

The Latest Trends in Ringtones and Podcasting

AUGUST 2005

Electronic Musician[®]

PERSONAL STUDIO | RECORDING | PRODUCTION | SOUND DESIGN

STELLAR PORTABLE STUDIOS

14 Amazing All-in-One Workstations

CREATIVE USES
OF REVERB

DO SESSION WORK
FOR ANYONE,
ANYWHERE

UNCONVENTIONAL
ENGINEERING
TECHNIQUES



REVIEWS

Propellerhead Reason 3.0
Korg Kontrol49
Future Retro Revolution
and 6 more

A PRIMEDIA Publication

\$6.99 US \$8.99 CAN

08>



0 09281 01816

WRM

WWW.EMUSICIAN.COM

G-70: Music Workstation

 **Roland**[®]
www.rolandus.com



PERFORMANCE



Hardware Reverbs for your DAW



From System 6000 to PowerCore

VSS3, NonLin2 and now DVR2 are a DAW reality. Long revered as part of the System 6000 each reverb has developed its own reputation as a "must have" for anyone with serious production needs. Available now, all three of these World Class Reverbs have been ported to PowerCore, TC's hardware powered plug-in platform.

The latest addition, DVR2 Digital Vintage Reverb, a pristine legacy reverb with an accurate vintage flavor excels where the reverb itself cries out to become part of the mix.

Reverbs from System 6000 can be heard on thousands of albums and films. Now, with PowerCore, they can be heard on yours.



* Via the VST to RTAS adapter from FXpansion (optional)

The Innovation Continues...

t.c. electronic
ULTIMATE SOUND MACHINE

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

WWW.TCELECTRONIC.COM





OPEN THE NE



©2005 Korg USA, 316 S. Service Road, Melville, NY 11747 • (631) 390-8737 • www.korg.com
KARMA® (Kay Algorithmic Realtime Music Architecture) and the KARMA Logo are registered trademarks
representing patented technology licensed from Stephen Kay, Karma Lab LLC. www.karma-lab.com





XT CHAPTER

OASYS

Open Architecture Synthesis Studio

For over 40 years Korg has written the book on groundbreaking, great-sounding instruments. Now we're proud to introduce the revolutionary OASYS Open Architecture Synthesis Studio, the newest chapter in this legacy of expertise and innovation.

OASYS seamlessly unites three state-of-the-art synth engines, powerful and expressive controllers, 16 tracks of hard-disk recording, MIDI sequencing, plus inspiring second-generation KARMA technology.

Our unique Open Architecture allows your OASYS to continually integrate the latest Korg technologies, backed by uncompromising hardware integrity. The color TouchView display and intuitive interface harness all this power to make creating music easier and more exciting than ever. OASYS is the next chapter in your musical journey.

Experience OASYS today - online at www.korg.com/OASYS and at an exclusive OASYS retailer.

KORG

THE FUTURE IS OPEN

YOU CAN'T PUT A PRICE ON FREEDOM. BUT HOW DOES \$199* STRIKE YOU?

Amplitude LE



There's nothing like the creative freedom that comes with having a complete suite of music production tools at your fingertips. Unfortunately most comprehensive music software packages come with steep learning curves and price tags upwards of \$500. Until now.

SampleTank SE



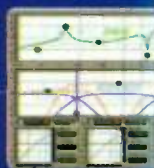
Introducing the Tracktion 2 music production bundle. A complete, powerful production suite with everything you need to take your music from initial inspiration to final mixed-and-mastered CD—with as-good-or-better results than software costing several times its price.

RMIV



Our acclaimed Tracktion 2 software represents the easiest way to record on your Mac or PC—with a clean single-screen interface, unlimited track count, a 64-bit mix engine, VST and ReWire support, and the ability to export your music to other audio software with ease.

Final Mix



With bundled Amplitude™ LE Guitar Amp Simulator and Sampletank™ SE Sample Player, plug-ins like LinPlug RMIV™ drum machine, reFX Slayer 2™ guitar and bass plug-in, and a full suite of Mackie Mixing and Mastering tools, you'll never lack the right software for the job at hand.

Amplitude LE, SampleTank SE, Linplug RMIV and Final Mix just four of over 30 plug-ins included with Tracktion 2.



And with T2's list price of only \$199 all this creative freedom won't break your budget.

Download the Tracktion 2 demo today at www.mackie.com/t2.

SIMPLE. POWERFUL. REVOLUTIONARY. TRACKTION 2.

* Suggested Retail Price. Actual dealer price may vary. For a limited time, get a FREE artist website and 6 months of hosting from www.broadjam.com when you buy and register Tracktion 2.



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

MACKIE

INSIDE

FEATURES

37 DO THE WRONG THING

Since the dawn of recording, adventurous engineers have been breaking "the rules" to come up with new sounds. In that spirit, we offer numerous off-the-wall recording suggestions for the brave hearted.

By Julian McBrowne

48 STUDIO IN A BOX

Portable digital studios offer a complete, high-quality recording studio in a single device that fits on your desktop and that you can easily transport. Many can function as standalone devices or as part of a Mac- or PC-based system. EM compares the current high-end and mid-range models available from Akai, Boss, Fostex, Korg, Roland, Tascam, and Yamaha.

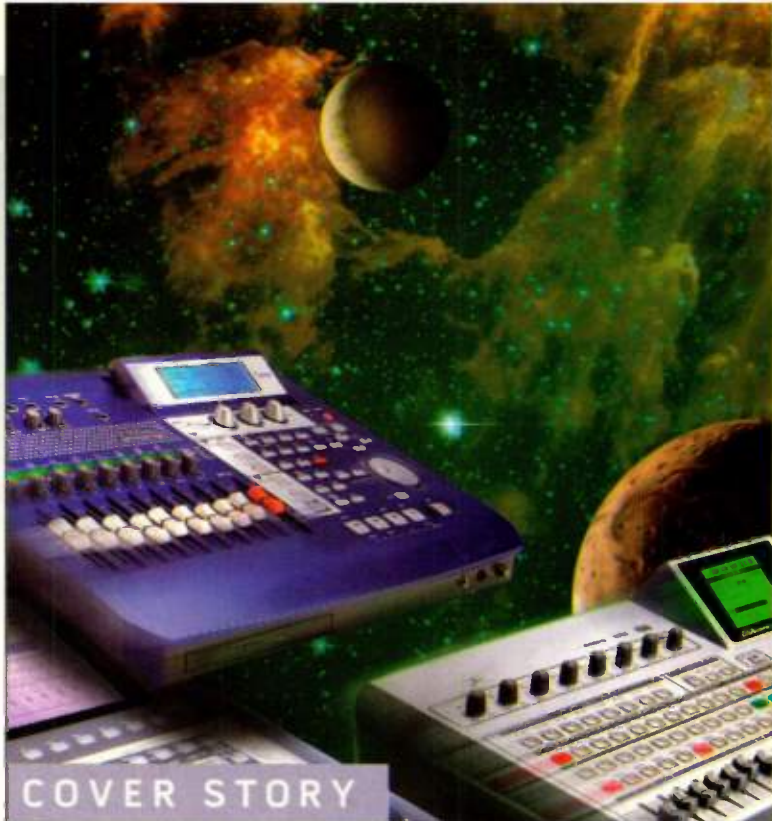
By Marty Cutler

73 THE WORLD WIDE STUDIO

The combination of personal-studio gear and broadband Internet access enables musicians to do sessions and collaborate with similarly equipped counterparts anywhere in the world. We asked Dave Weckl, Jean-Luc Ponty, and three other pros how they make their magic happen.

By Mike Levine

Electronic Musician® (ISSN 0884-4720) is published monthly by PRIMEDIA Business Magazines & Media Inc., 9800 Metcalf Ave., Overland Park, KS 66212 (www.primediabusiness.com). This is Volume 21, Issue 8, August 2005. One-year (12 issues) subscription is \$24. Canada is \$30. All other international is \$50. Prices subject to change. Periodicals postage paid at Shawnee Mission, KS, and additional mailing offices. Canadian GST #129597951. Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. 40597023. Canada return address: DP Global Mail, 7496 Bath Road, Unit 2, Mississauga, ON L4T 1L2. POSTMASTER: Send address changes to *Electronic Musician*, P.O. Box 640, Mt. Morris, IL 61054 USA.



COVER STORY

BOB MONTESCLAROS

DEPARTMENTS

- 10 FIRST TAKE
- 14 LETTERS
- 18 EMUSICIAN.COM TABLE OF CONTENTS
- 20 WHAT'S NEW
- 134 MARKETPLACE
- 138 CLASSIFIEDS



37



COLUMNS

INSIDE



110

- 30 **TECH PAGE Wash 'n' Wear**
Wearable electronics might bring musical technology close to the skin.
- 32 **PRO/FILE Welcome to the Jungle**
Asphalt Jungle infuses electronica with experimentation and tradition.
- 90 **MAKING TRACKS Going Postal with Logic Pro 7**
Streamlining sound-for-picture editing in Logic Pro 7.
- 94 **SOUND DESIGN WORKSHOP Off the Wall**
Add spice to your audio tracks using these unusual reverb techniques.
- 96 **SQUARE ONE Loop Your Dishwasher**
Common household items can provide fresh source material for loops.
- 100 **WORKING MUSICIAN Emerging Media for Musicians**
An expert discusses ringtones, mobile game music, podcasting, and more.
- 146 **FINAL MIX My Mind Is a Blank**
A few simple techniques can help you overcome writer's block.

REVIEWS

- 104 **PROPELLERHEAD SOFTWARE Reason 3.0** soft-synth workstation (Mac/Win)
- 110 **KORG Kontrol49 MIDI** keyboard controller
- 114 **FUTURE RETRO SYNTHESIZERS Revolution** hardware synthesizer and sequencer
- 120 **WAVE ARTS Power Suite 4** DSP software (Mac/Win)
- 124 **CARVIN CTM100 tube** microphone

128 QUICK PICKS

- U-he.com Filterscape 1.1** effects and virtual instrument plug-ins (Mac/Win)
- Wizoo Darbuka 1.0** software loop player (Mac/Win)
- SampleTekk Black Grand** piano sample library
- Sony Pictures Digital Steve Ferrone and Greg Ladanyi: Drums from the Big Room** multitrack drum-loop library (Acidized WAV)



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

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

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

www.shure.com

©2004 Shure Inc.

SHURE[®]
It's Your Sound[®]

WRH

Fearless Production

When it comes to assessing music production and performance, it's all about relativism. There is no right or wrong, only what works—and that is a matter of taste. Sales figures notwithstanding, we can't actually measure artistic success. In his January 2004 "Final Mix: Measuring Up," Larry the O posited that there is "no single, universal measure of an artist's work" except, perhaps, standing the test of time. I'll accept that, with the understanding that sometimes we can evaluate success in terms of personal artistic goals rather than as a form of communication with others.

Following that philosophy, and given that today's technology lets us create and save huge numbers of tracks and mixes, there is no reason to fear experimenting with innovative techniques. After all, we don't have to keep takes that we don't like.

In "Do the Wrong Thing" (see p. 37), Julian McBrowne and his various interview subjects suggest an assortment of techniques for going beyond the usual production methods to achieve creative goals. As producer Michael Brauer puts it, "I encourage you to break the rules." Indeed, each culture has traditions regarding composition, performance, and what is considered "good" music, and there are times when we may want to maintain those traditions. In that context, there are rules that one should understand before choosing to violate them. As recording musicians, engineers, and producers, we can define techniques that are calculated to achieve specific sonic,

musical, and commercial goals. For instance, we can identify ways to mic and record an acoustic guitar to achieve specific results, and we can discuss mixing techniques that make a vocal stand out in the mix. These techniques are part of our shared recording tradition, although we generally treat them more as guidelines than as rules.

But if we want a perverse-sounding acoustic guitar and vocals buried in a chaotic mix that is intended to stretch the listener's ears, tried-and-true techniques aren't necessarily appropriate. At that point, the guidelines cease to apply. In fact, when we wish to explore new musical and production spaces, then there arguably are no longer rules to break, only results.

There's not even a rule that says you shouldn't damage your gear, although financial considerations might lead us to be cautious. For example, guitarist Link Wray's classic sound was partially achieved by poking holes in the speakers of his guitar amp to achieve speaker distortion.

Sometimes radical methods do achieve commercial success; legendary producer Joe Meek virtually made a career out of that (see "Production Values: Meek First" in the February 2002 issue of EM). So even if commercial success is your goal, there may be good reasons to experiment when your instincts lead you in that direction. Besides, what is outrageous today could be mainstream tomorrow. Heavily compressed vocals were once a sign of clueless production; today, "overcompression" is a useful and commonly used vocal-processing technique.

Whether McBrowne's specific suggestions appeal to you or not, the real message we want to get across is that absolutely anything goes if it serves your musical goals. When you are looking for something fresh, dare to be fearless. Because when it works, the wrong thing is just right.



JULIE BIRUM

Steve Oppenheimer
Editor in Chief

EDITOR IN CHIEF

Steve Oppenheimer,
soppenheimer@primediabusiness.com

MANAGING EDITOR

Patricia Hammond, phammond@primediabusiness.com

SENIOR EDITORS

Mike Levine, mlevine@primediabusiness.com
Gino Robair, grobar@primediabusiness.com

ASSOCIATE EDITORS

Rusty Cutchin, rmeditorial@primediabusiness.com
Dennis Miller, emeditorial@primediabusiness.com
Len Sasso, emeditorial@primediabusiness.com
Geary Yelton, gyelton@primediabusiness.com

ASSISTANT EDITOR

Matt Gallagher, mgallagher@primediabusiness.com

COPY EDITOR

Lori Kennedy, lkennedy@primediabusiness.com

CONTRIBUTING EDITORS

Michael Cooper, Mary Cosola, Marty Cutler,
Maureen Droney, Larry the O, George Petersen,
David Rubin, Rob Shrock, Scott Wilkinson

