE
Sell products and get info on the web with CDFreedom.com

DVD PRODUCTION & AUTHORING
Indie DVD is finally here. We have everything you need!

CAREER SERVICES
Radio Promotion, Publicity, Press Kit Design, Legal Services & more

•from your print ready files, after 10% discount

save $300
(take 10% off any 3 services, up to $100 off each)
COUPON CODE #2003-003XIM call or go to the web for details
MORE MIX SPECIALS: artistdevelopment.com/mix.html
THIS OFFER EXPIRES 10/1/2004
OFFER MAY END SOONER AT OUR DISCRETION, BUT NOT LIKELY.

all your career needs at indie-prices one phone call...one company

cadi
artist development associates inc.

artistdevelopment.com
toll free 888-782-2378

Wish you had a comprehensive guide of all of the products and services in the video technology industry?

Now, you do.

Video Systems' **Resource Directory**, delivering complete product and service listings, is just around the corner.

Check out *Video Systems'* November issue in print or online and find the video technology product sourcebook you've been anticipating all year long.

To subscribe to *Video Systems*, go to www.videosystems.com and make sure you receive each monthly issue today.

World Radio History

MARKETPLACE

World Radio History

MARKETPLACE

ANCHOR Your Speakers
With
Sound Anchor Stands

SOUND ANCHORS is your first choice when it comes to speaker stands for your studio. We have a complete range of designs to fill any speaker stand requirements.
The Adjustable Stand in this picture is designed to support small to mid sized monitors behind the console.

STABLE.....RIGID.....DAMPED

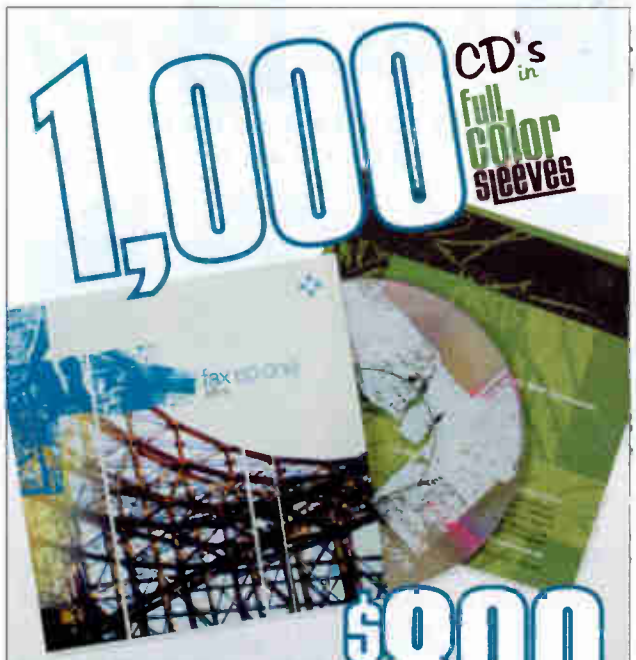
Sound Anchors Inc.
Phone/Fax (321) 724-1237

CD-AUDIO • CD ROMS • DVDs
BUY DIRECT & SAVE!

- Fast Courteous Service
- Digital Mastering
- Graphic Design
- Film Output Services
- CD
- Printing
- Packaging
- Posters
- Promotional Products

MMC MEDIA MANUFACTURING CORPORATION
CALL FOR FREE CATALOG & PRICE QUOTE!
www.mediamfgcorp.com TOLL FREE 877.666.0500

1,000 CD's in full color sleeves



$890

Full Package with no hidden costs!
Includes: Full Color Sleeve, 3 Color Disk, Films, UPC, Distribution with CD Baby & Same Day Online Proofing.

MEDIA SERVICES
Call 1-888-891-9091 for a FREE catalog.
11069 I St. Omaha, NE 68137 • www.mediaomaha.com

SONIC CIRCUS
Serious Studio Infrastructure

The most comprehensive selection of recording equipment in the world

Shop online and take advantage of frequent buyer benefits.

SONIC CIRCUS
617.696.9360
www.soniccircus.com

Lightning-fast, ruler-flat, wide bandwidth, ultra-low distortion, phase-coherent professional monitoring tools designed to excel...
not voiced to sell

HOT HOUSE professional audio
hothousepro.com
Tel 845-691-6077

SDX Crossover Equalizer
SBX Subwoofer Crossover Controller
M500HV High Voltage Monoblock Amplifier
High Resolution Control Room Amplifiers

PRM 165 Passive Reference Nearfield
ARM 265 Active Reference Midfield
MRM 250 Master Reference Midfield
HOS 312 High Output Main Monitor

Also available:
HOS 115 High Output Modular Main Monitors & ASB Series Active Subwoofers

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 (800) 544-5530.

Acoustic Products

VIBRANT TECHNOLOGIES
DIFFUSER PANELS
WAVE-FORMS™ ACOUSTIC PANELS
800-449-0845
www.vibrantech.com

aps acoustical panel systems
Acoustical Panel Systems
Mfg. of absorber and diffuser panels for all Sound reduction applications.
1-800-277-7978
www.acpansys.net

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

SoundSuckers.com
1-888-833-1554
*Soundproofing Products & Supplies
*Full line of Professional booths
*Custom Projects of all kinds
E-mail: sales@soundsuckers.com

SILENCE CASES
Record, Edit, Mix, Master...

THINK in PEACE.
Attenuation cases keep your PC gear QUIET and COOL
Multiple designs available starting at $429
510-655-3440
www.silencecases.com

HSF HomeStudioFoam™ acoustic treatment solutions

$99.99
44 tiles/pack
Bass traps
Corner blocks
FLAME-RETARDANT
(423)472-9410
FR1 Series
www.homestudiofoam.com

Photo courtesy of Ed Dzubak, three-time Emmy winner and enthusiastic REALTRAPS customer.
MINITRAPS - AFFORDABLE ACOUSTIC TREATMENT FOR PROJECT STUDIOS
Nobody knows acoustic treatment better than REALTRAPS. With MiniTraps we raise the bar even higher with outstanding performance at a price everyone can afford. They're lightweight, portable, easy to install, and absorb *three times more* than corner foam at 100 Hz. Pure genius. Only from REALTRAPS.
For details & specs call or visit our web site www.realtraps.com
REALTRAPS®
REALTRAPS, LLC • 34 Cedar Vale Drive, New Milford, CT 06776
Toll-free: 866-REALTRAPS (866-732-5872) • sales@realtraps.com

Alpha-DST Roominators
Complete Acoustical Control Kit

www.auralex.com

WhisperRoom INC.
SOUND ISOLATION ENCLOSURES
Celebrating over 13 years of reducing sound to a Whisper!
Recording, Broadcasting, Practicing

MDL 102126S (8.5'X10.5')
19 Sizes and 2 Levels of Isolation Available
New! SoundWave Deflection System
(Change parallel walls to non-parallel)
Immediate Shipping!
www.whisperroom.com
PH: 423-585-5827 FX: 423-585-5831

VocalBooth.com
MODULAR SOUND REDUCTION ENCLOSURES
Please call or visit our website for additional information.
541-330-6045
www.VocalBooth.com

STEVEN KLEIN
Acoustic products for less.
SHOP ONLINE AT
www.soundcontrolroom.com

SILENT
58 Nonotuck St., Northampton, MA 01062
INFO (413) 584-7944 • FAX (413) 584-2377
ORDER (800) 583-7174
info@silentsource.com • www.silentsource.com
Acousticore Fabric Panels • Sound Barrier
Isolation Hangers • A.S.C. Tube Traps
Silence Wallcovering • WhisperWedge
Metaflex • S.D.G. Systems • Tecnifoam
R.P.G. Diffusors • Sonex • Sound Quilt

"Years of advertising in *Mix* magazine has, without a doubt, contributed to the success of WhisperRoom, Inc..."
— *Sharon White, WhisperRoom*

SUBSCRIPTION QUESTIONS?
Call (800) 532-8190

World Radio History

Computer Products

SONIC call 1-888-50 SOUND BLADE
Rack-Mount PC's for Live and Studio $1,499
www.SonicBlade.com
Fully Loaded and Tuned for Sound!
Also - NEW! the SonicCube 7x8x12" small
call for latest price!

COMPUTERS FOR MUSIC
We sweat the details, you make the music!
PCs and MACs optimized for Pro Tools, Steinberg, Sonar, MOTU and Emagic.
Call 1-866-WAVEDIGI
or visit
www.wavedigital.com

When you're contemplating what to buy, consult Mix Classifieds!
(800) 544-5530
mixclass@primediabusiness.com

Batteries & Cables

We specialize in service, dependability and price.
Production Supplies
Jireh Supplies stocks a full line of expendable supplies including: Duracell PROCELL batteries, Gaffers Tape, Board Tape, Glow Tape, Hazard Tape, and many more.
Jireh Supplies
(800) 478-2591
or visit our web site:
www.jirehsupplies.com
gbyce@jirehsupplies.com

Any Cable
Any Length
Any Config
or Buy Bulk
fast turn-around
studio
stage
home
schools
churches
installs

gigcables.com 888-828-6639

Employment

THE SWEETWATER DIFFERENCE: SECURITY AND A JOB TO LOVE.

While more musicians and audio professionals are discovering the Sweetwater Difference, it's more important than ever to maintain the high standard of customer service that is our hallmark. That's why we're asking you to join our staff of Sales Engineers.

If you've ever dreamed about a career in the music industry, this is your opportunity.

- Build real financial security
- Create a long-term career in the field you love
- Work with the most respected award winning team in music retail
- Exceptional benefits

We ask a lot from our Sales Engineers, but the rewards are excellent — the best music retail has to offer! If you have the enthusiasm and determination to play an integral role in the leading company in music retail, please contact our Human Resources Department, or apply online at sweetwater.com/careers.

Sweetwater music technology direct
(800) 222-4700
www.sweetwater.com
5335 Bass Road, Fort Wayne, IN 46808

MAKE THE CALL AND JOIN OUR AWARD WINNING TEAM!

IPR INSTITUTE
The Institute of Production and Recording (IPR) is currently seeking a Placement Director.

Located in downtown Minneapolis, IPR is one of America's fastest-growing production/recording schools. Responsibilities of IPR's Placement Director include planning, organizing and administration of a program of job placement and career counseling for IPR students and alumni. Candidate with a bachelor's degree is desired, experience in placement is a must. Salary/benefits DOE.

Submit resume to:
Tom Tucker, Director, The Institute of Production and Recording, 312 Washington Ave. North, Minneapolis, MN 55401
Telephone: (612) 375-1900; Fax: (612) 375-1919
E-mail: tomtucker@iprschool.com

STUDIO MANAGER
For music recording & production company.
Send resume to:
La Anela, Inc.,
50 Hauoli St., #410
Haiku, Hawaii 96708
or e-mail to:
laanela@maui.net

If you have an employment vacancy, tap into 50,000 audio pros who read MIX
mixclass@primediabusiness.com

World Radio History

Equipment Financing

A/V EQUIPMENT FINANCING

Specializing in **Audio-Video** Equipment

- No Financials Required
- New & Used Equipment
- Upgrade Existing Leases

We Are Direct Lenders

Visit Our Web Site For Applications & Qualifications

LFCI www.lfci.net

Call: **800 626 LFCI**

Equipment For Sale

BAE REPRO 1272 PREAMPS with D.I.

$989 *Single w/p.s.* **$1659** *Two channel*

BAE REPRO 1073 $2350 Single w/PS

Brent Averill ENTERPRISES

14300 Hortense Street • Sherman Oaks, CA 91423
818 784•2046 FAX 818 784•0750
www.brentaverill.com

Any Questions?

MERCENARY BOSTON

"THIS IS NOT A PROBLEM"

AUDIO

"this is not a problem"

TEL (508) 543-0069

www.mercenary.com open 24 hrs

THE MIC SHOP

TUBE MICROPHONES
BOUGHT/SOLD/SERVICED
Mic Power Supplies & Cables
Bill Bradley: (615) 595-1717
Fax: (615) 595-1718
www.micshop.com

CONSOLE FOR SALE

Euphonix System 5
Intuitive operating surface
2 processing cores
154 input channels
Full dynamics, 24 micpres
loads of A/D & D/A
48kHz thru 96kHz
Completely automated
Incredible reduced price!
Call 800-795-3246

CLASSIC MICS FROM RUSSIA

VINTAGE TUBE & FET
Telefunken, NEUMANN
AKG, LOMO, OKTAVA, etc.
TEL/FAX: 011-7-095-250-4200
E-mail: aeg210268@mtu-net.ru
www.valvemics.webzone.ru/

SONIC CIRCUS
A SOUND ALTERNATIVE
617.696.9360
soniccircus.com

Odyssey prosound

The outlet for the finest new & pre-owned recording equipment anywhere.

www.odysseyprosound.com
1-800-249-1821
Phone: (978) 744-2001 Fax: (978) 744-7224

VINTAGE EQUIPMENT: SSL4064E/G/TR $85k*SSL 9080J*OtariConcept Elite 24 channels/48 faders/Eagle auto $8.5k*AMEK Mozart 56/48*AMEK Big 44 w/virtual dynamics $9.5k*DDA DMR12 32-input modules, 24 monitors w/EQ $13.5k*Neve VR72 w/MAD LABS*Neve VR72/60* NeveV3/96 w/GML*Neve 8108 48/32*Neve 48-channel FF*Studer a-827/820/800/80*Otari MTR90II&II*Sony APR24/JH24*Sony 3324/3348*Lexicon 480L/PCM42*AMSRMX16/SDMX*EMT252/240 Gold Foil*Neumann U87* (2)UREI LA4s*Ampex ATR-102 1/2"*Dolby SRXP24 rack*Dolby SRXP24* (4)Neve 1064*Neve 1081"Classic"*FM Acoustics Class AMP*
WE BUY: Neve 1073/1066/1081/1083*Pultec*Telefunken*Neumann U47/M49/U87/AKGC12*
NEW EQUIPMENT: VINTECH*DEMETER*CRANESONG*UNIVERSAL AUDIO*DPA*TC*TUBE-TECH*EVENTIDE*QUESTED*LEXICON* SOUNDELUX* DRAWMER*DW FEARN*MILLENNIA* HHB*DYNAUDIO*
LIST FOR SALE ITEMS FREE*MAJOR CREDIT CARDS ACCEPTED*WE BUY VINTAGE GEAR*

HARBORSOUND
www.harborsound.com
Phone: (781) 231-0095 Fax: (781) 231-0295

Coleman Audio (516) 334-7109
M3PH DAW monitor
TB4 Talkback monitor
SR5.1 Surround level control
coley@colemanaudio.com
www.colemanaudio.com

Quartet II Mercenary Edition
Pendulum Audio
Quartet II
www.pendulumaudio.com

VINTECH AUDIO

1-877-4-MIC-PRE
www.vintech-audio.com

THE "X81 CLASS A"

The X81 features an all discrete class A mic pre based on the classic Neve 1073 module but with a more comprehensive 4 band eq similar to the Neve 1081.