DIRECTOR OF NEW MEDIA

Tami Needham, tneedham@primediabusiness.com

GROUP ART DIRECTOR

Dmitry Panich, dpanich@primediabusiness.com

ART DIRECTOR

Laura Williams, lwilliam@primediabusiness.com

ART DIRECTOR, SPECIAL PROJECTS

Mike Cruz, mcruz@primediabusiness.com

INFORMATIONAL GRAPHICS

Chuck Dahmer

SENIOR VICE PRESIDENT

Peter May, pmay@primediabusiness.com

ADMINISTRATIVE ASSISTANT

Karen Carter, kcarter@primediabusiness.com

PUBLISHER

Dave Reik, dreik@primediabusiness.com

ASSOCIATE PUBLISHER

Joe Perry, jperry@primediabusiness.com

EAST COAST ADVERTISING MANAGER

Jeff Donnenwerth, jdonnenwerth@primediabusiness.com

NORTHWEST/MIDWEST ADVERTISING MANAGER

Greg Sutton, gsutton@primediabusiness.com

SOUTHWEST ADVERTISING MANAGER

Mari Deetz, mdeetz@primediabusiness.com

ONLINE SALES AND MARKETING MANAGER

Samantha Kahn, skahn@primediabusiness.com

LIST RENTAL

Marie Briganti, (845) 732-7054, marie.briganti@walterkarl.infousa.com

MARKETING AND EVENTS DIRECTOR

Christen Pocock, cpocock@primediabusiness.com

MARKETING COORDINATOR

Clarina Raydmanov, craydmanov@primediabusiness.com

MARKETING AND EVENTS COORDINATOR

Megan Koehn, mkoehn@primediabusiness.com

CLASSIFIEDS/MARKETPLACE ADVERTISING DIRECTOR

Robin Boyce-Trubitt, rboyce@primediabusiness.com

WEST COAST CLASSIFIED SALES ASSOCIATE

Kevin Blackford, kblackford@primediabusiness.com

EAST COAST CLASSIFIED SALES ASSOCIATE

Jason Smith, jasmith@primediabusiness.com

CLASSIFIEDS PRODUCTION COORDINATOR

Jennifer Kneebone-Laurie, jkneebone@primediabusiness.com

GROUP PRODUCTION MANAGER

Melissa Langstaff, mlangstaff@primediabusiness.com

ADVERTISING PRODUCTION COORDINATOR

Jennifer Hall, jhall@primediabusiness.com

GROUP AUDIENCE MARKETING DIRECTOR

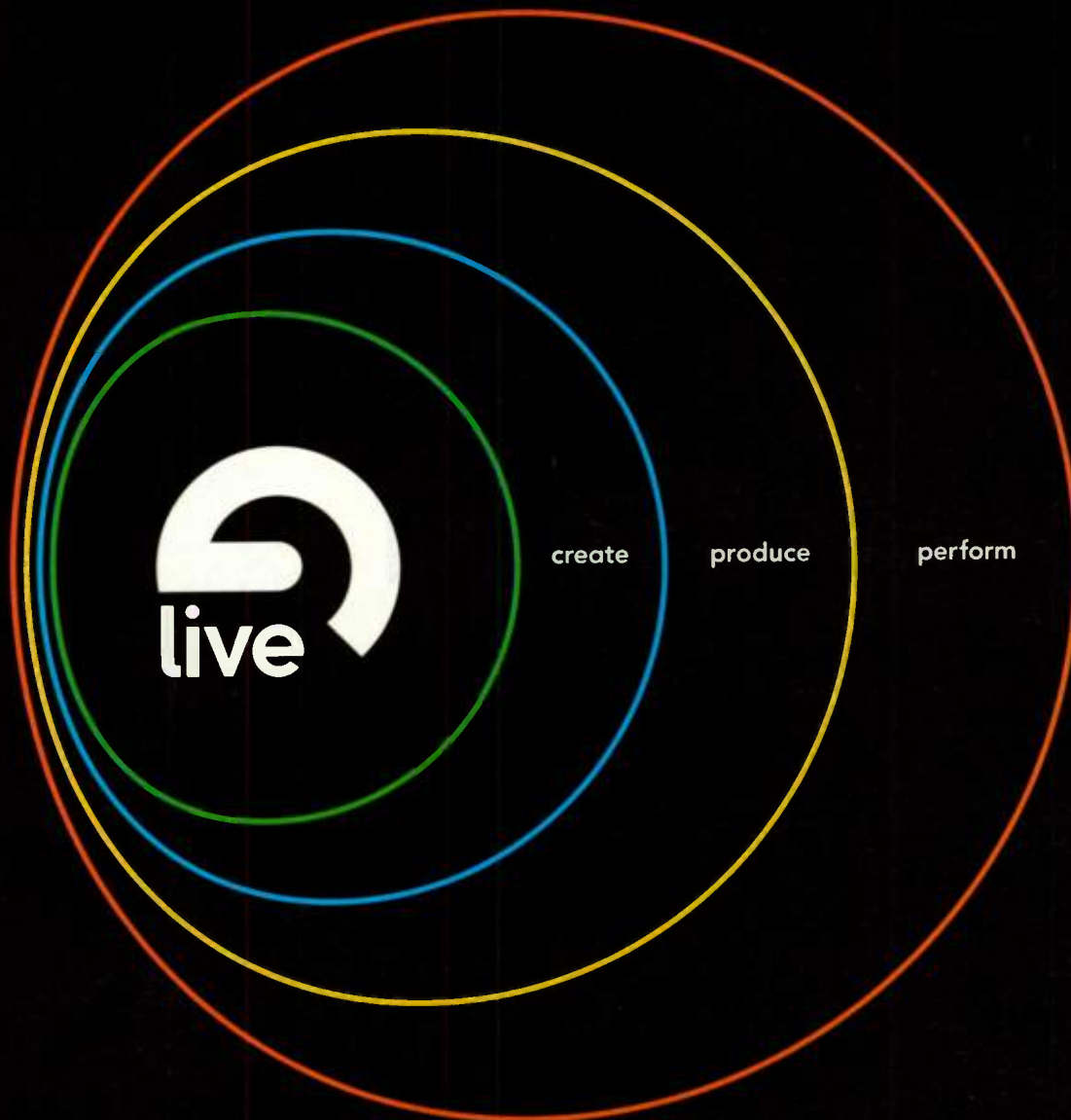
John Rockwell, jrockwell@primediabusiness.com

DIRECTOR OF HUMAN RESOURCES

Julie Nave-Taylor, jnave-taylor@primediabusiness.com

OFFICE COORDINATOR/RECEPTIONIST

Lara Duchnick, lduchnick@primediabusiness.com



Tomorrow's Studio.

Ableton Live takes the studio beyond its traditional role as a production tool to a new level where your entire musical process is covered. Live is your creative muse, professional studio and musical instrument on stage. Download Live 5 today at www.ableton.com, and take your studio into the future.

Distributed by **M-AUDIO**

version **5**



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

Tune Your Room!

Citywalk Studios • Branson, MO



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

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

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

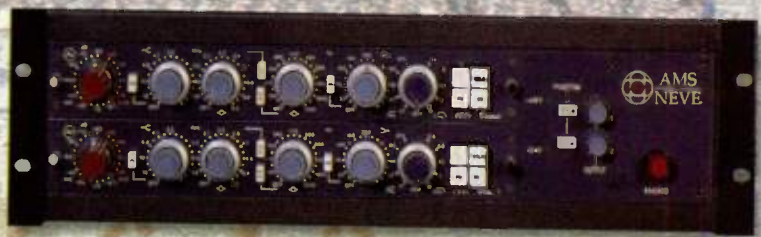


LEGENDARY SOUND SINCE 1961

The One True DAW Upgrade



New 1073 DPD pre amp



The Classic 1081 EQ



www.ams-neve.com

HEAD OFFICE: AMS Neve Ltd. UK
Tel: +44 (0) 1282 457011
Sonic Circus: +1 617 696 9360
Vintage King: +1 248 591 9276

PRIMEDIA

Business Magazines & Media

PRESIDENT
John French, jfrench@primediabusiness.com

CHIEF OPERATING OFFICER
Andrea Goldschlager, agoldschlager@primediabusiness.com

PRIMEDIA INC.
745 Fifth Ave., New York, NY 10151

CHAIRMAN
Dean Nelson, dean.nelson@primedia.com

PRESIDENT AND CHIEF EXECUTIVE OFFICER
Kelly Conlin, kelly.conlin@primedia.com

VICE CHAIRMAN & GENERAL COUNSEL
Beverly Chell, beverly.chell@primedia.com

EDITORIAL, ADVERTISING, AND BUSINESS OFFICES:
6400 Hollis St., Suite 12, Emeryville, CA 94608, USA
(510) 653-3307.

SUBSCRIBER CUSTOMER SERVICE: To subscribe, change your address, or check on your current account status, go to www.emusician.com and click on Customer Service for fastest service. Or email ecmn@kable.com, call toll-free (800) 245-2737 or (815) 734-1216, or write to P.O. Box 640, Mt. Morris, IL 61054.

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

BACK ISSUES: Back issues are available for \$10 each by calling (800) 245-2737 or (815) 734-1216.

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 www.copyright.com.

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, Lexis-Nexis, and ProQuest. For microform availability, contact ProQuest at (800) 521-0600 or (734) 761-4700, or search the Serials in Microform listings at www.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 Web site at primediabusiness.com.

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

COPYRIGHT 2005

PRIMEDIA Business Magazines & Media Inc.

ALL RIGHTS RESERVED.



PRINTED IN THE USA
ALSO PUBLISHERS OF MIX®, REMIX™, MUSIC EDUCATION TECHNOLOGY™, COMPUTER MUSIC PRODUCT GUIDE™, PERSONAL STUDIO BUYER'S GUIDE®, AND DIGITAL HOME KEYBOARD GUIDE™.

WWW.EMUSICIAN.COM

IF YOU NEED 8 MORE CHANNELS, THEN YOU NEED THIS

The **NEW LOOK** is just the beginning!
You got your audio interface....
You got the software....
Now get another **eight analog inputs..**

* must have an ADAT input on your audio hardware

\$149*



A08

- 8 x 1/4" unbalanced audio line inputs
- 1 x 24-bit 8CH ADAT® format output interface
- Delta-sigma 24-bit/96kHz A/D converters
- Internal or external Sync (Master or Slave)
- Word clock BNC I/O connectors
- Selectable Sample Rate (44.1- 48 kHz)
- Rugged compact construction
- External power supply included

Works with (amongst others):
Digidesign® 002
Digidesign® 002R
Digidesign® 001
M-Audio® ADAT® Input products
Motu™ ADAT® Input products

All Product Trademarks belong to their Registered Trademark Owners

samash.com
The on-line musical instrument marketplace!
www.samash.com

zZounds
www.zzounds.com

Music123
www.music123.com

SM
PRO AUDIO
WWW.SMPROAUDIO.COM

DISTRIBUTED BY
KAYSOUND
www.kaysound.com

Musician's Friend
www.musicianfriend.com

AMM
www.americanmusical.com

ALSO AVAILABLE from SM PRO AUDIO

- | | | |
|-------------------------------------|--|----------------------------------|
| PR-8 | 8 CHANNEL MIC PRE-AMP | \$99 |
| PR-8 Mark 2 with ADAT option | PREMIUM 8 CHANNEL MIC PRE-AMP | \$199
Adat Option \$99 |
| TB202. | TWO CHANNEL TUBE MIC PRE-AMP, EQ & OPTICAL COMPRESSOR | \$249 |

*Estimated Selling Price

SM



Letters

Land of the Lost

I must say that I found the feature entitled "The Lost World Rediscovered" (June 2005) to be very disheartening. I would like to comment about the testing procedures rather than debate about what sounds better.

The Audio Playground Synthesizer Museum is a valuable resource, both in person and online. However, you should have used vintage synths that had been cleaned and calibrated, and were ready to play instead of using whatever happened to be available at the time. If you were going to do a shootout of grand-piano sample libraries, you wouldn't compare Steinway samples with the road-worn resident upright piano in the local club, would you?

I own and maintain some analog synthesizers, and I can tell you that with just a small amount of

Author Brian Smithers replies: *Tom—I'm sorry that you found our shootout lacking. However, your analogy comparing a rickety spinet with samples of a concert-grand piano leads me to wonder whether perhaps you read too much into my tales of the tribulations of the testing process. Rest assured, these were all apples-to-apples comparisons with the original classic synthesizers after which the virtual synths were modeled, not cousins or knockoffs.*

As for the condition of the instruments—they ranged from gig-ready to finicky, but we were able to find ways to work around their limitations. On the whole, they were certainly in line with what one would expect to find in such old instruments. The most troublesome instrument was the ARP 2600. As I reported, its keyboard didn't function properly and some of its pots were sticky. These issues came as a surprise, because the instrument had recently

one reason why we included the Moog Music Minimoog Voyager. It's a physical re-creation of a classic synth by the instrument's creator, and although it sounds wonderful, it doesn't sound the same as the original.

I am certain that the Audio Playground Synthesizer Museum would welcome any contributions of time, resources, or money in order to maintain their awesome collection. If you or any other readers would like to help out, please contact Joseph Rivers on the museum's Web site at www.keyboardmuseum.com.

Surround Bound

I work on surround-sound projects and would like to encode my original audio files with Dolby 5.1, and then burn them to a DVD. After spending a lot of time on the Web and making phone calls, including to Dolby, I still can't find the definitive answer. All of the

"I've been reading EM for the past few years mainly because of Rob Shrock's articles." —Mike Hammond

care and attention, my Minimoog and Korg MS-20 are always ready to play and are every bit as reliable as my Alesis Ion.

If you needed to obtain test-worthy analog synths for the article, I'm sure that you could have turned up more than enough gear in the area by simply asking for them on any number of mailing lists or newsgroups.

Tom Moravansky
via email

been used in a session at the Audio Playground.

This is one of the points of such a comparison: when a computer acts up, it's easy to say, "My old ARP never crashed!" But in fact, a 25-year-old electronic device is full of components that are ready to fail. If one replaces them to ward off failure, does the instrument still sound the same? Some might argue that comparing a refurbished vintage synth with its software emulation is inherently invalid. That's

Windows software that I've studied would force me to deal with video issues, which I would like to avoid if possible.

Several companies produce standalone Dolby encoders, but I encountered problems with their methods of data transfer. The standalone encoders have coaxial I/O whereas my Roland multitrack recorders have optical I/O. I could purchase an adapter, but then I might have a problem with data

MOBILE HOME

Eight combo jacks (XLR or 1/4") all with phantom power let you connect 8 mics

Each mixer channel has 4 bands of parametric EQ and compression

USB 2.0 connectivity lets you drag and drop files to your computer

Pitch Fix let's you easily correct out-of-tune vocal tracks

The AW1600 plays back 16 tracks at a time, has 144 virtual tracks and includes a 36 channel mixer with two system effects all based on the O2R96

The built-in CD recorder and 40 GB hard drive let's you store and master as many songs as you want



AW1600

PROFESSIONAL AUDIO WORKSTATION

The AW1600 is a complete professional mobile recording studio. It has everything you need to record, mix and master your songs to the built-in CDR in one portable and rugged package. It's also designed to do one thing and one thing only — be the best multi-track studio possible. So you never have to worry about IRQ settings or OS crashes.

The eight transparent / low noise mic preamps, 36 channel O2R96-based mixing engine with 4 bands of EQ and compression on every channel, even the unique Pitch Fix algorithm to correct the pitch of out-of-tune vocals are all built into a durable metal chassis that's road ready and Yamaha tough. You're always ready to pick up and go anywhere you want to record. And, of course, the AW1600 is the perfect centerpiece of a home studio.

So whether you never leave the trailer park or are always on the road collaborating with friends and recording live events, the AW1600 is the perfect mobile/home studio solution.

TOTALLY RELIABLE.
EASILY PORTABLE.
COMPLETELY PROFESSIONAL.



Next Month in EM

Low-Cost Digital Audio Sequencers

We compare the feature sets in low-cost, commercially available digital audio sequencers for Mac and Windows, including Apple GarageBand 2, Steinberg Cubase 3 SE, Mackie Traktion 2, Cakewalk Home Studio, FASoft n-Track Studio 4, and more.

Studio in the Round

Six professionals who create surround mixes for music, video, and game projects discuss surround sound and offer advice on whether you should make your studio multichannel.

Production Values:

Medeski, Martin, and Wood

Medeski, Martin, and Wood play their own brand of jam-based electric jazz. EM looks at the band's recording style and the electronic instruments that John Medeski used on their latest CD, *End of the World Party*.

Making Tracks:

Analog Gear in a Digital World

We give tips on using analog electronics to warm up the sound of digitally recorded tracks.

Sound Design Workshop:

Parallel Paths

Enliven your vocals by applying different processes to parallel reverb tracks.

Square One:

Delay and Chorus Effects

Learn how these effects work and how to creatively use them.

...and much more!

Letters

corruption or loss. And after I get all of that to work, I still have to burn the DVD.

Apple Computer has a system that might work, but once again, individuals who worked there were unsure that it could deal with all of my issues.

I would appreciate any suggestions that you might have.

Mitch Smallwood
via email

Mix magazine technical editor Kevin Becka replies: Mitch—You have some good options, although one of them is expensive. Data transfer is unnecessary with the Dolby Digital V2 Surround encoder (Win, \$995) from Minnetonka Audio Software (www.minnetonkaaudio.com). Simply load your 16-bit, 44.1 kHz mix files into the encoder, and it produces a file that you can burn to CD and play back on any DVD player enabled with a Dolby decoder.

The most affordable and great-sounding option is the DTS-CD encoder from Minnetonka (Win, \$99). Load your discreet files into

We Welcome Your Feedback

Address correspondence to:

Letters
Electronic Musician
6400 Hollis Street, Suite 12
Emeryville, CA, 94608

or email us at emeditorial@primediabusiness.com.

Published letters may be edited for space and clarity.

the encoder, and it performs a 3:1 knockdown, giving you a 2-channel, 44.1 kHz WAV file that you can burn to any CD and play back on any DVD player.

If you absolutely need to burn DVDs for video use, you should buy Minnetonka's DTS-DVD encoder (Mac/Win, \$499). But if you're dealing with only audio, the CD encoder works just fine. The only difference is that the DVD encoder works at the 48 kHz sampling rate.