The Model 473

Four channels of 1073 style mic pre's with "essential eq", impedance adjustment and DI on each channel. All for less than the typical price of one vintage 1073!

SATISFACTION WITH ALL VINTECH PRODUCTS IS GUARANTEED OR YOUR MONEY BACK

World Radio History

Equipment For Sale

NEUMANN • NEVE • SSL • STUDER • API • HELIOS • RCA • AKG • TELEFUNKEN
VINTAGE

Worldwide • 512.338.6777 • mistyhillaudio.com

EXCLUSIVE FACTORY AUTHORIZED RESELLER
www.UsedSSL.com
PROFESSIONAL AUDIO DESIGN, INC.
(781) 982-2600

THE CASE SPECIALISTS
FREE CATALOGUE

(800) 346-4638
(631) 563-8326, NY
(631) 563-1380, Fax
Custom or stock sizes.
Our prices can't be beat!
www.Discount-Distributors.com

AES PRO AUDIO
The VINTAGE NEVE SPECIALIST
CONSOLES IN STOCK AND IN IMMACULATE CONDITION. PRICES IN STERLING
NEVE 8078 CLASSIC CONSOLE POA.
NEVE VR36 FRAME 36 INPUT FLYING FADERS POA.
SSL 4064G PLUS FITTED ULTIMATION P.O.A.
CALREC FULLY DISCRETE 8 CHANNEL CONSOLE POA.
EMI 1959/60 CLASSIC TUBE CONSOLE SERIAL NO. TGC101/1 P.O.A.
ALL EQUIPMENT OWNED BY A.E.S.PRO AUDIO (WE DO NOT BROKER). SEE OUR WEBSITE FOR FULL DETAILS.
TEL INT. 44 1932 872672 FAX INT. 44 1932 874364
email: aesaudio@intonet.co.uk www.aesproaudio.com

VINTECH AUDIO
CLASS A MIC PREAMPS MADE WITH

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

Perfection Music
New and used
Certified Adam and Sony Dealer
and ALL Pro Audio Gear.
Where everyone gets the best deal!
Ph: (330) 699-1976
(330) 699-7090
gabler100@juno.com

Atlas Pro Audio
atlasproaudio.com
Neumann - Mytek - Empirical labs
Soundelux - Vintech - Millennia
Crane Song - Benchmark - Great River
Bryston PMC - Chandler - Daking
ADK - Pendulum - DPA - Royer...
Toll Free 1.866.235.0953

Nashville Audio Connection
Professional Audio Broker
SSL • Neve • Studer
www.nashvilleaudio.com
(615) 847-3798

VT-2 Vacuum Tube Mic Preamp
www.dwfearn.com

D.W. FEARN

SOUTHERN CALIFORNIA
PRO AUDIO
NEW, USED AND VINTAGE
THE LAST CALL YOU'LL
HAVE TO MAKE!
Phone: (818) 222-4522
Fax: (818) 222-2248
www.socalproaudio.com

CALISTRO MUSIC
All The Best
Recording Gear
(203) 891-8918
www.CalistroMusic.com

VOLUME discounts.

From microphones to turnkey studio systems, we have a huge stock of new, used and vintage equipment from over 100 manufacturers. Including pre-owned SSL consoles. All serviced and warranted by our technical experts. Call, fax or stop by. And hear why our deals are better.
Professional Audio Design Inc.
ALWAYS A SOUND DECISION
Tel: 781.982.2600 Fax: 781.982.2610
info@proaudiodesign.com www.proaudiodesign.com
Exclusive SSL Factory Authorized Reseller www.UsedSSL.com

CONSOLES FOR SALE
SSL 9080 J, 80 Series Neves
60- & 72-channel Neve VRs
Flying Faders or GML
Contact Gary Belz
House of Blues Studios
(818) 990-1296

SINGERS! REMOVE VOCALS
Unlimited Free Backgrounds
from Original Standard Recordings!
Thompson Vocal Eliminator™
VE-4 Free Brochure & Demo
24 Hour Demo/Info Line
(770)482-2495 - Ext. 8
LT Sound Dept MX-1 7980 LT Parkway Lithonia, GA 30058
www.VocalEliminator.com/g.o/MX
Better Than Karaoke for Over 25 Years!

SoundBroker
Linking buyers & sellers together
for all your studio needs
(702) 736-3003
www.SoundBroker.com

Classic Focusrite ISA 115
dual mic-pre/EQ w/ PSU $3K;
Drawmer M-500 $339;
(3) TASCAM DA-88 $349 ea.;
AKAI S-1000 sampler $339;
Rane RE-27 graph w/ RTA $159;
UREI 539 graphs $449/pr;
Eventide Eclipse $1199;
Yamaha SPX-990 $599;
BSS Opal 522 gate $339;
BSS 804 2x4 delay $499.
Call MF (503) 490-0002

World Radio History

UNDER COVER
Custom Covers and Bags
Speaker Cabinets / Consoles Anything!
www.undercovernyc.com
917 237 1535
Get your gear Under Cover!

Tidepool Audio
gear for the discriminating ear
ADAM Audio
iZ RADAR 24
Microtech Gefell
tidepoolaudio.com 503.963.9019

ALAN SMART COMPRESSORS

C-1, C-2 & Multichannel version
available in the U.S. & exclusively distributed by:
Sunset Sound, Hollywood (323) 469-1186
www.sunsetsound.com

IT'S A GREAT TIME TO BUY USED GEAR!
We list over 700 recording and live boards, plus mics, amps, effects, more. We can help sell *your* used equipment, too!
- Crown MA2400 amps.....$925
- dbx 165a.....$600
- Panasonic SV3800.....$550
- Audient/Tascam Portable 48-track studio: cases, processing,wired to go!.....$70K

Call/E-mail for details & FREE catalog.
Those Cheerful Folks at H.T.I.C.S.
(610) 865-9151 • Fax (610) 758-9999
E-mail: HTICS@aol.com
www.hticsproaudio.com

Equipment Wanted

SoundBroker
Linking buyers & sellers together for all your studio needs
(702) 736-3003
www.SoundBroker.com

ATR-102 recorders by Michael Spitz · Class A discrete Aria electronics by David Hill
Your mixes will thank you.
717 • 852 • 7700
www.atrservice.com
ATR Services, Inc.