Favorite Author

I've been reading EM for the past few years mainly because of Rob Shrock's articles. I think his product reviews have been some of the best your magazine has published because he always calls it like he hears it—even if that means a review isn't as glowing as your competitors'. I have always trusted his opinions to suss out the details I need to know about a product to effectively run my production company. He has never failed me, or my partners here in New Jersey.

However, I have noticed that he's writing less and less for EM, although he is still listed as a contributing editor. Is Shrock being phased out and replaced by newer writers? I hope not, as I think he is one of your best assets out West.

I saw him perform with Elvis Costello and Burt Bacharach in New York City several years ago, and he was kind enough to talk to me and my partner for a good 15 minutes while at the same time talking to fans and signing autographs. We were shopping for speakers, and he gave us a tremendous amount of free advice about what to listen for in a good set of monitors and how to set them up properly. When we asked about Burt and Elvis and how he gets those sweet sounds on his keyboard, he was an open book there, too. Props to the Shrock-Man!

Mike Hammond
Jersey-Girl Productions

Mike—Rob Shrock definitely is not being phased out! In the past year or so, he moved to Los Angeles, started a new band (in addition to his continuing work with Burt Bacharach), and has been swamped with an assortment of live and studio projects, so he hasn't had much time to write. We recently published Shrock's reviews of the Rode NT2-A (in the July 2005 issue) and SampleTekk's Black Grand (see p. 130 of this issue), we have two more of his reviews in the pipeline, and I hope to give him more assignments soon.—Steve O EM

Industry-leading
Expert Sales Staff

Huge Selection of
the gear you need



Amazing prices
that can't be beat

Award-winning
Tech support

THE BEST OF EVERYTHING

But don't just take our word for it...

"I was pretty cynical about how good you guys were until I made the call. Now I'm HOOKED!"

— Ben Van Zee

"Your Internet ordering system is very good!"

— Richard Haynes

"I am so impressed with the response time and the service I've received since buying my gear"

— Lisa Brady

"You guys rock. You're the total package. When I have questions about pro audio and recording, I give you a call."

— Kenneth Cubala

"Best price, support & delivery! What more could I want?"

— Bobby Diamond

Read more real customer quotes online at www.sweetwater.com!

CALL SWEETWATER TODAY!

(800) 222-4700

www.sweetwater.com

THE WORLD'S FASTEST FREE SHIPPING

No Minimum Purchase

Speedy FedEx Delivery • Most Orders Ship Same Day



EMspotlight

Approximately Infinite Onoverse

Yoko Ono is one of the few contemporary artists—let alone Asian women—to become a household name. In this exclusive EM interview, Ono talks about remixing her classic songs and other upcoming projects. By Senior Editor Gino Robair.

emusician.com/em_spotlight

On the Home Page

EM Web Clips

A collection of supplemental audio, video, text, graphics, and MIDI files that provides examples of techniques and products discussed in the pages of *Electronic Musician*.



EM Guides Online

Get detailed specs on thousands of music-production products with our free online Computer Music Product Guide and Personal Studio Buyer's Guide.

Show Report

Frankfurt Musikmesse is the biggest annual musical-instrument expo in Europe. Visit emusician.com for Senior Editor Gino Robair's report on the exciting new recording gear, music software, and electronic musical instruments unveiled at this year's show.



editor's picks

Associate Editor Len Sasso has selected his favorite EM articles about digital audio sequencers. The topics include choosing a sequencer that matches your needs and budget, and software sequencer alternatives.

emusician.com/editorspicks



EM news

A weekly update on new hardware and software releases, manufacturer contests, and pertinent industry news.

emusician.com/news

EM newsletter

Sign up for our free online newsletter, eMusician Xtra, for up-to-the-minute information about new products, software upgrades, and more.

emusician.com



VIENNA SYMPHONIC LIBRARY

Summer Classics

30% OFF
 On Select Products
 July 15 – Sept. 15
 Free Sample Downloads!



FIRST & PRO EDITION – 30% off on all products and upgrades!
ATTENTION: FIRST EDITION will be discontinued as of September 15, 2005!



HORIZON SERIES – 30% off on these titles:

FRENCH OBOE
~~\$295~~ \$207

WOODWIND ENSEMBLES
~~\$455~~ \$319

EPIC HORNS
~~\$395~~ \$277

CHAMBER STRINGS
~~\$895~~ \$627

SOLO STRINGS
~~\$495~~ \$347



VIENNA SYMPHONIC LIBRARY

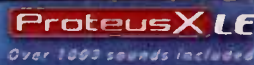
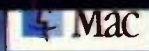
www.vsl.co.at



VIDEO TUTORIALS on DVD! Paul Steinbauer, Vienna Symphonic Library's Chief Editing Engineer, explains the Performance Tool in meticulous detail. First-handtips and practical examples for beginners and professional users. **\$39**



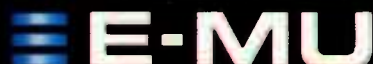
ilio.com



*Estimated Street Price



www.emu.com



© 2005 E-MU Systems, Inc. E-MU is a registered trademark of E-MU Systems, Inc. in the US and other countries. All other brand names are the property of their respective owners.



Toll-free
 877-742-6084

WHAT'S NEW

By Geary Yelton



WHAT'S NEW

FabFilter Volcano

Filter effects plug-ins are all the rage, and one of the newest (and most brightly colored) is Volcano (\$139, Mac/Win), from Amsterdam-based FabFilter. Volcano gives you two virtual analog filters, either of which can be configured as lowpass, highpass, or bandpass, each with a 12-, 24-, or 48 dB slope. You can arrange the two filters in series or in parallel and select from five filter characteristics such as Smooth, Raw, and Hollow. Volcano's graphical user interface lets you drag its filter-response curves individually or at the same time. Even at the highest resonance settings, you can defeat self-oscillation using Volcano's Auto Mute switch whenever the audio input signal drops to zero.

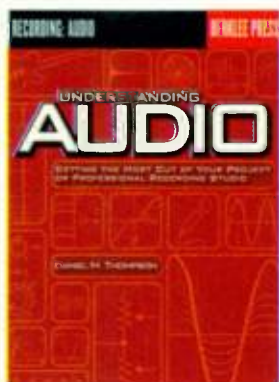
Two LFOs and a MIDI-triggered envelope generator are available as sources to modulate filter parameters such

as frequency, peak, and pan. Either LFO can be controlled by its own rate setting or synchronized to your sequencer's tempo. Volcano's MIDI Learn

feature lets you control all parameters with an external MIDI controller, which also means that you can record MIDI CCs to automate parameter changes in your sequencer. Dozens of factory presets are included, and you can save and recall your own filter presets. Volcano supports VST in Windows and VST and Audio Units formats in Mac OS X.



Get Smart



A thorough grasp of audio electronics is essential for anyone interested in music and recording. *Understanding Audio* (\$24.95), from Berklee Press (www.berkleepress.com), explores the principles of acoustics and electronics as they relate to studio recording. Written by Berklee instructor Daniel M. Thompson, the 368-page book covers subjects such as the physical laws of electricity, cables and studio wiring,

basic and advanced signal flow, room acoustics, digital audio, and the inner workings of a recording console. He explains concepts ranging from decibels and gain structures to psychoacoustics and audio specifications. Diagrams, tables, and formulas illustrate the topics presented in each chapter. Each of the 16 chapters ends in a short list of questions and suggested projects.

Creative Sequencing Techniques for Music Production (\$39.95), published by Focal Press (www.focalpress.com), guides the reader from the basics of setting up a studio to advanced sequencing and MIDI orchestration techniques. Throughout its 320 pages, author Andrea Pejrolo gives plenty of practical examples using Digidesign Pro Tools, MOTU Digital Performer, and Steinberg Cubase. After



explaining the MIDI protocol, essential studio gear, and the fundamentals of digital audio, Pejrolo dives into recording and editing sequencer tracks. From there the author covers automation, quantization, tempo mapping, time-stretching, MIDI and audio effects, synchronization, video, and dealing with SysEx. The final chapter explains mixing, mastering, and delivering your final mix. Helpful illustrations appear throughout, and each chapter ends with suggested exercises. A CD containing nearly 100 audio examples is included.

Most electronic musicians use samples, but how much do you understand about them? Daniel Duffell's *Making Music with Samples* (\$39.95) tackles the technology of sampling like no other book available. Published by Backbeat Books (www.backbeatbooks.com),

this 207-page guide describes sampling techniques, tools, and applications. Beginning with the basics of acoustics and digital audio, Duffell quickly progresses to audio hardware, sequencers, virtual instruments, and sample editors. He explains how to get sounds into your sampler and how to edit them, as well as how to create sampler instruments and tailor sounds to suit your needs. A useful section on user sampling is followed by a discussion of legal ramifications. The book includes two CDs, one with samples from Zero-G and another with audio examples.



VIENNA SYMPHONIC LIBRARY

Summer Classics

30% OFF
On Select Products
July 15 – Sept. 15
Free Sample Downloads!



FIRST & PRO EDITION – 30% off on all products and upgrades!
ATTENTION: FIRST EDITION will be discontinued as of September 15, 2005!



HORIZON SERIES – 30% off on these titles:

FRENCH OBOE
~~\$295~~ \$207

WOODWIND ENSEMBLES
~~\$455~~ \$319

EPIC HORNS
~~\$395~~ \$277

CHAMBER STRINGS
~~\$895~~ \$627

SOLO STRINGS
~~\$495~~ \$347



VIENNA SYMPHONIC LIBRARY

www.vsl.co.at



VIDEO TUTORIALS on DVD! Paul Steinbauer, Vienna Symphonic Library's Chief Editing Engineer, explains the Performance Tool in meticulous detail. First-handtips and practical examples for beginners and professional users. **\$39**

ILIO

ilio.com

WHAT'S NEW

By Geary Yelton

MXL V6 Silicon Valve

MXL Microphones (www.mxlmicro.com) has begun delivering the V6 Silicon Valve microphone (\$349.95), a pressure-gradient condenser model with a 0.98-inch diaphragm and transformerless balanced output. Designed to simulate the warmth and clarity of vintage tube mics at a fraction of the cost, the V6 has phantom-powered, low-noise, solid-state FET amplifier electronics. Consequently, it needs no external power supply (and thus, no warm-up time) unlike a real tube mic.

MXL recommends the V6 for all kinds of vocals and for any instrument that a condenser mic suits. According to factory specifications, the maximum input SPL is 130 dB at 1 kHz, resulting in 1 percent total harmonic distortion. The V6 has a titanium silver body with a gold-plated grille, and it ships in a lined cherry wood box.



E-mu Xboard 25 and 49

Two new USB/MIDI controller keyboards from E-mu Systems (www.emu.com) are the 25-note Xboard 25 (\$199.99) and the 49-note Xboard 49 (\$229.99). Both models feature full-size, velocity-sensitive keys with Aftertouch, as well as pitch-bend and modulation wheels. The top panel furnishes 16 rotary controllers, each of which you can assign to control any MIDI parameter on any independent MIDI channel. Latch mode lets you define keyboard notes as on/off switches suitable for triggering loop playback. A Snap Shot feature lets you send numerous program changes and controller values by pressing a single button. Either Xboard can run on USB, battery, or AC power.

The Xboards include Xboard Control, which is a software application that allows you to create custom templates for your favorite hardware and software instruments. The software suite also gives you Proteus X LE (Win) and Ableton Live Lite 4 (Win).

Ableton Live 5

Whereas some companies take years to introduce significant upgrades, Ableton (www.ableton.com) faithfully delivers new versions of Live almost as quickly as users have mastered the latest features. Live 5 (Mac/Win, \$499) boasts plenty of enhancements that further its position as a major player in the audio sequencer wars. If you bought Live 4 before May 2005, you can download an update for \$119; special pricing is available for other users, too.

Live 5 offers better browsing, improved preset management, and other organizational tools for saving, previewing, and accessing your musical ideas. The new Live Clips format lets you save and easily retrieve clips (including instruments, effects, and plug-ins) to use in any project. Clip Freeze lightens the load on your computer's processor and makes it easier to transfer projects from one computer to another. Launchable Arrangement Locators let you access quantized markers using keystrokes and MIDI commands. Plug-in delay compensation helps to minimize latency issues. Live 5 introduces new effects such as Beat Repeat,



Arpeggiator, and Saturator (a distortion effect). It also supports control surfaces from Mackie, Tascam, Yamaha, and other manufacturers. Additional features include automatic tempo matching, count-in recording, improved lessons, and support for VST MIDI effects.

Xboard



Feel the Difference

E-MU'S new Xboard USB/MIDI controllers for Mac and PC deliver true professional action in a portable keyboard package. No short throw, cheap keys here – the Xboards provide you with full-size, high-quality keys with aftertouch that simply feel great to play. E-MU has upped the ante by adding real-time performance and editing features that allow you to instantly recall patches, latch keys and tweak filters and effects using a host of buttons and programmable real-time control knobs, plus effortlessly program templates for instant recall with E-MU's Xboard Control™ editing software. The Xboards also ship with the Proteus X LE Desktop Sound Module for Windows with over 1000 sounds included – you can even expand Proteus X LE with many of E-MU's legendary soundsets like Mo'Phatt, Planet Earth and more.



Xboard 25 \$149.99*



Xboard 49 \$169.99*

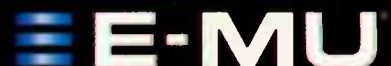
Get your hands on the new Xboard controllers at your local dealer and feel the difference.



*Estimated Street Price



www.emu.com



© 2005 E-MU Systems, Inc. E-MU is a registered trademark of E-MU Systems, Inc. in the US and other countries. All other brand names are the property of their respective owners.



Toll-free
877-742-6084

FabFilter Volcano

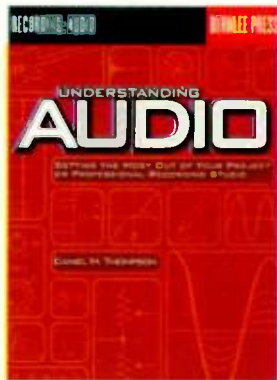
Filter effects plug-ins are all the rage, and one of the newest (and most brightly colored) is Volcano (\$139, Mac/Win), from Amsterdam-based FabFilter. Volcano gives you two virtual analog filters, either of which can be configured as lowpass, highpass, or bandpass, each with a 12-, 24-, or 48 dB slope. You can arrange the two filters in series or in parallel and select from five filter characteristics such as Smooth, Raw, and Hollow. Volcano's graphical user interface lets you drag its filter-response curves individually or at the same time. Even at the highest resonance settings, you can defeat self-oscillation using Volcano's Auto Mute switch whenever the audio input signal drops to zero.

Two LFOs and a MIDI-triggered envelope generator are available as sources to modulate filter parameters such

as frequency, peak, and pan. Either LFO can be controlled by its own rate setting or synchronized to your sequencer's tempo. Volcano's MIDI Learn feature lets you control all parameters with an external MIDI controller, which also means that you can record MIDI CCs to automate parameter changes in your sequencer. Dozens of factory presets are included, and you can save and recall your own filter presets. Volcano supports VST in Windows and VST and Audio Units formats in Mac OS X.



Get Smart



A thorough grasp of audio electronics is essential for anyone interested in music and recording. *Understanding Audio* (\$24.95), from Berklee Press (www.berkleepress.com), explores the principles of acoustics and electronics as they relate to studio recording. Written by Berklee instructor Daniel M. Thompson, the 368-page book covers subjects such as the physical laws of electricity, cables and studio wiring,

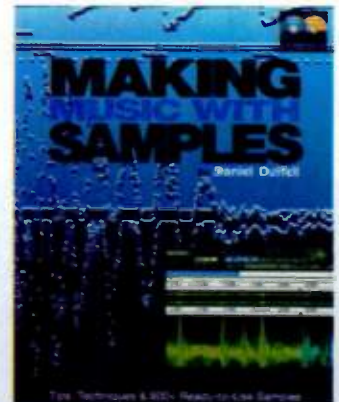
basic and advanced signal flow, room acoustics, digital audio, and the inner workings of a recording console. He explains concepts ranging from decibels and gain structures to psychoacoustics and audio specifications. Diagrams, tables, and formulas illustrate the topics presented in each chapter. Each of the 16 chapters ends in a short list of questions and suggested projects.