Equipment Rentals

"RENTALS AND SERVICE"
Providing The Pro Audio Industry with:
DESIGN FX AUDIO
* *Rentals* - Pro Audio Rentals
* *Systems* - Pro-Tools Rentals
* *Remote Recording* Services
* *Service Center* - Pro Audio Repairs
* *TransFer House* - Multi-Format Transfers
818.843.6555 www.dfxaudio.com 800.441.4415

You need it? We got it.
www.vintageking.com
Stocking the finest new items. Always the largest vintage inventory.
Demos available. Personal demos in Detroit and LA.
Call for best pricing: (248) 591-9276

Furniture

OMNIRAX
STUDIO FURNITURE

CODA D8
with Sidecars
OMNIRAX 800.332.3393 415.332.3392
FAX 415.332.2607
www.omnirax.com

SOUND ANCHOR
SPECIALTY AUDIO STANDS
(321) 724-1237
DESIGNED FOR ULTIMATE PERFORMANCE BEHIND CONSOLE AND FREE SPACE APPLICATIONS.
STANDARD & CUSTOM MODELS
SOUND ANCHORS
www.soundanchors.com

Instruction

ART Audio Recording Technology Institute
ORLANDO, FLORIDA
- Extensive Hands-On Training
- Music, SFX Design, Audio Post
- Low Student/Teacher Ratio
- Placement Assistance
- Financing to Qualified Applicants
- Accredited by ACCSCT

FEATURING THX pm3 MIX THEATER
888-543-ARTI • audiocareer.com

Upgrade Your Vocals
with
Variable Acoustic Compression™
Pop filters that adjust for the best combination of pop protection and sonic transparency BEFORE the sound reaches the microphone.
Get professional sounding vocals and protect your microphones.
ORDER TODAY!
www.popfilter.com
Popless Voice Screens
Tel:1(800) 252-1503 email: info@popfilter.com

DREAM STUDIO

ARGOSY STUDIO FURNITURE
consoles, workstations, racks. stock & custom
www.argosyconsole.com
800.315.0878 573.348.3333

Fax your Ad: (510) 653-8171

World Radio History

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 . . . Licensed.
FREE INFORMATION:
Audio Institute of America
Or visit us at www.audio-institute.com

When you call a classified advertiser, let them know you saw their ad in MIX!

Music Mastering

MASTERING
Guaranteed to give you that "Big Label" sound.
www.musichouseproductions.com
$475 Full Album... Analog & Digital Mastering Studio!
1-800-692-1210

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

LMG Mastering Lab
Want world-class mastering? From slammin', in-your-face rock and hip hop, to pristine jazz and classical. 315.492.6854
www.lakewoodmusic.com

crazymastering.com
Complete, 7-effect CD Mastering Service
Professional, high-quality CD master delivered to your door for under $200

Music Products/Software

Killer "Real" Drum Tracks from Chet McCracken. ProTools, send me your files. For credits, rates, formats & info call Chet:
(818) 888-6687
or e-mail:
ddrruumm@aol.com
www.chetmccracken.com

The publishers Mix and EM present:
MUSIC EDUCATION TECHNOLOGY
The definitive technology resource for music educators.
To subscribe to this new quarterly publication, call
(800) 245-2737

Records Tapes CD Services

CDs, DVDs, VHS & morell
CD • CD-ROM • DVD • Enhanced CDs • DVD Authoring
Video Editing • Mastering • Web Development • Tape Duplication
Design • Printing/Packaging
BUY DIRECT AND SAVE MONEY $$!
1000 CDs $499
Bulk 3 color Silkscreen CD on Spindle
100 CDs $299
Includes FULL COLOR Insert, Traycard, direct-on-disc printing, jewel case and shrinkwrap
Call for FREE COLOR CATALOG
Serving the World Since 1985
www.eastcomultimedia.com
Eastco Multi Media 1-800-365-8273

BMF
BIG MEDIA FACTORY
1000 RETAIL CD's $999 + YOU CHOOSE!
INCLUDES:
- 4 PANEL COLOR INSERT + TRAYCARD
- 2 COLOR DISC
- JEWEL CASE
- BARCODE
- ALL FILM + PLATE CHARGES
1 HOUR FREE MASTERING
1 HOUR FREE ON A SSL 6040
formerly since 1989
1 - 888 - 397 - 8624
We will match any quote !
www.bigmediafactory.com

For the best price in CD Replication . . . . there is only one number you'll need!
1.888.891.9091
MEDIA Services WWW.MEDIAOMAHA.COM

1000 Retail Ready CD's $949
(800) 836-7962
www.cheapedduplications.com

1,000 Store Ready CDs - $999
1,000 Bulk CDs - $490
www.TrackmasterAV.com
Toll Free: 888-374-8877
CASSETTES
GRAPHIC DESIGN & POSTERS
STUDIO MASTERING
CD-R MEDIA
YOUR 1-STOP SHOP FOR CD, AUDIO & VIDEO CASSETTE PROJECTS!

CD Replication
COMPLETE PACKAGES with graphics, from your master and e-file - no film needed. True, commercial replication (not CD-R), plus direct-to-plate offset printing for best quality graphics.
We do it all in our plant, so why deal with brokers when you can go to the source?
DMM Vinyl Record Mastering &Pressing
Graphics Design & Printing
One of NYC's HOTTEST Mastering Studios
Call or email for our Full-Color Catalog:
800 455-8555
email: info@europadisk.com
26 years in the music industry - WE'RE THAT GOOD!
EUROPADISK,LLC
www.europadisk.com

World Radio History

RECORDING & DUPLICATING SUPPLIES

ARCAL

Audio, Video & Data Storage Media & Accessories

1-800-272-2591 FAX 650-369-7446
Visit our web site: www.arcal.com

Inesor Media

Stand Alone Duplicators, Printer & CD/DVD Retail Replication Services
200-$1.25, 500-$1.05, 1000-$0.555
2000-$0.45, 5000-$0.295
(all prices include 5-clr. & mastering)
Toll Free (866) 943-8551 • www.inesormedia.com

CD Duplication
FREE DESIGN
RETAIL READY CDs
MANUFACTURING not CD-R
SAME AS CAPITOL RECORDS
PRINTED BOOKLET
INSERT IN BACK TRAY
2 COLORS ON DISC
SHRINK WRAPPED with BAR CODE
IN-HOUSE GRAPHIC DESIGN
using your files / images / photos
ONE PRICE ALL INCLUDED
1000@ $1099
Call Free 888-565-8882
dbsduplication.com

In the Studio?
FREE Guide
Saves You Time and Money!
Contact Us Today:
1-800-468-9353
www.discmakers.com
info@discmakers.com
DISC MAKERS

CD, CASSETTE, CDR and CD-ROM
Complete Packages!
CD/CASS MASTERING
CD/CASS REPLICATION
CEDAR RESTORATION
GRAPHIC DESIGN
FILMS AND PRINTING
CD-ROM AUTHORING
DDAI
DIGITAL DYNAMICS AUDIO INC.
1-800-444-DDAI
www.4ddai.com