Creative Sequencing Techniques for Music Production (\$39.95), published by Focal Press (www.focalpress.com), guides the reader from the basics of setting up a studio to advanced sequencing and MIDI orchestration techniques. Throughout its 320 pages, author Andrea Pejrolo gives plenty of practical examples using Digidesign Pro Tools, MOTU Digital Performer, and Steinberg Cubase. After



explaining the MIDI protocol, essential studio gear, and the fundamentals of digital audio, Pejrolo dives into recording and editing sequencer tracks. From there the author covers automation, quantization, tempo mapping, time-stretching, MIDI and audio effects, synchronization, video, and dealing with SysEx. The final chapter explains mixing, mastering, and delivering your final mix. Helpful illustrations appear throughout, and each chapter ends with suggested exercises. A CD containing nearly 100 audio examples is included.

Most electronic musicians use samples, but how much do you understand about them? Daniel Duffell's *Making Music with Samples* (\$39.95) tackles the technology of sampling like no other book available. Published by Backbeat Books (www.backbeatbooks.com), this 207-page guide describes sampling techniques, tools, and applications. Beginning with the basics of acoustics and digital audio, Duffell quickly progresses to audio hardware, sequencers, virtual instruments, and sample editors. He explains how to get sounds into your sampler and how to edit them, as well as how to create sampler instruments and tailor sounds to suit your needs. A useful section on user sampling is followed by a discussion of legal ramifications. The book includes two CDs, one with samples from Zero-G and another with audio examples.



DV-RA1000

The new DSD-ready mastering standard: TASCAM's high-definition 2-track recorder.



Introducing the next generation mixdown recorder: the first to record both standard CD-R and high-resolution formats in one affordable unit. Created in collaboration with Sony, the DV-RA1000 is the ultimate 2-track recorder, capable of writing 24-bit PCM from 44.1kHz all the way up to 192kHz, as well as the ultimate digital format, DSD (Direct Stream Digital). Whatever your final mastering sample rate choice, the DV-RA1000 does it.

DSD	2.822 MHz	1-bit	109 min.
192 kHz	24-bit		66 min.
172.8 kHz	24-bit		66 min.
96 kHz	24-bit		72 min.
88.2 kHz	24-bit		133 min.
48 kHz	24-bit		267 min.
44.1 kHz	24-bit		290 min.

As a mixdown recorder. A full complement of professional I/O, including balanced analog, AES/EBU and word clock, allow the DV-RA1000 to easily integrate into your studio. Mix in confidence to universally-accepted DVD+RW media, mountable on a Mac® or PC. DV-RA1000 is the obvious mastering choice for pro studios: DVD is as easily deliverable as CD or DAT but with significantly higher audio resolution.

Wired remote control included.



As a live 2-track recorder. DV-RA1000 boasts an epic recording time of nearly 5 hours at 24-bit resolution on a single disc. Built-in processors such as multiband

compression and EQ ensure your live performances are perfectly captured.

As an archive recorder. Preserve your analog and digital masters using DSD, the format used by Sony® for Super Audio CD (SACD) authoring. With multiple sample rates that allow simple digital transfers from aging formats such as DAT tapes, TASCAM ushers in the Direct Stream Digital era with the only affordable way to accurately archive your precious recordings.

Meet the New Standard at your TASCAM dealer. Or visit www.tascam.com for more information on the new DV-RA1000.



- Up to 192kHz/24-bit recording
- Records to DVD+RW and CD-R/RW media*
- Multiband compression and 3-band EQ effects
- ±6% pitch control
- USB 2.0 port for use as DVD data drive
- Balanced AES/EBU I/O, running at normal, double-speed and double-wire formats plus balanced XLR and unbalanced RCA I/O
- SDIF-3 DSD I/O for external conversion & DSD audio processing
- Word Sync In, Out, Thru
- RS-232C serial control
- PS/2 keyboard connector for title editing
- Records to CD-DA, DSDIFF & Broadcast WAV formats
- Headphone output
- Supports UDF disk format for cross platform computer compatibility

TASCAM

* CD recording is at 44.1 kHz/16-bit (Red Book spec) only. Use of the DV-RA1000 for archiving really boring New Age Music is strictly prohibited by law. ©2005 TASCAM, a division of TEAC America Inc. All Rights Reserved. All specifications are subject to change without notice. All trademarks herein, heretofore and forthwith are the property of their respective holders.




CONTRACTOR

www.tascam.com


DJ AND PRODUCER


PERSONAL CREATIVITY

Boss GT-Pro

The new Boss GT-Pro (\$999) from Roland (www.rolandus.com) addresses the needs of guitarists who want the latest in amp-modeling and multi-effects technology. Powered by a COSM processor that models two amps simultaneously, the GT-Pro has two balanced XLR and four ¼-inch outputs, 24-bit coaxial S/PDIF output, and three sets of sends and returns for external effects. A USB port facilitates exchanging audio and control data with the included editor/librarian software (Mac/Win).

Designed to serve as a front end for a power amp, a recording console, or a computer audio interface, the GT-Pro lets you combine any two of its 46 amp models, and then layer, switch, or pan between them as you play. You can even control amp channels by the intensity of your picking.

The GT-Pro represents the top-of-the-line in Boss effects. It boasts 44 effects categories, 200 factory presets, and 140 user locations. You can arrange its 13 effects blocks in any configuration you like. Effects types run the gamut from overdrives, reverbs, and choruses to emulations of acoustic guitar and sitar.



Waves APA32 and APA44-M

Plug-in pioneer Waves (www.waves.com) has introduced two outboard DSP hosts, the 1U rack-mount APA32 (\$1,600) and the half-rackspace APA44-M (\$2,400). Each Audio Processing Accelerator can run multiple instances of Waves' most CPU-intensive plug-ins to lighten your computer's processing load. For example, the APA32 can run six IR-1 convolution reverbs or nine Renaissance Reverbs at 44.1 kHz. The APA44-M offers as much as 30 percent more processing power and nearly silent operation, making it suitable for mobile operation.

Ethernet ports and switches let you interconnect APA units and computers in a network configuration. Both modules support any of 14 Waves plug-ins, and you can select whether to run a given plug-in on the host computer, a TDM card, or an APA unit. For a limited time, Q-Clone and IR-L are included at no extra cost.



Download of the Month

MUSOLOMO (MAC)

Musolomo (free) is an Audio Units plug-in that, in the words of its developer, is designed to get you away from the computer screen and back to playing. It is the brainstorm of Keith Lang (aka SongCarver) and was brought to life by Airy Andre, the programmer who brought you Speedster and four other free plug-ins covered in September 2004's Download of the Month (visit emusician.com). Musolomo is available from Plasq (www.plasq.com), a consortium of software developers offering a host of innovative and inexpensive products.

The heart of Musolomo is a sampling engine optimized for grabbing rhythmically meaningful chunks of audio, mapping them intelligently across the MIDI note range, and allowing them to be triggered and manipulated in real time with no mousing around. Clip recording and triggering can be synchronized to beats or bars at the host's tempo, and a clever prebuffering system allows you to be a little late and still record from the beginning of the beat or bar.

Musolomo has two record modes: Normal and Autolooper. In Normal mode, holding C3 while pressing any other note (called the trigger note) will initiate recording; releasing either note terminates recording. Thereafter, playing the trigger note initiates playback of the captured clip, and notes on either side that have not been assigned to trigger other clips will pitch-shift (but not time-shift) the clip. Autolooper works like a sophisticated looping pedal: a single MIDI note toggles recording

on and off, and clips are assigned to consecutive keys for playback triggering. Clips automatically start playing after being recorded, creating overlays like a looping pedal does. Pressing a clip's trigger note turns it off.

Musolomo's built-in effects, which can all be assigned MIDI controllers, include a turntable-style scratcher, a tape-speed slider with momentum control, a bowing effect that allows you to navigate manually through the sample, and an x/y-control for independent pitch shifting and time stretching. The useful Digiskip feature allows you to offset the clip start by a variety of note increments.

Cramming a lot of features into a few words makes Musolomo sound more complicated than it is. You can master the basics in a few moments exercising its features at your MIDI keyboard. The advanced stuff may take a bit more wrist action, but it's loads of fun and well worth the effort.

—Len Sasso



SM Pro Audio A08

If you have an audio interface or a digital mixer with ADAT Lightpipe ports you seldom or never use, wouldn't it be great if you could inexpensively add more analog inputs instead? Now you can! SM Pro Audio (www.smproaudio.com) is shipping the A08 (\$149), an 8-channel analog-to-Lightpipe format converter in a half-rack-space box. With eight extra line inputs, you can add more hardware synths, effects devices, and other analog audio sources to your remote recording or personal studio setup.

The A08 has eight unbalanced ¼-inch TS inputs and a Toslink port that serves as an 8-channel ADAT output, as well as word-clock in and out on BNC connectors. The A/D



converter handles 24-bit audio at sampling rates as high as 96 kHz using external sync; a rear-panel switch selects 44.1- or 48 kHz internal operation. The A08 includes an external 17V AC power supply and four rubber feet for desktop use; rack ears are available as an option.

Brainspaw Forte

Although virtual rackmount studios such as Propellerhead Reason and Arturia Storm are useful tools, they're usually limited to only the instruments they include. But if you own Brainspaw Forte 1.5 (Win, \$129.95), you can stack almost any VST and DirectX instruments and effects as modules in an onscreen rack. Forte offers low latency, extensive MIDI routing and filtering, and the ability to load and play as many as 32 instruments with assignable audio outputs. You can process live audio inputs through effects plug-ins and control those effects with reassignable MIDI commands. Forte even lets you reconfigure your instruments and save your setups as scenes for instant recall.

You can use Forte as a ReWire master, and slave instruments and effects to a master tempo for each scene. Use tap tempo, control tempo using MIDI knobs or controller pedals, or slave your plug-ins to an external clock. Remap your keyboard and create set lists in which each song loads a different scene. Forte's Preset Manager lets you access each plug-in's presets and create a menu of favorites. Designed primarily as a live-performance workstation for onstage use, Forte also minimizes setup time for studio sessions.

Applied Acoustics String Studio VS-1

Montreal-based Applied Acoustics Systems (www.applied-acoustics.com) continues to push the envelope of physical-modeling software with the release of String Studio (Mac/Win, \$249). You'd be mistaken if you assume that String Studio synthesizes only bowed instruments. It emulates strings interacting with bows, picks, hammers, fingers, frets, dampers, and soundboards. The resulting soft-synth re-creates the sounds of electric and acoustic keyboards, guitars, basses, harps, viols, and numerous ethnic instruments. Hundreds of presets also supply a healthy dose of unique pads, electronic timbres, and innovative sound effects, all with an organic warmth that belies their nonacoustical origin.

Physical modeling makes it possible for String Studio to reproduce the nuanced response and dynamic characteristics of real instruments, as well as deliver sounds that don't exist in the material world. Various modules determine

the attributes of the virtual string, its source of motion (plectrum, hammer, or bow), its pickup position, and its body type. You can also specify parameters such as EQ, distortion, LFO modulation, and multimode filter characteristics. Other modules provide chorus, delay, and reverb effects, as well as sophisticated control over arpeggiation, portamento, vibrato, and intonation. String Studio runs standalone and as a plug-in that supports DirectX and VST in Windows and Audio Units, RTAS, and VST in Mac OS X.



EH-R1 RIBBON MICROPHONE

EXPRESS YOURSELF Offering the natural, open sound that the finest ribbon microphones are known for, the EH-R1 is VERY expressive on vocals and stunning on acoustic instruments, with performance and construction that are second to none. The perfect mic to complement any professional lineup.

“It’s an awesome microphone. I’m amazed by how it presents expressions of my voice that I’ve NEVER heard before.”

– Mike Matthews



ROCK STAR COMBO



12AY7 MIC PREAMP

IF YOU WANT THE BEST The 12AY7 MIC PREAMP uses 12AY7 and 12AU7 EH vacuum tubes to amplify the signal to line level while eliminating noise and hum. Gives microphones the warmest tone and widest dynamic swing!

- Extra TRS output for separate line control that can be used as a splitter or an AUX Send for monitoring
- Balanced In and Out (XLR) input connections with a 1/4" balanced buffer out
- Phase reverse switch
- +4dBm indicator light for setting optimal mic level
- 48-volt "pop free" phantom power

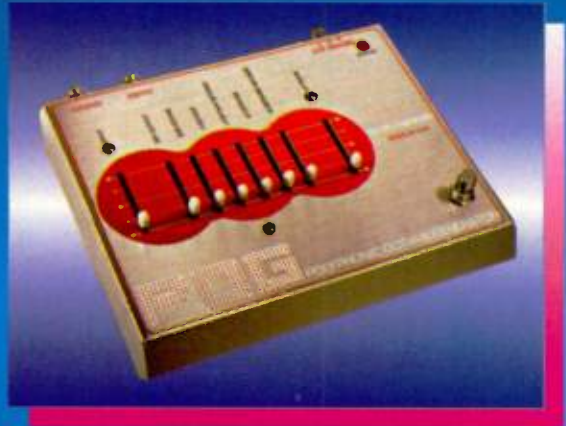
electro-harmonix

NEW EH CLASSICS



ENGLISH MUFF'N OVERDRIVE

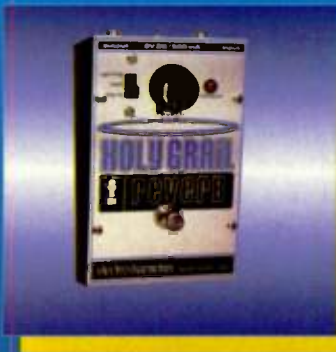
Taking its roots from the greatest early Marshall Plexi™ amps, the English Muff'n recreates their majesty with spot-on accuracy. Rather than "trying to approximate" these amps like emulator products, the English Muff'n employs one glovered 12AY7 EH tube cascading into another, to produce true, naturally saturated Brit-valve tones. A bloody masterpiece!



POG POLYPHONIC OCTAVE GENERATOR

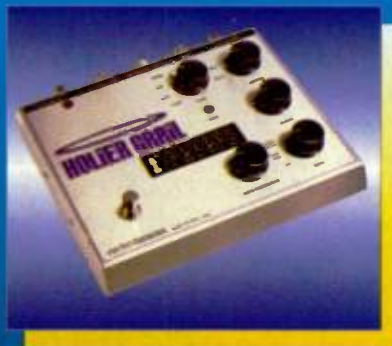
Add one octave up, two octaves up, and one octave down from your original notes and blend them or detune them. And the POG **WORKS ON CHORDS** with perfect tracking! Turn your guitar into a 12 string—even an 18 string—OR a Hammond B3 organ. Plus, create a plethora of your own tonedogs!

HEAVENLY REVERBS



HOLY GRAIL

The **ONLY** digital Spring reverb with a sound so realistic even Dick Dale couldn't tell the difference. Plus bonus Hall and Flanged reverbs.



HOLIER GRAIL

Adds three more wonderful reverb sounds to the Holy Grail, plus post-reverb Gate and Reverse Gate.



HOLIEST GRAIL

Adds customizable pre-delay and decay time, along with feedback, damping adjustment, diffusion and reverb mix from 8 adjustable presets.

Toontrack Superior Custom & Vintage

Superior Custom & Vintage (Mac/Win, \$299.95) is a virtual drummer created by Toontrack and distributed by EastWest (www.soundsonline.com). It comprises more than 30 GB of sample data that can be played either as an instrument plug-in that supports ReWire, VST, and Audio Units, or as a complement to DFH Superior. Each drum or cymbal was miked separately and offers its own output with selectable bleed from other instruments. Velocity mapping is automatic. You can play Custom & Vintage using MIDI drum pads, and it's easy to remap the sounds to your setup.

Custom & Vintage brings together drummer Chris Whitten (Paul McCartney, Dire Straits), Grammy Award-winning engineer Peter Henderson, a classic analog mixer that once belonged to Abbey Road, and a unique collection of drums and cymbals. The instruments feature names such as Slingerland Radio King, Noble & Cooley Star, Camco Oaklawn, Craviotto, Zildjian, Canopus Zelkova, and Ludwig Black Beauty and Supraphonic, all of which are either old or rare.