Our CD & Cass's are
BETTER & CHEAPER!
(800) 421-8273
Progressive Music

If the quality
SUCKS...
who cares how cheap it was?
WE DELIVER THE HIGHEST QUALITY CD AND CASSETTE PACKAGES, STUNNING GRAPHIC DESIGN AND HELPFUL CUSTOMER SERVICE.
Call now for a quote that can't be beat!
TOTAL TAPE SERVICES
(727) 446-8273
www.totaltapeservices.com

CDs • CD-ROM • CD-R • SHAPED CDs • AUDIO CASSETTES
CRYSTALCLEAR
DISC & TAPE
1-800-880-0073 www.crystalclearcds.com
DIGITAL MASTERING • ART DESIGN • PRINTING • PACKAGING

www.yourmusiconcd.com
100 BULK CDRS $59
100 BASIC CDRS $99
100 FULL COLOR CDR PACKAGE $199
500 FULL COLOR PACKAGE $799
1000 FULL COLOR PACKAGE $1149
300 FULL COLOR PACKAGE $549
ATLANTA 678-442-0533
TOLL FREE 1-877-442-0533

tape +disc services
1.888.655.2272
We keep our overhead low – so you don't have to pay for it. Now get 1,000 bulk discs for only $490.00!
For more deals, see us online at tapeanddisc.com
digital duplication solutions

Check Out mixonline.com

DIGITAL DOMAIN
Mastering
CD Manufacturing
Booklet Printing
Graphic Design
Unsurpassed mastering quality by Bob Katz
CD Mastering is an art
The Definitive, Award-Winning CD Mastering Website
http://www.digido.com
(800) 344-4361 in Orlando

We take manufacturing your CD as seriously as you take your music.

Complete retail ready CD pressing including all types of packaging, bar codes, graphic design and film services, enhanced CD creation, with super pricing and customer service reps specialized in all types of music.

Also vinyl pressing, cassette duplication, mastering, short run CD, DVD pressing and authoring.

We've been doing it for 16 years.

This is what we call

THE ART OF MANUFACTURING MUSIC

MUSIC MANUFACTURING SERVICES
1.800.MMS 4CDS • mmsdirect.com

Lowest Price Period!
CD ROM, DVD Replication
CD Audio Replication
Video Replication
Multi-Media Development
Graphic Design
Printing, Packaging
Web Design
BALL MEDIA
1-888-256-3472
www.ballmedia.com

Subscribe to MIX
(800) 532-8190

World Radio History

Records Tapes CD Services

CDs, CDROM, Cassettes, Vinyl, Mini Discs, VHS

Our Customers have trusted us with their projects for over 15 Years! We care and work with you to create your project the way you want it.

Total Fulfillment, Graphic Design, Illustration
Digital Mastering, Complete Packaging, Mailing Services
Warehousing, Package Pricing, Custom Pricing
Online Music Store, Free Barcode
Quality Service • Personal Attention • Quality Products

www.Klarity.com www.KlarityMusic.com

CD - R DUPLICATION
100 - $1.39 ea.
With Color Inserts 1.99 ea.
(2 Page & Tray)
Price Includes: CD - R, Duplication, Thermal Imprinting, Jewell Box, Inserting of cover, & Shrinkwrapped
THE 4th CREATION DUPLICATION
(936) 756-6861

Lonely Records.com
100 Retail CDs as low as **$1.99** per cd
1000 Retail CDs as low as **$.99** per cd
1 800-409-8513

GET A BREAK!
With our BIG BREAK CD Package!
1000 Retail Ready CDs - $1099.00
Package Includes:
- 4 Page, Color Insert & Traycard
- 2 Color Disc
- All Film
- Jewel Boxes
- Free Barcode

1.800.835.1362
or Get your ONLINE QUOTE at: www.healeydisc.com
healeydisc

46 PRODUCTIONS
25 CD-Rs - $45.....50 CD-Rs - $88
100 CD-Rs - $150...200 CD-Rs - $290
ASK ABOUT OUR DISCOUNT FOR ASCAP MEMBERS
From CD or CD-R master. Includes CD-R in jewel box with text printing on CD label. Add $35 for other digital master, $55 for analog master. Orders must be pre-paid. Shipping not included.
42 W. 557 Hawk Circle
St. Charles, IL 60175
Phone: (800) 850-5423
E-mail: info@46p.com
Visit our web page at: www.46p.com

Fax your Mix Classified Ad:
(510) 653-8171

Retailers

Every major brand of everything Millions of dollars of musical gear In stock. **ALTO MUSIC** Guitars, recording, kepboards, amplifiers, drums, pro sound,new and used. One of the largest selections in the country. We ship everywhere!
680 Rt. 211 E.
Middletown, NY 10940
sales@altomusic.com
ph (845) 692-6922
fax: (845) 346-0016
www.altomusic.com

Studios

Nashville Studio
- Tom Hidley style design -
A & B Studios, 4 Iso Booths, all Mogami Cable.
Living Quarters or Offices.
Beautiful Acreage. $450K.
Anne Dreiling, (615) 403-1440.
ERA Cornerstone
(800) 899-3139.

5,000 sq. ft. Nashville Studio
Complex with pedigree of many hit records. Four studios, offices, client lounges and excellent downtown location. Recording equipment and furniture for sale also.
Serious inquiries only.
(615) 320 - 1444

Musicians-Bands-Studios

HIGH BIAS BULK/BLANK AUDIO CASSETTES
BASF maxell TDK

C-10	.18 / ea.	PERFECT DEMO LENGTHS
C-20	.22 / ea.	
C-30	.28 / ea.	

CHROME Cr02 C-94..... .50 / ea.
Clear Norelco Box/Round Edge .12 / ea.
All Lengths Available From 1 to 126 minutes

DAT Quantegy, Maxell BASF or Sony

124	94	64	48	34	15
$5.40	$4.75	$4.20	$4.00	$3.60	$3.10

All Formats and Brands Available.
Please Contact our Sales Department For the Lowest Prices!!!

CDR'S
TDK OR MITSUI BLANK FACE WITH JEWEL BOX
10-99..... .78 100-499..... .73 500+ ..... .68

BULK / SPINDLES

Diamond/Silver	.30/ ea.	Mitsui	.60/ ea.
Generic	.25/ ea.	TDK	.40/ ea.
Taiyo Yuden	.30/ ea.		

Volume Discounts
CD Jewel Boxes With Trays .15 / ea.

2" ANALOG

QUANTEGY 499	$145
QUANTEGY GP9	$148
BASF SM-900	$145

WE WILL MATCH ANY ADVERTISED OR CATALOG PRICE!

adat

QUANTEGY	$8.96
BASF	$8.50
SONY	$8.50
HHB	$7.00

764 5th Avenue,
Brooklyn, New York 11232
In NY: (718) 369-8273
24 Hour Fax: (718) 369-8275
NRS National Recording Supplies Inc.
CONTACT US FOR A FREE FULL LINE RECORDING SUPPLIES CATALOG
http://www.TAPES.com · e-mail: sales@NRSTAPES.com
TOLL FREE 1-800-538-2336 (Outside NY Only)

Master Distributors of:
QUANTEGY
maxell PROFESSIONAL
DK
BASF
SONY
Taiyo Yuden
MITSUI
MICHELEX
MELLEX
SAMSUNG
SKC
MICROBOARDS
RIMAGE
PRINCO
TELEX

BUILDER
RECORDING STUDIOS AND ALL TYPES OF SOUND ROOMS
25 YEARS EXPERIENCE
(805) 493-5794

Miscellaneous

SoundBroker
Linking buyers & sellers together for all your studio needs
(702) 736-3003
www.SoundBroker.com

World Radio History

For Orders & Information Call:

800-947-5508

In NY 212-444-6698

Fax: 212-239-7770

420 Ninth Ave.

New York, NY 10001

Store and Mail Order Hours:

Sun. 10:00-5:00 • Mon.-Thur. 9:00-7:00 • Fri. 9:00-2:00 • Sat. Closed

World Radio History

MOTU Studio Native Power To BURN...

Run DP4, MachFive and a world of third-party plug-ins on the fastest personal computer ever

MOTU
www.motu.com

Power Mac G5

The world's fastest personal computer

Your all-native MOTU desktop recording studio just got bigger. A LOT bigger. The new Power Mac G5 is like doubling your studio's square footage, and then adding several additional floors stocked from top to bottom with virtual gear. Run more virtual instruments, more plug-in effects, more tracks, more busses, more processing, more everything than you ever thought possible. Yes, it's time to bask in the glory of your MOTU native studio. Starting at just $1999, the G5 Tower transforms DP4 into a production powerhouse.

Digital Performer™ 4.1 and MachFive™

Maximize your studio with MachFive and a world of MAS and AU plug-ins

Digital Performer Version 4.1 is now shipping with virtual instrument tracks and support for Audio Unit (AU) plug-ins, the new standard plug-in format for Mac OS X. Dozens of plug-ins are already available, with dozens more appearing on the scene every month. Enjoy unprecedented universal compatibility and interoperability with a G4- or G5-driven Mac OS X experience, thanks to Digital Performer's full adoption of all Mac OS X audio and MIDI standards. Now add MachFive, the new universal sampler plug-in. Consolidate your Sample Cell, Giga, Kurzweil, Akai and other sample libraries and put them at your fingertips in MachFive.

Trilogy™ — Total Bass Module™

The world's first Electric, Acoustic and Synth Bass Instrument

Trilogy is an awesome triple-threat plug-in instrument that integrates a custom three gigabyte core library of hundreds of brand new acoustic, electric, and synth Bass sounds with a powerful user interface. Create your own sounds! Produced by Eric Persing, it overflows with earthshaking, cone-blowing, subsonic sound. "True Staccato" for realistic repeated notes, Minimoog™ style legato triggering, multimode resonant filters for both independent layers. $349 for MAS and Audio Units.

CALL Sweetwater
music technology direct...
800-222-4700

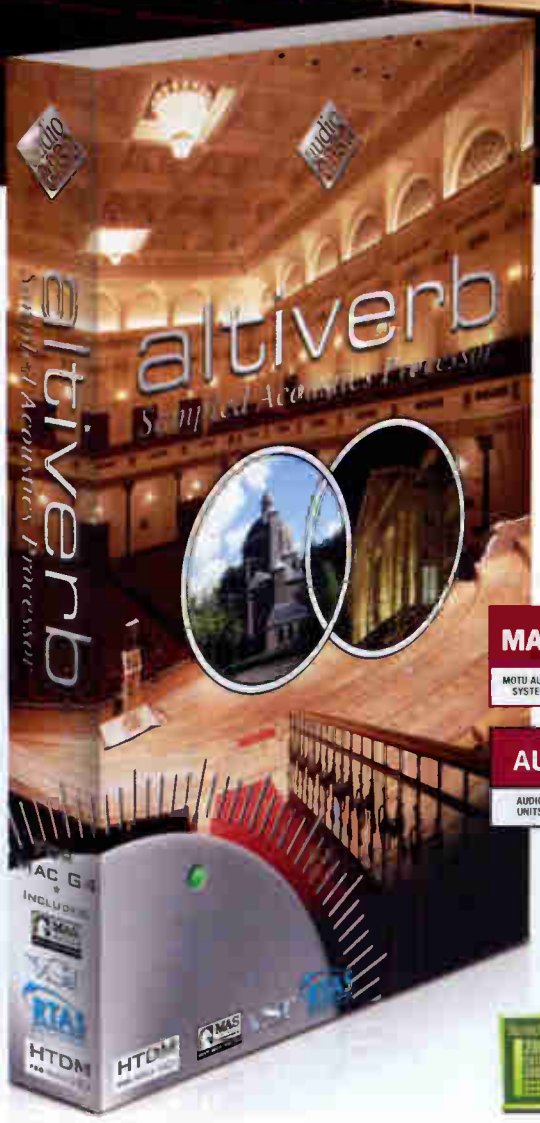
Authorized Reseller

MOTU NATIVE POWER • CALL SWEETWATER 800-222-4700

World Radio History

"Best reverb ever."
— Resolution Magazine, March 2003

audio ease



Altiverb™ sampled acoustics processor

The ultimate 'must have' reverb plug-in for DP4 on G4/G5 systems

Showered with acclaim since its debut, this legendary reverb plug-in is now shipping for your DP4 and OS X desktop studio running on a Power Mac G4 or G5. Breath the unsurpassed realism of real acoustic spaces into your mix: halls, cathedrals, studio rooms — in stereo and quad (surround) configurations. Download a constantly growing library of world-class acoustic spaces, at no extra charge, such as LA recording studios, historic French cathedrals, and world-class European concert halls. You can even sample your own spaces. The critics say:

"Altiverb is quite possibly the best-sounding reverb available, bar none."
— Pro Audio Review, Nov. 2002

"Hands down the most natural-sounding reverb plug-in around."
— EQ Magazine, January 2002

"Altiverb Produced results that eclipsed anything I'd heard before."
— Sound on Sound, May 2002

"Altiverb is flat-out the densest and smoothest native reverb I've ever heard. Moreover, it out-performed an assortment of hardware reverbs I had on-hand for comparison." — Electronic Musician, October 2002

©2003 Sweetwater, Inc.

www.sweetwater.com • info@sweetwater.com • 800-222-4700

World Radio History

Digital Performer 4 interactive training

Cool School Vol. 6.1 DP Basics, Vol. 9 DP4, Vol. 10&11 Plug-ins

Check out the latest Digital Performer 4 and plug-ins interactive training products from Cool Breeze Systems. If you prefer the "show me" style of learning, then the Cool School Interactus training environment is for you. CSi products include hours of concise, well thought out movie tutorials with "before and after" audio examples, software click-state simulations, a huge DAW-related glossary, and built-in quizzing. Beware: you may dig it.

Antares Auto-Tune™ 3 and Filter™

Two new MAS plug-ins for DP4 — a classic and something new

Antares brings two essential plug-ins to your DP4 mix. The legendary Auto-Tune is the "Holy Grail" of pitch correction. The all-new Filter™ plug-in delivers filter effects like you've never heard!