Sound Advice

One of the biggest single-instrument sample libraries created ever comes from Prominy (www.prominy.com), a soundware developer that is shipping *LPC Electric Distortion & Clean Guitar* (\$599). Delivered on six DVDs, *LPC* decompresses into more than 100 GB devoted entirely to reproducing the sound of a Gibson Les Paul Custom. The distorted guitar was played through a Marshall 1959SLP amp with a Shure SM57

and an Electro-Voice RE20, and the clean guitar through a Marshall 9005 rackmount power amp with an AKG C 414 B-ULS. Formatted exclusively for GigaStudio 2 and 3, *LPC* delivers multisampled notes, chords, octaves, mutes, vibratos, hammer-ons, pull-offs, pick noises and scrapes, and virtually every conceivable articulation you could play on a guitar. You'll find bends, double bends, unison bends, stationary bends, harmonics, and pinch harmonics. Using GigaStudio 3's new

Legato mode, *LPC* can play an assortment of legato slides at multiple tempos and with a choice of Velocity options.

Spectrasonics (www.spectrasonics.net) is shipping *Burning Grooves* (\$99), the fifth title in its series of SAGE Expanders formatted for Stylus RMX. Featuring live drum parts played by Abe Laboriel, Jr., *Burning Grooves* can give your tracks an aggressive, high-energy feel in seven time signatures. Individual elements supplement dozens of multi-track grooves in a variety of musical styles and genres, with an emphasis on rock drumming. Just pick a groove or use the Acoustic Groove Elements to build your own parts one drum at a time, and select from a menu of cymbals you can play manually. Many grooves are supplied with and without kick and snare.



Before the release of *First Call Horns* (\$299.95), most brass sample libraries focused on orchestral instruments. **Big Fish Audio** (www.bigfishaudio.com) is bucking that trend, aiming this collection squarely at rock, jazz, pop, and Latin musical styles. The 1.4 GB library supplies a variety of saxes, trumpets, trombones, flugelhorns, and French horns—solo, in sections, and in combinations. The level of detail makes all the instruments immediately useful; muted trumpets, for example, provide straight, cupped, and harmonic variations. In addition to single notes, you can select from an extensive menu of spirited riffs and improvised solo parts. *First Call Horns* is available on DVD-ROM in either Giga or Kontakt format. The latter edition has a specialized version of Native Instruments' Kontakt Player (Mac/Win), which runs standalone and as an Audio Units, DirectX, RTAS, or VST plug-in. **EM**





APA44-M
Audio Processing Accelerator

APA32
Audio Processing Accelerator

WAVES POWER

Introducing
Waves Audio Processing Accelerators



Run plenty of Waves plug-ins easily
with the new APA 32
Audio Processing Accelerator



Get even more power in a compact,
quiet package with the new APA44-M
Audio Processing accelerator



With a standard
Ethernet Cable



For even more
Waves Power



With multiple
Work Stations



The APA44-M
is easily portable

Find out more at your Waves dealer or at www.waves.com



Wash 'n' Wear

By Scott Wilkinson

Your shirt can tell you when things are too loud.

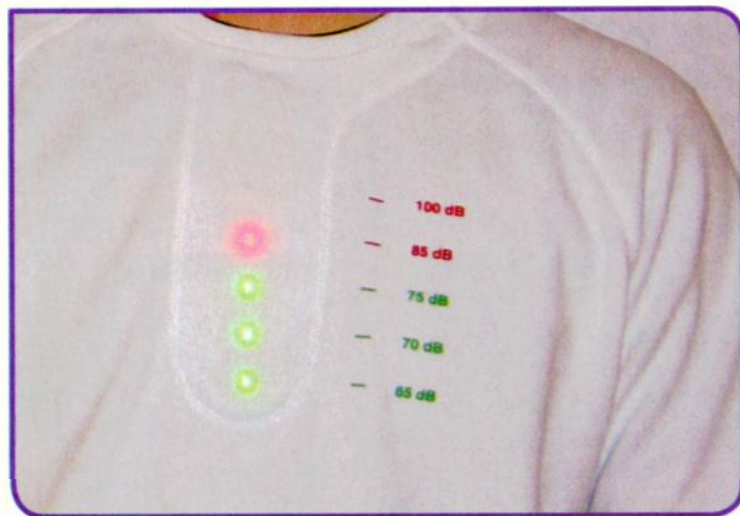
Sometimes research in one area leads to interesting applications in another. Among the most famous examples of this phenomenon was the accidental invention of the toy product known as Silly Putty, which resulted from the attempt during World War II to develop a rubber substitute.

I recently came across another example that, while not accidental, clearly demonstrates the potential of cross-pollination between disciplines. A group of researchers at Tampere University of Technology (www.tut.fi) in Kankaanpää, Finland, is working on the concept of wearable technology—that is, incorporating electronics into normal garments that can be washed and worn like any other clothes.

What caught my interest was the TUT group's proof-of-concept prototype, which they call the Noise Shirt (see Fig. 1). They encased a small microphone, some processing electronics, and a series of LEDs in a flexible polymer casting, which they attached to the inside front surface of a pullover shirt. The mic picks up ambient sound, and the LEDs indicate its level in dB SPL. The LEDs form a ladder-type meter with five steps from 65- to 100 dB, with the bottom three being green and the top two (85- and 100 dB) being red. This

corresponds with the European Union guidelines for hearing protection, which state that continuous exposure to levels at or above 85 dB can cause hearing damage.

FIG. 1: The Noise Shirt picks up ambient sound and displays its level so that wearers can avoid environments that might damage their hearing.



COURTESY TAMPERE UNIVERSITY OF TECHNOLOGY

Of course, electronics are useless without power. Rechargeable batteries are the best answer, but waterproof connectors for a detachable power cord are large and expensive. Fortunately, the Noise Shirt doesn't require much power, so the group determined that wireless inductive power transfer was the best solution. This technology is currently used to recharge electric toothbrushes and the like. The concept is simple: an electric current running through a coil of wire creates a magnetic field, which induces a similar current in another nearby coil, and the induced current is used to charge a battery. The only limitation is that the coils must be in very close proximity for the process to be effective.

The TUT group realized that the simplest and most sensible vehicle for wirelessly recharging the Noise Shirt was a clothes hanger with a flat, spiral coil of wire attached to the center, which can be plugged into an AC outlet. A similar coil in the neck of the shirt is encased in flexible polymer, along with a lithium battery. The shirt's coil aligns with the powered hanger coil, recharging the battery.

After experimenting with hand-wound coils of wire, the group refined them by etching flexible circuit boards (FCBs) with a spiral coil, allowing the battery and recharging electronics to fit on one board. The current system can recharge an empty battery in three hours, and a fully charged battery will run the Noise Shirt for two to four hours, depending on the level of ambient sound.

In the current prototype, the mic/LED module and battery/coil module are connected with plasticized wiring sewn into the shirt. There are, however, other ways to connect different modules in such a garment, such as Bluetooth or another wireless system. The wearer's skin could also be used to carry low-current signals.

Although the TUT group is focused on researching the basic concept of wearable technology without much regard to specific purposes, the potential for musical applications is intriguing, and hearing protection is just the start. How about a system that modulates various synth parameters with different physiological indicators (heartbeat, breath, galvanic skin response, and so on) for a truly organic musical experience? Or maybe a bio-feedback system that includes all the sensor and audio electronics in a shirt? I look forward to seeing what creative minds come up with in the future. **EM**

"I recently bought
NOTION™
and am thoroughly
enjoying your software.

Actually, I think

'blown away'

is a more

appropriate

statement."

- John McIntyre

Music Educator, Composer

NOTION™
REALIZE MUSIC.™
WWW.NOTIONMUSIC.COM

MUSIC COMPOSITION AND PERFORMANCE SOFTWARE

Welcome to the Jungle

By Matt Gallagher

Old school meets new school in Asphalt Jungle.

Guitarist Brian Tarquin and keyboardist Chris Ingram are a successful electronic-music production duo. Their action-packed soundtracks can be heard on MTV's *Road Rules*, *Real World*, and *Tough Enough*; ABC-TV's *Making the Band*; NBC's *Extra*; and more. "We won our second Emmy award for music composition for [ABC-TV's] *All My Children*," Ingram says.

As *Asphalt Jungle*, Tarquin and Ingram have released two albums of their edgy, adrenalin-infused compositions. Their second effort is *Enjoy This Trip* (CP Hypnotic Records, 2005), which brings diverse musical influences into the realm of electronica. "We like this area of music because the audience is open to virtually every style, as long as it fits," Ingram says.

One of *Asphalt Jungle*'s stylistic hallmarks is melding live performances with programmed parts. "You can't get subtle articulation out of sample-playback synths, which is one reason why we play instruments," Ingram says. According to Tarquin, "We bring old techniques for recording live instruments into the new school of drum 'n' bass, breakbeats, and so on."

Tarquin's studio, The Jungle Room, is outfitted with a Mac G5, a Digidesign Digi 002 digital audio interface, and a Soundcraft Spirit Studio 24-channel analog mixer. "I use Pro Tools LE for recording to hard disk and editing," Tarquin says. "I program MIDI parts on the [Akai] MPC4000 and

MPC2000XL." Tarquin also relies on a bevy of hardware synths, effects processors, and mic preamps. Ingram's studio, The Farm, is built around a Mac G4 running MOTU's Digital Performer. "We use as much analog gear as possible in the signal path," Ingram notes.

"Our music is very groove oriented," Tarquin says. "Sometimes you can manipulate what you played and hear another melody or rhythm that you hadn't intended." Ingram adds, "We have an electronic dialog. We let the song go where it's going to go. In the old school, you write your melody and build your tracks around that. We can [start with] something more ethereal. The computer lets you turn anything upside down.

"Drum sounds dictate the sound of the song and where it's going to go," Ingram says. "Drum machines are usually too clean. Records from the 1960s and 1970s have a lo-fi sound that creates a vibe." Tarquin often thickens his drum samples for maximum impact. "I sample sounds into the MPC," he says. "I'll take a loop and layer it with sounds from [Ultimate Sound Bank's] Plugsound [software sample player]."

Rhythmic variations and combinations inspire many of *Asphalt Jungle*'s compositions. "I wrote 'Galway' using a tremolo patch from a Fender guitar," Tarquin says. "I found a nice groove, and Chris used the E-mu E4 Platinum [sampler] for programming drums. I added effects with the Eventide Ultra-Harmonizer GTR 4000." For "Hallelujah," Tarquin wove Gregorian chants into a 4/4 dance-floor groove. "I manipulated the choir and programmed the drums around that, and then added other elements such as the [Access] Virus and guitar," Tarquin says.

For *Asphalt Jungle*'s remix of Bob Marley's "Don't Rock the Boat," Tarquin built a drum 'n' bass groove around Marley's vocal. "I did it all on the MPC2000XL," Tarquin says. "I cut up the vocals into short phrases. I calculated the bpm of his vocal and doubled it so that I could program a loop that would fit it. I wanted to get the timing exactly right so that we wouldn't have to do any time stretching or compression, and so that it still sounds natural. It came out amazingly well." **EM**



Enjoy This Trip/Asphalt Jungle

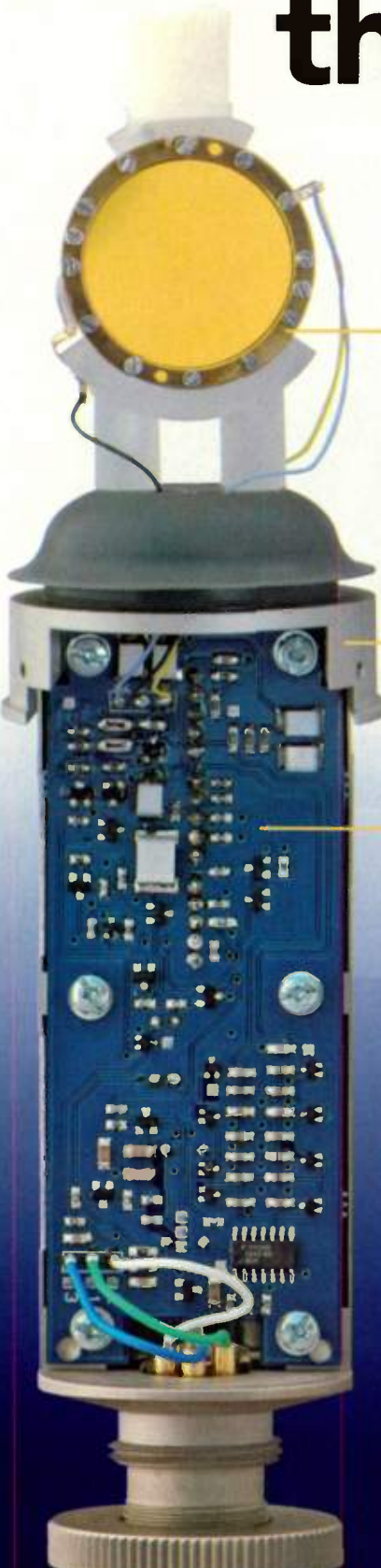
For more information, go to www.asphaltjungle.net.

Beauty is more than skin deep.

The new RØDE NT2-A delivers where others fail.

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


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



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

Computer modeled non-resonant substructure.

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



Variable Polar, Pad & High Pass Filter

NT2-A

Proudly designed and manufactured in Australia
www.rodemic.com

RØDE[®]
MICROPHONES



Mbox



Digi 002 Rack



Digi 002



Take it from the top... again



This song rules!

Sound Advice

When the band Run Don't Walk decided they were ready to move up to Pro Tools® to produce their album, they smartly chose the experts at Sweetwater to help guide their purchase decisions. They didn't know that all Pro Tools LE systems — Mbox,™ Digi 002,™ and Digi 002™ Rack — include over 30 free plug-ins and applications. Richard particularly looked forward to creating cool backing tracks with Reason Adapted, Live Digidesign Edition, and SampleTank 2 SE.

However, their friendly and informative Sweetwater Sales Engineer also told them that by investing just a little more money, they could upgrade to the Pro Tools LE Factory bundles — providing them with a plethora of additional plug-ins from Bomb Factory and Digidesign.™ They jumped at the opportunity. Green loves how the BF-3A makes her vocals sound. Tiffany can't get enough of the Tel-Ray Variable Delay on her guitars. Run Don't Walk has never sounded better.





Green demonstrates the air scratch



Mixmaster Tiff in da house



MARK HUDSON, HIT SONGWRITER,
INDEPENDENT PRODUCER FOR OZZY
OSBOURNE, RINGO STARR, AEROSMITH
AND MANY OTHERS, WILL BE THE
PRESIDING DIGITECH SONGWRITING
CONTEST JUDGE.



I WANT YOU

FOR THE DIGITECH®

WWW.GUITARWORKSTATION.COM

SONGWRITING CONTEST!

\$35,000 IN PRIZES

FOR USERS OF THE GNX3, GNX3000 & GNX4,
WORLD'S MOST POWERFUL GUITAR WORKSTATIONS.

Record your best original songs on a
DigiTech Guitar Workstation®. Submit
them by September 30th, 2005. Contest

administration and hosting is by
broadjam
Broadjam, the #1 independent
musicians' source for web-based song
promotion and networking tools.



The first 1000 to check
out contest details at
www.guitarworkstation.com get a
FREE copy of *Guitar Workstation:
The Power User's Guide*.

1ST PRIZE \$20,000

worth of gear from DigiTech®, Lexicon®, dbx®, BSS, Crown®,
Soundcraft®, JBL Pro® and AKG® and a trip to LA...
plus dinner with producer/judge Mark Hudson who'll
pitch your song to key recording label execs!

2ND PRIZE \$10,000

worth of recording and performance gear

3RD PRIZE \$5,000

worth of recording and performance gear



PERFORM PRACTICE CREATE RECORD Take your music to the next level with a Guitar Workstation!

DigiTech

The Power to Create

A Harman International Company



LAUREN WILLIAMS

Do the Wrong Thing

By Julian McBrowne

Unconventional engineering techniques for the sonically adventurous.

Engineers, producers, and musicians have been coming up with nonstandard recording techniques to create original sounds since the early days of multitracks. Jimmy Page got his fat, distorted guitar sound for the main riff in the Led Zeppelin classic “Black Dog” by plugging directly into the studio’s tube console and overloading the input, rather than using a miked amp. In the Lovin’ Spoonful’s “Summer in the City,” engineer Roy Hallee created the reverberant, door-slammng sound in the intro when he placed a mic inside a garbage can and recorded the sound of somebody hitting the outside of the can.

More recently, Tom Waits began tracking vocals using an expensive large-diaphragm condenser mic patched through a cheap boom box (which he refers to as his “Secret Weapon”), and then into a pricey tube mic preamp. It’s not what you’d call a textbook signal path, but it has helped him achieve his signature sound.

Seat-of-the-pants engineering was particularly necessary in the early days of multitracking, when there were few effects and not many sonic options. Today, with all the plug-ins, multi-effects processors, and digital-editing tools available, improvisation is less of a necessity. Adventurous recordists, however, still find plenty of ways to break the “rules” and discover new sonic territory, just as the participants in each of the above examples departed from convention to achieve original sounds, even if they had to reject what was considered the “right way” of doing things.

World-Class Rule Breaking

“If you like the sonic result of what you’re recording and the band does, too, then it’s all okay,” says master engineer Michael Brauer (www.mbrauer.com), whose mixing credits range from Luther Vandross and Aimee Mann to Coldplay. Brauer, a veteran engineer who earned his stripes at

New York's legendary Media Sound working beside Bob Clearmountain, Ed Stasium, and Tony Bongiovi, took a break from his Manhattan penthouse studio to talk with me about audio rule breaking.

"I encourage you to break all rules! I learned the rules real well so that I didn't screw up. It means that you record any way you want to as long as it sounds great. If one engineer gets great sounds by miking drums from above the toms, you can bet that one of the other guys will go out of his way to get great sounds miking from underneath the toms. Everyone's always experimenting."

Brauer's current mixing arsenal includes an encyclopedic array of compressors through which he submixes different musical elements before they are blended into the final mix. Based on the various compressors' tonal signatures, he decides which ones to use for which elements. Brauer developed this unorthodox but effective mixing method in response to producers' requests for more bottom-heavy mixes.

Engineer Michael Brauer, who's worked with such artists as Coldplay, Aimee Mann, and Luther Vandross, says engineers should not be afraid of breaking the rules in their quest for a good-sounding track.



COURTESY MICHAEL BRAUER

"I was doing a good job of mixing in the style taught to me, until the sound of music changed. I needed to find a new approach," Brauer says. "There are all types of toys and plug-ins out there that can help you get the sound that is in your head. After all, that's what it's all about, isn't it? You have an idea in your head, and you want to hear it recorded. How are you going to accomplish that?"

Who's in Control?

If you're going to follow Brauer's advice and use plug-ins and other digital audio gear for sonic experimentation, keep in mind that the user's experience is very different than with analog equipment, in which every parameter is controlled by physical knobs and faders. Analog twiddlers can simply grab



FIG. 1: If you experiment with overloading effects plug-ins, it's useful to put a limiter, such as the Waves L1, at the end of the chain.

the controls and twist to get the desired result; they can even grab and turn two knobs simultaneously if necessary.

Digital twiddlers, especially those dealing with computer-based software instruments and effects, generally have a tactile control that differs from that of their analog counterparts. That's because they're using a mouse and a computer keyboard instead of knobs. They're relegated to auditioning presets, typing in changes, and sitting back to hear what happens. In short, their experience is less gratifying and more boring. In that environment, the digital engineer is at a disadvantage when it comes to experimentation.

Fortunately, a more analog-like experience can be attained by using a control surface or MIDI-controller keyboard that has knobs, sliders, and switches. Even after you establish manual control of your virtual equipment, however, there's still no guarantee that it will respond the same way as its analog counterparts do. Although analog and digital gear may ultimately yield similar results, they operate on different principles underneath the surface. As a result, doing the "wrong" thing means breaking different rules, and therefore coming up with different results, depending on the type of gear you're using.

The following are some of my favorite out-of-the-box engineering and production techniques. For the sake of organization, I've broken them up into three main categories.

Sleep is for the weak

Are You Good Enough For Neutrik?



The Mark of a
Lifetime Performance Guarantee.

to take advantage of the resulting tape-based compression. They exploited magnetic tape's own limitations to create the desired sound. If you're working in the accurate but unforgiving digital world, you have two ways to get that saturated sound.

The standard approach is to open up a tape-saturation plug-in, slap it across your digital mix bus, and lay down your mix. The unconventional way requires that you use an analog tape machine in addition to your digital rig. Patch the signal out of your DAW and into the record inputs of the tape recorder. Then connect the output from the tape machine's repro head, press Record on the reel-to-reel, and record the results back into your DAW. As long as you don't overload your digital input, you can drive the tape as hard as is necessary to achieve the desired effect (see Fig. 2).

Out of Order

In this second category, rule breaking consists of putting gear in the incorrect order, place, or both.

Return to sender. Traditional engineering practice holds that there's a strict division between effects that work as sends and returns and those that work as channel inserts. Generally speaking, compression and equalization should be dedicated to individual channels



COURTESY JULIAN MCBROWNE

FIG. 4: This nonstandard miking method features a handheld lavalier mic used for capturing maraca sounds.

or across busses, and reverbs should be used as sends and returns.

Try turning that concept upside down by using traditional insert effects as send-and-return devices. To add low frequency to your mix, for instance, set up an aux send to an equalizer dialed in to a bass boost that's stronger than what you'd use on an individual instrument. You can then generate more bass energy by turning up the appropriate send. Try sending some signal from a synth bass or a kick-drum track to add a darker feel without altering the basic sound of the instruments. You'll be able to bring in a different tone color, but it won't destroy your original equalization. Since it's on a send, you can easily apply this effect to any track in the mix.

Another counterintuitive technique is to configure a compressor as a send-and-return effect. You can send any track to it, and you can select your compression based on its sound or on the particular brand of snap it brings to the mix.

You can obtain the sound of compression while leaving the source track uncompressed by bussing the track's signal through a compressor and bringing the compressed sound back into the mix on its own fader. Slam it or gently squeeze it, and then blend the squeezed and unsqueezed sounds. If you're working with a DAW, it's even easier. Just duplicate the track, squash the copy, and blend as you see fit.

Use this same track-cloning concept with other types of effects as an alternative to inserting them on the original track. Let's say, for example, that you wanted to put a low-fi effect, such as Apple Logic Pro's Bitcrusher or Cycling '74's Degrader (from Pluggo), on a vocal track. You can get more control by copying the track and heavily processing it (while leaving the dry track alone [see Web Clip 1]) than you would get by inserting it.

Experimenting with effects in nonstandard configurations works equally well with analog and digital

A NEW SPIN ON VOCALS

Back in 1966, when the Beatles were recording *Revolver*, John Lennon was reportedly fascinated by the sound created by recording guitar and vocals through a rotating Leslie speaker. According to engineer Geoff Emerick, Lennon proposed taking the concept to the next level by suspending himself from a cable affixed to the ceiling of the Abbey Road studio, and swinging around a stationary microphone while he sang. A bit extreme, perhaps, but many of audio history's greatest advances have resulted from ideas that seemed insane at the time.

Lennon didn't end up carrying out his "human-Leslie" scheme. But his intense dislike for the process of doubling his vocals on a track led Abbey Road's chief technician, Ken Townsend, to experiment and to come up with another new technique, Artificial Double Tracking (ADT). ADT went on to become a standard studio technique. The

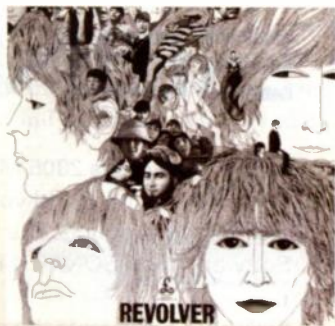


FIG. A: The Beatles' *Revolver* featured pioneering use of Artificial Double Tracking, which was born out of engineer Ken Townsend's ingenuity and John Lennon's dislike for doubling his vocals.

original process involved taking two signals from the same recorder, one from the record head and one from the playback head, with Townsend delaying the former until the two signals were just slightly out of sync. Dig out your copy of *Revolver* (see Fig. A) and listen to the pioneering examples of ADT.

Sleep is for the weak

Are You Good Enough For Neutrik?



The Mark of a
Lifetime Performance Guarantee.

Over the Top

The first category comprises effects created from too much level. That technique is commonly used with analog gear, but you can get some cool effects by overloading digital equipment (a real no-no according to conventional thinking). You have to tread carefully, though.

Level playing field. Overloading an analog preamp, compressor, or equalizer can produce a pleasant-sounding distortion that retains some of its musical qualities. Specifically, the overload induces even-order harmonic distortion, which can be quite pleasing to the ear. Digital gear has an upper-level limit beyond which it ceases being musical and begins to be intermittent or grossly distorted (in a nonmusical way). For that reason, level abuse of digital gear is unpredictable.

If you want to mess around with overloading the signal path in a DAW environment, put a brickwall limiter, such as the Waves L1 (see Fig. 1), at the end of your plug-in chain. Doing so will let you apply large amounts of level through the plug-ins while keeping the output under control. Turn down your monitors and keep pushing the input level. Although this technique yields effects that differ from analog overloading, it can intensify certain modulation and distortion effects and create

FIG. 2: This graphic shows the signal path for using an analog reel-to-reel as a tape saturation effect.

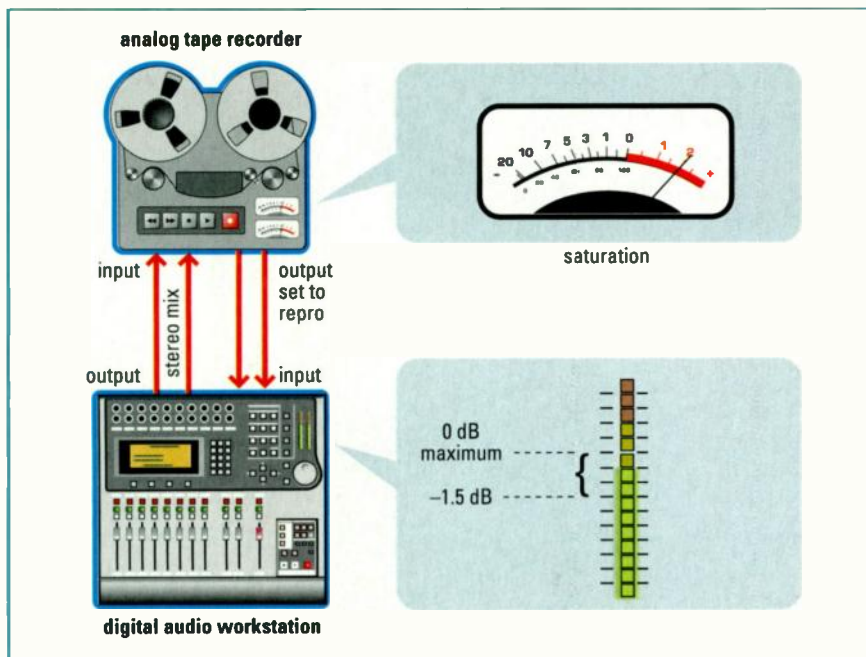


FIG. 3: Try using inexpensive consumer electronics, such as this Radio Shack Karaoke Mic Adapter (that features echo), as insert effects during mixdown.

COURTESY JULIAN HEINOWNE

a pumping, overcompressed AM-radio effect if you vary the limiter's release time.

If you want a more authentic-sounding analog response on your digital system, consider using a plug-in such as MacDSP's AC1 (TDM, RTAS, AudioSuite), which emulates an actual analog console channel and produces a soft limiting on overdriven signals.

It's the fuzz. In my 4-track days, I could produce a superfuzz bass or guitar by cranking up the preamp on my multitrack cassette deck. I'd plug in, turn the preamp trim knob all the way up, and record the signal with the VU pinned. If you're working with an outboard analog preamp, or if you have a bus to record through, you can still create that kind of distortion before the signal hits your digital recorder's A/D converters. Overload the preamp to get the desired cranked-up sound, and then use the preamp's output knob or the bus output to control the level going to your digital recorder.

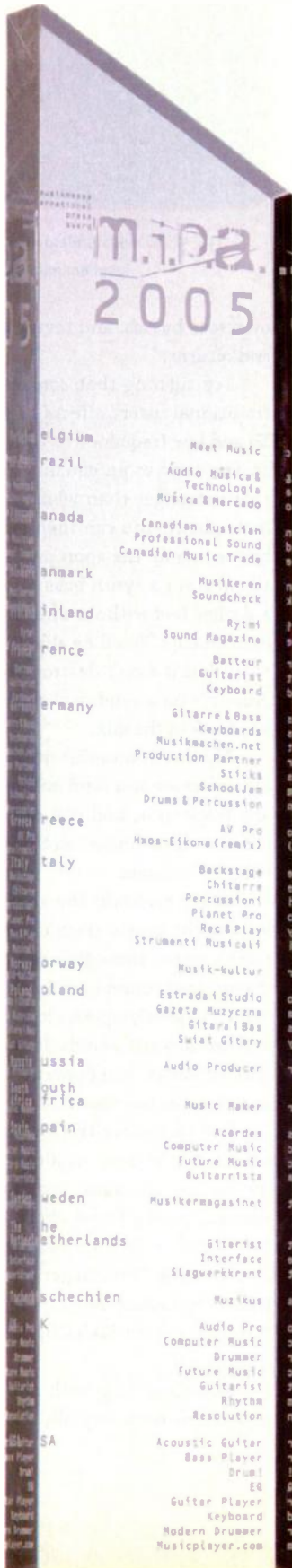
If you'd rather create a distorted input signal in a more conventional way, consider using a preamp with tube circuitry, such as the PreSonus Eureka. It has a control that allows you to adjust the amount of tube distortion to your taste.

Saturation point. Roy Thomas Baker, best known for his work with the Cars and with Queen, consistently shocked conventional engineers by recording with the VU needle deep in the red zone. His signature sound was tape saturation.

Many engineers routinely pinned the needle of the VU meters (particularly when recording bass- or kick-drum tracks)

Thank you.

Belgium
 Brazil
 Canada
 Czech Republic
 Denmark
 Finland
 France
 Germany
 Greece
 Italy
 The Netherlands
 Norway
 Poland
 Russia
 South Africa
 Spain
 Sweden
 UK
 USA



SONAR⁴

At the prestigious 2005 MIPA awards, 58 publications from around the world voted to pick the best music technology products. The winner for "Best Recording Software" was SONAR 4 Producer Edition.

SONAR 4 represents the culmination of years of development. But successful products aren't created in a vacuum. The award-winning improvements in SONAR came listening to you, our customers. That's why we want to thank you for years of support. We also want to thank the music publications who recognize our contributions to the art of recording.

At Cakewalk we're committed to delivering the best creative tools. If you're not one of our customers yet, we invite you to discover SONAR. Download the demo at www.SONAR4.com.

cakewalk.

to take advantage of the resulting tape-based compression. They exploited magnetic tape's own limitations to create the desired sound. If you're working in the accurate but unforgiving digital world, you have two ways to get that saturated sound.

The standard approach is to open up a tape-saturation plug-in, slap it across your digital mix bus, and lay down your mix. The unconventional way requires that you use an analog tape machine in addition to your digital rig. Patch the signal out of your DAW and into the record inputs of the tape recorder. Then connect the output from the tape machine's repro head, press Record on the reel-to-reel, and record the results back into your DAW. As long as you don't overload your digital input, you can drive the tape as hard as is necessary to achieve the desired effect (see Fig. 2).

Out of Order

In this second category, rule breaking consists of putting gear in the incorrect order, place, or both.

Return to sender. Traditional engineering practice holds that there's a strict division between effects that work as sends and returns and those that work as channel inserts. Generally speaking, compression and equalization should be dedicated to individual channels

A NEW SPIN ON VOCALS

Back in 1966, when the Beatles were recording *Revolver*, John Lennon was reportedly fascinated by the sound created by recording guitar and vocals through a rotating Leslie speaker. According to engineer Geoff Emerick, Lennon proposed taking the concept to the next level by suspending himself from a cable affixed to the ceiling of the Abbey Road studio, and swinging around a stationary microphone while he sang. A bit extreme, perhaps, but many of audio history's greatest advances have resulted from ideas that seemed insane at the time.