Native Instruments B4

This virtual instrument classic is now available for DP4 as an AU

The B4 is another classic keyboard from the 20th century which Native Instruments brings into the studio and onto the stage of the 21st century. The B4 is a complete virtual tonewheel organ, capable of reproducing in authentic detail the sound of the legendary B3 organ and rotating speaker cabinet, including tube amplification and distortion. Beneath the attractive, photo-realistic vintage-looking graphics operates an up-to-date audio engine, with perfect sound and lots of options for fine-tuning, all with full MIDI automation. This instrument is a must-have for every DP4 studio. Includes a full set of 91 tonewheels, photo-realistic graphics in the original look, full MIDI automation and many options for easily fine-tuning the sound.

Mackie Control Universal & Extender

Automated hands-on control for the DP4 studio

Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pot™ between your fingers. You adjust plug-in settings, automate filter sweeps in real-time, and trim individual track levels. Your hands fly over responsive controls, perfecting your mix — free from the solitary confinement of your mouse. Mackie Control delivers all this in an expandable, compact, desktop-style design forged by the combined talents of Mackie manufacturing and the MOTU Digital Performer engineering team. Mackie Control brings large-console, Studio A prowess to your Digital Performer desktop studio, with a wide range of customized control features that go well beyond mixing. It's like putting your hands on Digital Performer itself.

Mackie UAD-1 Powered Plug-ins

Accelerated effects processing for DP4

Install a UAD-1 card in your Mac and then run dozens of sophisticated effects plug-ins inside Digital Performer without bringing your Mac to its knees. What's the secret? UAD-1 is a custom DSP-equipped PCI card. It's like adding an extra $20,000 worth of effects gear to the dozens of native plug-ins included with DP. UAD-1 ships with a growing list of powered plug-ins, including Nigel, a complete palette of guitar tones combined with every effect a guitarist could ever need. Authentic vintage sounds include the Pultec Program EQ, a stunningly realistic recreation, and the1176LN Limiting Amplifier and Teletronix LA-2A Leveling Amplifier, two more analog classics reborn inside Digital Performer. Apply liberally with host CPU cycles to burn.

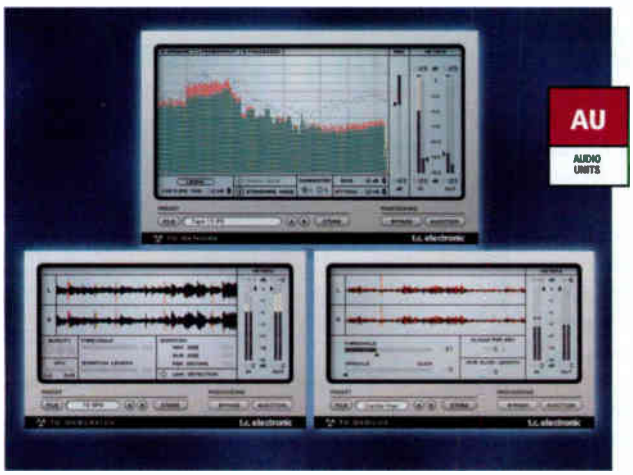
MOTU NATIVE POWER • CALL SWEETWATER 800-222-4700

World Radio History

TC Electronic Restoration Suite

Ground-breaking audio restoration plug-ins for DP4

TC Electronic revolutionizes audio restoration with the new Restoration Suite for the PowerCore platform. Powerful, fast and easy to use, this bundle of hi-end restoration plug-ins provides descratching, denoising and declicking for the most critical applications in audio restoration. The descratching algorithm, based on a collaboration between TC Electronic and Noveltech from Finland, employs a breakthrough first-to-market technology and delivers incredible results. Both the Denoiser and Declicker plug-ins are based on TC's many years of experience in the field of restoration, now with extended functionality. Restoration Suite is one of the first hybrid plug-ins, utilizing CPU and PowerCore DSP processing at the same time to combine the best of both worlds for optimal sound quality and best real-time results.



BIAS Peak 4 — 4 Is More

The ultimate waveform editing companion for DP4 and MachFive

Burns redbook CD's directly. Reads/writes MP3, MP4(AAC™), 24 bit WAVE & more. Batch process dozens or even thousands of files. Ultra fast waveform editing now even faster. Launch directly from DP4. Unlimited undo/redo with graphic edit histories. Unique DSP and looping tools like the stunning new sample based ImpulseVerb™, Change Duration envelope, Harmonic Rotate, Bit Usage graph, Grid Markers from Tempo, plus Repair Clicks, Loop Tuner™, Loop Surfer™, Guess Tempo™, Duplicate, and more. Improved Region Cross-fade Editor and new Content Drawer. Hot swap real-time effects using Peak's included Vbox™ SE VST matrix. Supports Audio Units and Core Audio. Optimized for Mac OS X, multi- processors, and the Altivec G4 Velocity Engine. Includes new Squeez™ pro compressor/limiter, Freq™ EQ, and more.

Glyph Technologies GT 308

Ultimate backup and storage for your MOTU desktop system

The Glyph Technologies GT 308 is the perfect all-in-one storage and backup solution for the MOTU desktop studio. A 3U rack-mount eight-bay enclosure, the GT 308 comes with up to six hot-swappable GT Key FireWire drives, perfect as target drives for multitrack audio recording, storing your MachFive soundbank folder or temporary archiving of your DP4 projects. The right-hand expansion bays offer options of AIT backup, SCSI hot-swap receivers, DVD-R/RW and/or CD-R/RW. Like other GT Series solutions, the GT 308 features QuietMetal™ for ultra-quiet performance and Glyph's Integrity™ FireWire hot-swap technology to ensure the best reliability and performance. Included with the GT 308 is the GT 051, a tabletop hot-swap enclosure that makes content more portable and expansion easy.

ADAM Audio P11A Studio Monitors

Two-way shielded active monitors for your MOTU studio

With groundbreaking innovation in electro/acoustic transducers, no-compromise design, superior materials and the same A.R.T. (Accelerated Ribbon Technology) folded ribbon tweeter found in all ADAM monitors, ADAM's P11A two-way shielded active monitors deliver your mix with astonishing clarity. Connect a pair to the main outs of your MOTU 828mkII FireWire audio interface — or any MOTU I/O — to hear your mixes with unique imaging and outstanding transient response at a very attractive price point. Europe's "Keyboards" magazine held a studio monitor shootout between no less than 25 professional monitor systems, and the ADAM P11A's came out at the top of the heap. One listen, and you'll be hooked, too!

©2003 Sweetwater, Inc.

World Radio History

BY LAURA PALLANCK

Pro Tools Free

Pro Tools for Starving Students!

Digidesign's Pro Tools is inarguably one of the most popular DAW applications in the professional studio, and anyone contemplating getting into the audio field should be familiar with the system. Unfortunately, it's not always easy for a beginner to spend time with a Pro Tools TDM or LE system. Fortunately, there is Pro Tools Free, which allows students to get hands-on experience with the program away from the studio and with minimal investment. However, the program is currently frozen in time at Version 5.0.1, while Pro Tools TDM is at V. 6.1.1. Therefore, it is important to know what Pro Tools Free can and cannot do.