Lennon didn't end up carrying out his "human-Leslie" scheme. But his intense dislike for the process of doubling his vocals on a track led Abbey Road's chief technician, Ken Townsend, to experiment and to come up with another new technique, Artificial Double Tracking (ADT). ADT went on to become a standard studio technique. The

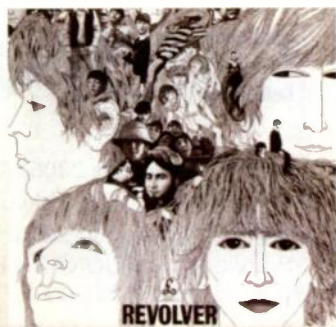


FIG. A: The Beatles' *Revolver* featured pioneering use of Artificial Double Tracking, which was born out of engineer Ken Townsend's ingenuity and John Lennon's dislike for doubling his vocals.

original process involved taking two signals from the same recorder, one from the record head and one from the playback head, with Townsend delaying the former until the two signals were just slightly out of sync. Dig out your copy of *Revolver* (see Fig. A) and listen to the pioneering examples of ADT.



FIG. 4: This nonstandard miking method features a handheld lavalier mic used for capturing maraca sounds.

or across busses, and reverbs should be used as sends and returns.

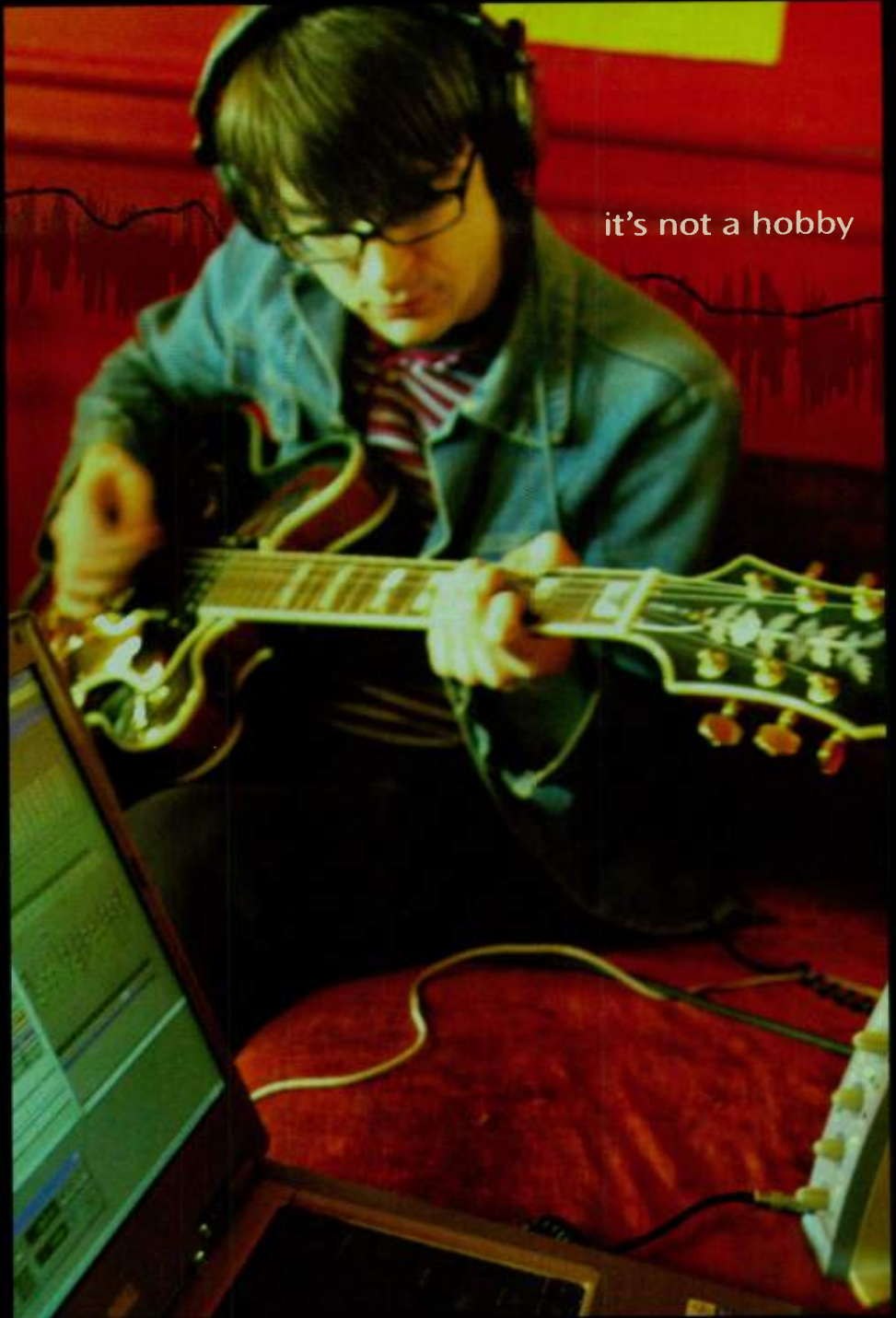
Try turning that concept upside down by using traditional insert effects as send-and-return devices. To add low frequency to your mix, for instance, set up an aux send to an equalizer dialed in to a bass boost that's stronger than what you'd use on an individual instrument. You can then generate more bass energy by turning up the appropriate send. Try sending some signal from a synth bass or a kick-drum track to add a darker feel without altering the basic sound of the instruments. You'll be able to bring in a different tone color, but it won't destroy your original equalization. Since it's on a send, you can easily apply this effect to any track in the mix.

Another counterintuitive technique is to configure a compressor as a send-and-return effect. You can send any track to it, and you can select your compression based on its sound or on the particular brand of snap it brings to the mix.

You can obtain the sound of compression while leaving the source track uncompressed by bussing the track's signal through a compressor and bringing the compressed sound back into the mix on its own fader. Slam it or gently squeeze it, and then blend the squeezed and unsqueezed sounds. If you're working with a DAW, it's even easier. Just duplicate the track, squash the copy, and blend as you see fit.

Use this same track-cloning concept with other types of effects as an alternative to inserting them on the original track. Let's say, for example, that you wanted to put a low-fi effect, such as Apple Logic Pro's Bitcrusher or Cycling '74's Degrader (from Pluggo), on a vocal track. You can get more control by copying the track and heavily processing it (while leaving the dry track alone [see Web Clip 1]) than you would get by inserting it.

Experimenting with effects in nonstandard configurations works equally well with analog and digital



it's not a hobby



MBOX PRO TOOLS LE

HARDWARE + two focusrite mic pre's . zero-latency monitoring . usb powered . 50mb digital io . windows & mac
SOFTWARE + industry-standard recording, editing & mixing . integrated midi . beat detective le . 40 plug-ins & instruments . rewire support

www.djdesign.com © 2005 Avid Technology, Inc. All rights reserved. Avid, Digidesign, Beat Detective, MBox, and Pro Tools LE are either trademarks or registered trademarks of Avid Technology, Inc. in the United States and/or other countries. All other trademarks contained herein are the property of their respective owners. Product features, specifications, and system requirements are subject to change without notice.



gear. If your audio interface sports a few extra analog ins and outs, consider incorporating some analog gear into your digital signal path. As long as you can route signals to and from those additional outputs, you can access your favorite analog effects and even overload them if you want to.

As you tweak the analog knobs, remember to take notes on what you've done and keep in mind that there is some latency involved in getting signals into and out of your DAW. Many digital audio programs automatically compensate for latency. If yours doesn't, you'll have to manually adjust the timing of tracks that pass through your analog gear. Digidesign's latest Pro Tools HD systems feature adjustable compensation, specifically for inserts to outboard gear.

Patch it up. This next technique involves MIDI instrument sounds. Everyone who works with MIDI has had the experience of pressing Play on their sequencer when an instrument is mistakenly set to the wrong sound. The results can be drum parts triggering power-chord samples, keyboard parts played by horn-section sounds, two-note bongo parts triggering tuba sounds, and so forth. Although such a scenario can result in sonic disaster, it can also produce some cool-sounding surprises.

Why wait for dumb luck to unleash this creative chaos? "Misassign your MIDI sounds intentionally. Make a habit of routing your drum sequences to a bank of ethnic percussion sounds, or listening to your bass line interpreted by a baritone sax. Build entire alternate instrument sets for your MIDI compositions and experiment with combining them with the original patches. You might find a replacement for an overused sound or a great sonic change-up for a bridge, breakdown, or remix.

If you have the time and the patience, loop your MIDI track and start randomly flipping through patches on your synth or sampler. You never know what you might come up with, and you're sure to have a few good laughs along the way.

Use the Wrong Thing

The third category involves using audio gear for purposes it was never intended for. The possibilities are limited only by the size of your budget and the depth (and in some cases depravity) of your imagination. Seemingly inappropriate items can inspire new sounds and be used to create fun and unusual effects.

DO IT WRONG, AND GET IT RIGHT

Here are some of the less-than-conventional techniques discussed in this article:

- Overload one or more digital plug-ins, but have a brickwall limiter at the end of the plug-in chain to keep the signal under control.
- Get the sound of analog distortion into your DAW by overloading an analog preamp on the way in.
- Route your mix or track out of your DAW and into the inputs of a reel-to-reel deck in Record, saturate the tape, and use the output from the repro heads.
- Use traditional insert effects such as EQs and compressors as send-and-return effects.
- Duplicate a track in a DAW,

and then insert effects (such as those from an inserted stompbox) on only the copy. Achieve the blend you want by varying the level of the dry and wet tracks.

- Randomly misassign sound sources for your MIDI tracks.
- Use cheap and cheesy consumer electronics devices, such as karaoke boxes and speakerphone handsets, as input or effects devices.
- Insert stompbox effects into your DAW signal chain using your audio interface's analog I/O.
- Tape inexpensive lavalier mics inside percussion instruments.
- Swing a really cheap mic around your head while recording for a rotating speaker effect.

Shopping trip. If you're in a creative frame of mind, a trip to the local electronics outlet, discount toy store, thrift shop, or flea market can be almost as rewarding as a stroll through the music store.

Many items that are ripe for this treatment have no natural place in a recording studio and would seem more at home on a playground or in a karaoke bar. On a brief visit to the local discount electronics store, I looked around for the most inexpensive gear I could find. I bought a \$20 pair of walkie-talkies (which will surely find their way onto an upcoming rap vocal session), and a cool battery-operated Super Spy listening device, complete with ear buds for \$9.95. ("They'll think you're listening to music," says the package.) With the purchase of the pocketful of adapters required to plug it into a mixer, the Super-Spy device could become a room mic with lots of gain and an extreme automatic level control (see [Web Clips 2 and 3](#)).


In the karaoke section of the store, I discovered the mysterious "vocal-eliminator" devices. Made to facilitate the performances of semiprofessional singers by canceling out center-channel vocals, many of these boxes come equipped with CD players, digital effects, and multiple mic inputs. Dig deeply enough into your cache of adapters, and you could turn a box like that into a unique reverb or echo device (see [Web Clip 4](#)).

You can hook it up just like any other analog effects device: patch an available aux out into the mic input on the karaoke box (see [Fig. 3](#)). Return the signal to your mixer from the box's output. Dial up your desired effect, and turn up the appropriate send. Keep in mind that you may have to crank your send levels to get a

There's nothing like
that feeling...

When you know you've
written something great!

MasterWriter



It's a magical moment when a song is born, but more often than not, the song the Muse gives us is less than perfect. This is when craft and dedication to your art come into play and here is where the songwriter can make a good song great, or a great song greater. This is a critical time in the creative process. MasterWriter is the most powerful suite of songwriting tools ever assembled in one program. In a business where good is never good enough, let Masterwriter take your songwriting to a new level where you will consistently create the exceptional. Download a FREE 30-Day Trial and find out why the world's leading songwriters use MasterWriter...

MASTERWRITER

The Songwriter's Power Tool



Best of Show Winner
MacWorld Expo 2003

Free 30-Day Trial

Call Toll Free: 1-866-892-8844
www.masterwriter.com
Mac and Windows Compatible

usable signal at the mic input. Now you're equipped to cut karaoke-style lead vocals using the box to get those cheesy effects.

Reevaluate all of the electronic gear that you've recently replaced with software. Dig out the old stuff from the back of the closet and invent new uses for it. Reconsider your abandoned stompbox guitar effects as potential vocal treatments or snare-drum inserts. Vocalize into that old speakerphone handset, and mic up the speaker for a "telephone-voice" effect that rivals that of any plug-in. Jack those ancient headphones into your guitar amp, wrap them around a microphone, and

play your solo. Once you start down this road, you may find it hard to turn back.

Tales from the cowbell. Lately, I've been playing around with some inexpensive lavalier mics that I found in an electronics surplus store. In search of a new perspective on percussion miking, I attached one of these mics to the outside of a cowbell with gaffers tape, grabbed a drumstick, and took a whack at it. The omnidirectional mic produced an intensely present and close-up sound with just a bit of room tone.

Miking the inside of the bell gave a more resonant sound. It's worth trying on other hand percussion instruments, such as claves or cabasa. With a little effort, it's possible to hold a mic that small in the same hand that's shaking the tambourine or maracas (see Fig. 4). You'll be able to move freely while playing, instead of being rooted in front of a standing mic. A great way to deal with a roaming percussionist who is playing multiple instruments is to tape a PZM mic to the performer's chest. The mic will be in a perfect position, always facing the same direction as the player.

Mic positions that you would be reluctant to try with your precious AKG 414 may seem more reasonable with a cheap dynamic mic acquired from the local discount store. A mic like that can be placed inside a conga, duct-taped to the underside of a piano, or wrapped in a balloon and submerged in a glass of water. It could be the mic you use as a beater for a cowbell or a drum, or swing around over your head for a live rotating-speaker effect (see the sidebar "A New Spin on Vocals" to read about John Lennon's idea for such an effect).

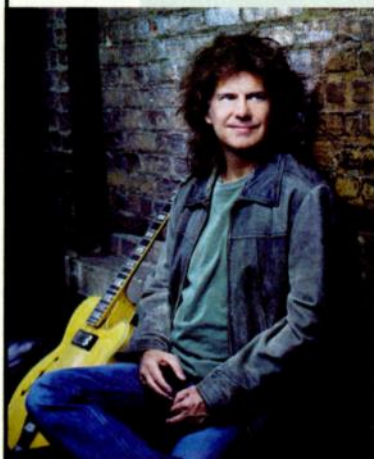
Start Your Engine

One of the great things about recording is that even if you violate every audio concept you were ever taught, if the end result sounds good, you've succeeded. Sure, you'll sometimes come up with hideous results, but that's part of the fun. You might also hit upon something brilliant. So roll up your sleeves, fire up your gear, throw out the rule books, and let the experimenting begin! **EM**



Julian McBrowne is an engineer and producer who lives in Southern Vermont. He is also the About.com home-recording guide (<http://homerecording.about.com>). Thanks to David Simons for historical information.

CAN YOU IMAGINE...



Composing a 68-minute score, then allowing millions to view and play it over the Internet?

The Pat Metheny Group's "The Way Up" and Sibelius

In order to have the Pat Metheny Group rehearse and perform the continuous 68-minute album release: *The Way Up* in full, Co-Writers Metheny and Lyle Mays, with editing by bassist and fellow producer Steve Rodby, created the score with Sibelius 3 software.

Pat realized that through the Sibelius Scorch plug-in, fellow musicians and fans could view and listen to the MIDI playback over the web.

"We used Sibelius to make parts for the band throughout the recording. We found out about Scorch and it seemed like a natural choice to offer the "Scorched" version of the score on our website." -Pat Metheny



The Scorch version of *The Way Up* score is available at www.patmethenygroup.com

For information about Sibelius 3 and Scorch, please visit: www.Sibelius.com



Photo by Jimmy Katz, courtesy of www.patmethenygroup.com

First Call Horns



The first call for a modern horn Virtual Instrument, perfect for Pop, Latin, Jazz, Big Band, Rock'n'Roll with its unprecedented sound quality and programming. Trumpet, Soprano Sax, Alto Sax, Tenor Sax, Bari Sax, Trombone, Flugelhorn and French horn, all in Solo and Sections.