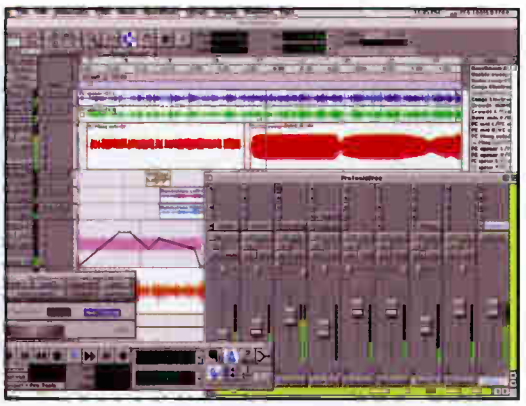
EIGHT IS ENOUGH

Pro Tools Free is a spin-off of Pro Tools LE V. 5.0.1. One of the largest differences between the two programs is that the free version has a limit of eight audio tracks—a third of LE's capabilities. If you try to create more than eight tracks, then the program automatically reduces the count to the correct amount. To open a session that was created on another Pro Tools system in Pro Tools Free, make sure that it was saved in a version that is compatible with V. 5.0.1, that it conforms to the proper audio and MIDI track count, and that it doesn't require plug-ins not supported by Pro Tools Free.

Pro Tools Free has only the most basic MIDI capabilities, which doesn't reflect the program's current implementation. You can run 48 MIDI tracks (recording only one track at a time) and use a USB or serial MIDI interface. You can also use third-party MIDI controllers; MIDI Controller Personalities for the most common devices are included with the Pro Tools Free CD-ROM. (I recommend ordering the CD-ROM—$9.95 for shipping and handling—because it includes extras and saves you the hassle of doing multiple downloads to get the guides and demos.)

Pro Tools Free is not compatible with Digidesign hardware interfaces. For audio on the Mac, Pro Tools Free uses Sound Manager, while on the PC, it uses the Windows sound driver. Although the resulting fidelity may not match what you would get from Digidesign's hardware, it's more than adequate for teaching and noncritical editing and listening. Surprisingly, Pro Tools Free is compatible with Digidesign's Audiomedia III card on a PC running Windows 98 Second Edition.

Be careful to not install Pro Tools Free on a computer that has another version of Pro Tools already on it. The installation will remove any earlier versions of the program and you will have to completely reinstall Pro Tools LE or TDM to use your Digidesign hardware interface.



Although it has an 8-track limit and a dated feature set, Pro Tools Free is a great way to get beginners familiar with an important recording program.

NO X's, PLEASE

The newest computers ship with operating systems that are incompatible with Pro Tools Free: OS X on the Mac and Windows XP on the PC. Fortunately, it's a buyer's market and getting a deal on a "legacy computer," such as a Mac G3 or a Pentium III, shouldn't be a problem. Pro Tools Free supports a wide range of computers, and specific information on the subject can be found within Digidesign's compatibility pages (www.digidesign.com/compato). Although Digi-design says it provides the program "as is," without guarantees in terms of compatibility, there is a surprising amount of support material online.

On the Mac, Pro Tools Free runs under OS 8.6 through 9.x. I get great results using Pro Tools Free on an iMac/500 running OS 9.2. If you're contemplating running Pro Tools Free in OS X under Classic mode, forget it: Classic and Pro Tools Free don't mix (so to speak). On the PC, Pro Tools Free runs on Windows 98 and ME, but not on Windows 95, 2000 or NT.

PLUG RIGHT IN

Pro Tools Free allows you to use Digidesign RTAS and AudioSuite plug-ins that are compatible with Pro Tools LE 5.0.1. This includes the DigiRack Dither, EQ, DeEsser, Limiter and Compressor.

If you want to buy a third-party plug-in, then ask the manufacturer if it works under Pro Tools Free. Plug-ins from Antares and Bomb Factory, for example, don't work with the program.

THE FIRST TIME'S FREE

A reoccurring topic in the Digidesign User Conference (aka the DUC) is whether Digidesign will make Pro Tools Free available for Mac OS X and Windows XP in the future. One of the biggest commercial arguments for offering a free version is to get new users hooked on the system. But sooner or later, V. 5.0.1 is going to become so outdated that it is useless, even for beginners.

Digidesign insiders have rumored that an updated version is on the drawing board. But it's one thing to come up with an idea and another to implement it. With all of the new products Digidesign is releasing, it seems that the company is putting its resources toward products that generate revenue, and rightly so. However, when Digidesign gets around to releasing a version of Pro Tools Free that runs on the latest operating systems, it will likely snare a new generation of users who may, ultimately, upgrade to a Digidesign hardware system. ■

Laura Pallanck is a Bay Area-based sound designer.

World Radio History

24/96 hard disk recording without the hard part

Alesis Recording Series

Professional performance made super simple

- 24 channels of simultaneous 24-bit, 48kHz recording
- 12 channels of simultaneous 24-bit, 96kHz recording
- Greater than 110dB dynamic range, with less than 0.002% THD+N
- Hot-swappable, low-cost IDE hard drive media
- 24 channels of ¼" TRS analog and ADAT Optical digital I/O included
- Built-in MIDI, Ethernet, ADAT Sync, and Word Clock connections

It's hard to perform your best when you spend half your time rebooting. What you want is a system that can keep up with you and deliver stunning sound time after time. Is that really so much to ask? Well that's exactly what you get with the Alesis ADAT HD24XR hard disk recorder. The HD24XR is ready to go with all the connections you'll need—forget expensive cards and cables. And exclusive FST technology means you'll never need to defragment a hard drive. Make music instead. Discover how simple professional 24/96 performance can be with the Alesis Recording Series.

ADAT HD24 FirePort 1394 Hot-Swap PC Connections

MasterLink ML-9600 Master Disk Recorder

ADAT HD24 24-Track Hard Disk Recorder

It's All About The Performance Baby

ALESIS

For the Alesis Retailer nearest you or for more information give us a call or visit our website.
(401) 658-5760 – alesis.com

World Radio History

Introducing the 896HD

192kHz FireWire Audio Interface with CueMix DSP™

Turn your computer into a powerful 24-bit, 192kHz digital audio workstation with eight channels of pristine analog recording and playback. The 896HD gives you eight mic inputs, ADAT digital I/O and stereo AES/EBU for a total of 18 inputs and 22 outputs. Connect mics, guitars, synths — even outboard effects — and use CueMix DSP™ on-board mixing to monitor live inputs, create send/return loops to outboard gear or program a separate headphone mix. Control your entire mix with included software, then disconnect your 896HD and use it as a stand-alone mixer. The 896HD delivers plug-and-play high definition audio recording to your computer desktop.

M Mac OS | X Mac OS X | Me Windows Me | 2K Windows 2000 | XP Windows XP

MOTU

www.motu.com

©2003 MOTU Inc. • 1280 Massachusetts Avenue • Cambridge MA 02138 • 617 576 2760 • 617 576 3609 fax • www.motu.com • info@motu.com

World Radio History