\$299⁹⁵ Kontakt Player (AU, VSTi, DXi2, RTAS - Mac, PC Standalone Application) • GigaStudio
Listen at www.bigfishaudio.com/firstcallhorns



Soundscapes for Cinema

\$99⁹⁵
WAV/AIFF
Apple Loops

Scoring a film with Soundtrack™ and Final Cut™? Need Apple Loop files to load into Logic7™, GarageBand or your favorite DAW? This two gigabyte library is full of acoustic oddities, pads, atmospheres, exotic percussion loops, mixed loops, one-shot effects, tonal loops, eerie soundscapes and more.



Jazz Quartet

\$99⁹⁵
WAV/REX/AIFF/
Apple Loops

Over 80 Construction kits of the sophisticated, satisfying sounds of piano, bass, drums and guitar, all together in perfect harmony. Whether you need a cozy and intimate setting, or a grand concert hall feel, these recordings will give you an authentic jazz environment. Kits from 52 to 148 bpm.



Hip Hop High

\$49⁹⁵
WAV/REX/AIFF/
Apple Loops

Fresh tracks, new sounds, and gettin' your head bobbin' is what "Hip Hop High" is all about. Hip Hop High will take you back and then take you places you've never been. So mix it up with construction kits ranging from 86-100 BPM. Over one gig of fresh material.



Brain: One Stroke Done

\$199⁹⁵ 24-bit multitrack, ProTools sessions
\$99⁹⁵ WAV/REX/
AIFF/Apple Loops

Bryan "Brain" Mantia has toured worldwide with Primus, Guns&Roses, Vanessa Carlton, and Tom Waits. One Stroke Done is a killer collection of multi-track drum performances (or choose the stereo-mixed version in WAV/REX/Apple Loops). From Funk and Hip Hop, to Rock, Soul, Alternative and Underground.



Funky House Producer

\$69⁹⁵
WAV/Acid/REX

Funky House Producer brings the sounds from the clubs of Ibiza, London, Paris and New York directly to your mix. Featuring the latest filtered funk loops, inspirational disco guitars, huge pumping beats, funky bass lines, dreamy fx, killer keys and more. Blessed out sample production of Naked and Wave Records.



Funk City

\$69⁹⁵
WAV/REX/AIFF/
Apple Loops

Funked-up construction kits featuring slamm'n' drums, groovin' percussion, slappin' bass, greazy funk guitar, slippery synths, vocal bits, and one big-ass horn section! If you're looking for old school and nu school Funk & Soul, you've come to the right place.



Hip Hop Philosophy

\$49⁹⁵
WAV/REX/AIFF/
Apple Loops

Rooted in abstract hip hop, we've put together hot new construction kits with beats, bass lines, synth, fx and more. With over one Gig of the fresh stuff, these construction kits are ready to go, just load em' up and loop em' out. In addition we've included a drum loops section and a stabs section.

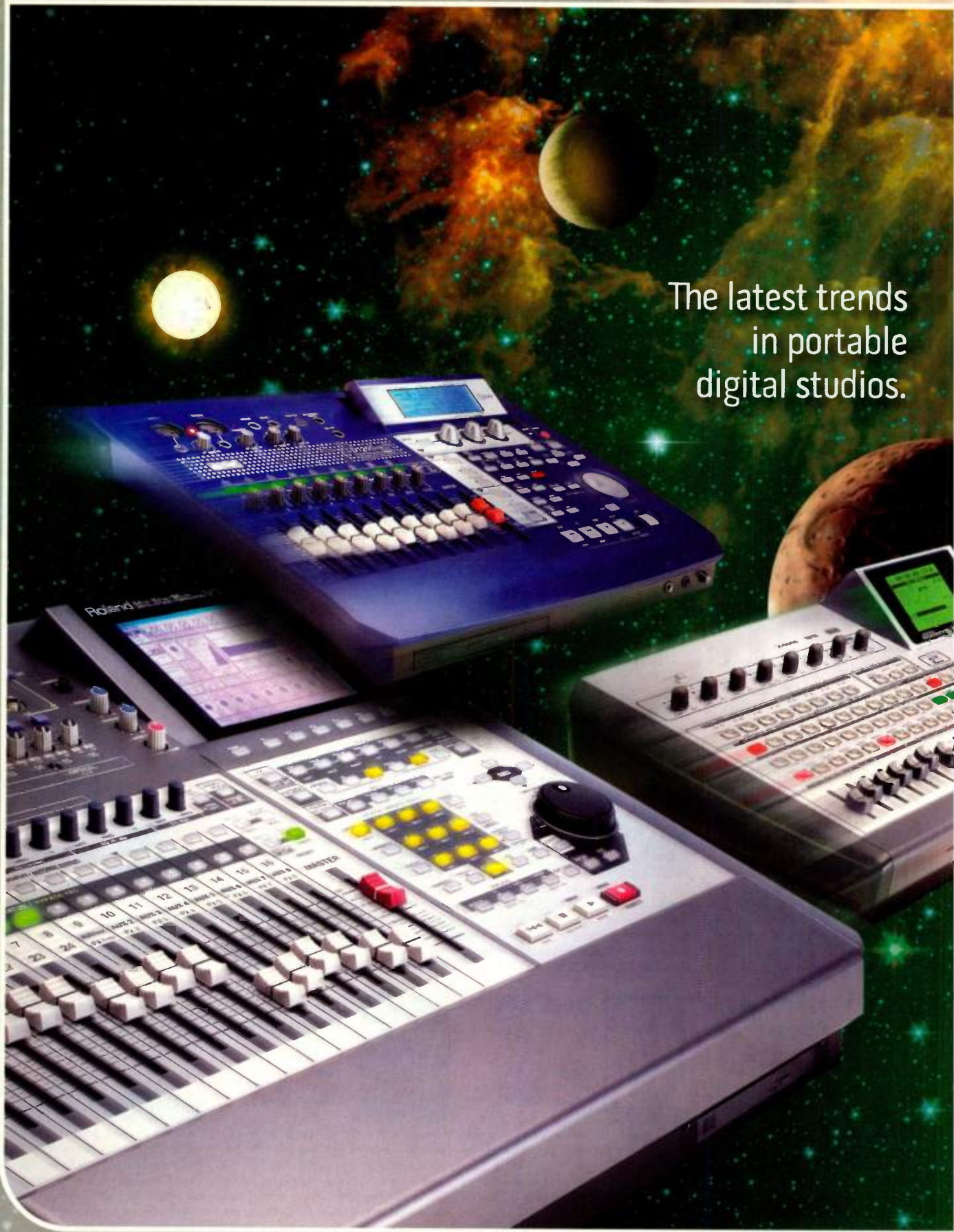


Greg Adams' Big Band Brass

\$99⁹⁵
WAV/Acid/AIFF/
Apple Loops

The Performance Loops® producers have teamed up with legendary trumpeter, composer, and arranger Greg Adams (Rod Stewart, Elton John, Linda Ronstadt, Lyle Lovett) to bring you over 4600 Brass loops and samples, providing a new level of realism. Thousands of loops and samples from Greg's Jazz Orchestra featuring a 14 piece horn section.





The latest trends
in portable
digital studios.

Studio

in a

BOX

By Marty Cutler

The portable digital studio (PDS) is a self-contained digital multitrack recorder with a built-in mixer, onboard effects, and editing capabilities. It is not surprising that the PDS has continued to grow in popularity since EM last explored the product category (see “The Incredible Shrinking Studio” in the July 2001 issue of EM at emusician.com). When space is at a premium, a device that can house the most important features of an entire studio under a single roof, as well as minimize cabling and the physical repatching of external gear, can be enticing to someone building a personal studio.

Stability is another reason people gravitate toward the PDS. Because they are essentially single-purpose computers, problems you may experience with a desktop computer, such as conflicts between an operating system and audio drivers, don't exist. Typically, an operating system upgrade on a PDS gives you new features specifically directed at recording-studio functionality because there is little need to upgrade anything else.

The self-contained nature of the PDS makes multitrack recording at almost any location easy. Most models have generous amounts of hard-disk space, and because all of the mixing apparatus is built-in, the PDS can trump laptop computers as self-sufficient recording devices.

Meet the Composers

The number of portable digital studios has more than doubled since our last roundup, and some of the features anticipated then are now a reality. For example, several

of the latest models have General MIDI synthesizers or drum-machine-style sequencing for an onboard bass and percussion sound set.

An escalating and divergent list of features, such as enhanced sampling rates and resolutions, virtual tracks, and computer connectivity, draw today's crop of PDS units farther away from their cassette multitrack origins. Support for legacy storage devices such as SCSI has disappeared from all but a few of the current models; yet all have internal mixdown capabilities and some form of access to the external world, such as USB ports, CompactFlash cards, or CD-RW drives.

A complete survey of what's on the market would be a maddening exercise in redundancy because there is a wide range of systems available that have similar feature sets but vary greatly in price. Instead, I chose to examine units representing both poles of the affordability range. A complete head-to-head comparison of each recorder's

The sweetest

Sweetwater and PreSonus have teamed up to bring you the most powerful and affordable professional computer recording system ever-complete with Sweetwater's Creation Station audio computer and up to three PreSonus FIREPOD FireWire interfaces for 24 simultaneous inputs/outputs with 24 professional quality microphone preamplifiers. Call your Sweetwater Sales Engineer today at 800-222-4700 and get the SWEETEST RECORDING RIG of all time!



presonus FIREPOD

The FIREPOD is the most affordable professional FireWire recording interface on the planet, with eight pedigree Class A PreSonus microphone preamplifiers, eight balanced outputs, MIDI/SPDIF I/O, and free Cubase LE 48-track audio production software. **Up to three FIREPOD's** can be daisy-chained to deliver 24 simultaneous microphone/line inputs for professional multi-track recording applications. The FIREPOD has been tested and approved by Sweetwater for use with the Sweetwater Creation Station line of computers so that you can be confident your recording system will work flawlessly and efficiently from day one!



sweetwater CREATION STATION

When Sweetwater set out to build the perfect audio PC, we put our 25 years of experience with computer audio to work, and developed a series of machines that are unmatched in audio performance, reliability and value. Whether you're composing music in your home studio, recording your next live album on the road, or scoring to picture at a major post facility, there's a Creation Station for you. Starting at under \$1000, the Creation Station machines are whisper quiet and built to withstand the demands of professional audio production, through the use of components like Auralex acoustic treatment and Glyph hard drives. Available in tower, cube, and the rackmount configuration shown here, the Creation Station is sure to be the centerpiece of your PC studio for years to come.

recording rig.

steinberg CUBASE SX3



Upgrade your recording rig to the professional's choice for PC music production! Cubase SX3 takes music production to an entirely new level. SX3 adds more than 70 new features including Audio Warp high-quality real-time, Time Stretching and Pitch Shifting algorithm that automatically adopts a project's tempo. Also new in SX3 is External FX Plugins. This function allows for direct integration of external hardware effects processors into the VST audio mixer just

like software! The first step in the Steinberg/Yamaha collaboration is called Studio Connections "Total Recall". This modular editing system builds a powerful bridge between the virtual and physical studio. Opening a project can not only recall an entire studio setup within seconds but allow full graphic editing right inside Cubase SX3. Since 1991 the name Cubase has always been synonymous with innovation, and SX3 delivers on features that place creativity first.

audio-technica AT4040



A marriage of technical precision and artistic inspiration, the AT4040 microphone features an advanced large diaphragm, tensioned specifically to provide smooth, natural sonic characteristics. Designed as a multipurpose performer, this externally polarized true condenser microphone offers exceptionally low noise, wide dynamic range and high-SPL capability. Held to the highest standards of consistency and reliability, the AT4040 may be used with confidence in a wide variety of miking applications in today's modern digital studio.

novation XSTATION



XStation is the most unique MIDI controller available combining the industry's best feeling semi-weighted keyboard with after-touch, the famous Novation KS 8-voice synth engine, 2 phantom powered mic preamps and instrument inputs, MIDI remote controller functionality, transport controls, a 6x2 multi-effects processor and more. The XStation can be powered conventionally, via its USB port and even batteries. Novation stands for innovative sound and music production tools.

Sweetwater
music technology direct™

800-222-4700
www.sweetwater.com

PreSonus
freedom to record





features would require an enormous amount of editorial space. For this article, I will discuss the features that help define the worthiness of a PDS for various types of users. (For more information, see the Portable Digital Studio Specifications and Features tables.)

The DPS24, a 24-track machine from Akai, has an embarrassment of professional features, such as 100 mm touch-sensitive faders. Although the DPS24 is portable, it's large and somewhat heavy, so be sure to have someone help you when you need to move it.

The Fostex VF160EX, which records as many as 16 simultaneous tracks, sports a generous 40 GB hard disk and lets you burn your finished product to disc using a built-in CD-RW drive. The Fostex MR-8 writes to CompactFlash cards instead of using a hard disk for storage. Consequently, it doesn't have any moving parts that can dislodge in transit, and it's less expensive than the VF160EX.

The Korg D1200mkII has an adjustable-angle display and an easy-to-navigate interface. Its high-end sibling, the Korg D32XD, is just as easy to use, but it gives you more tracks, motorized faders, and 24-bit, 96 kHz recording. The Korg ToneWorks PXR4 is a handheld 4-track PDS that records to SmartMedia card and has USB connectivity (see the sidebar "The Palm-size PDS").

Roland's VS-2480 is a 24-track recorder that sounds terrific and goes to the head of the class for expandability. Meanwhile, the Boss BR-1600CD occupies a mid-point in our roundup's price range. The BR-1600CD is brimming with great effects and gives you immediate access to their parameters.

The Tascam DP-01FX has random-access, digital-audio recording, editing, and mixing features while maintaining an easy-to-grasp, channel-strip-style mixing surface. Tascam's larger, more flexible 2488 system has 24-track playback, varispeed capabilities, a built-in CD-RW drive, and a General MIDI (GM) synthesizer.

At the top of Zoom's current PDS roster is the MRS-1608CD, which has a CD-RW burner, an internal 40 GB hard disk, and a built-in loop library, among other features. Zoom's MRS-8 has great effects,

extremely flexible bouncing options, separate drum-machine and bass tracks, and pads to trigger them—all in a remarkably small package. Zoom's PS-04, which has the smallest footprint in the company's line of PDS prod-



FIG. 2: With the help of its ADAT optical inputs, the Fostex VF160EX can record a total of 16 tracks at once.

ucts, has SmartMedia storage, bass and drum tracks, and a built-in mic (see the sidebar "The Palm-size PDS").

The dimensions of these recorders range from pocket-size to sizes that stretch the definition of portability, such as the Akai DPS24, the Korg D32XD, and the Roland VS-2480. Note that those three units stand apart from the pack because they have a variety of hardware expansion options and use long-throw, motorized faders—features that are difficult to host in a smaller package.

Many PDS units accommodate electric guitar and bass by providing high-impedance instrument inputs on the front panel, perhaps indicating that the machines are designed to accommodate the guitarist's or the bassist's home studio. Even if that's true, the growing adaptability of the PDS makes it equally ideal as a tracking device for live gigs, a field recorder, or as a readily accessible demo machine.

Although it is one thing to shoehorn a ton of features into a single device, it is a rare achievement to make those features easy to reach and understand. Over the years, manufacturers have worked hard to make the complex PDS user interface less daunting. With that in mind, I examined each of the units discussed in this article with as little consultation of the manual as possible, on the premise that a user-friendly design should not be inversely proportional to the feature set. In most instances, that technique worked pretty well. In a few cases, however, consulting the manual stopped me dead in my tracks.

Count Trackula

One of the first considerations when choosing a PDS is the number of simultaneous tracks available for recording and playback. If you want to record an entire band at once, you will need as many simultaneously available inputs and tracks as you can get. If you need to record only MIDI tracks with an occasional vocal, electric guitar, or bass, you may find that you can get by with a device that offers two tracks of simultaneous input at a time. Although a recorder may sport the number of physical inputs you need, remember

FIG. 1: Don't let its size fool you: the Zoom MRS-8 packs a streamlined, rich feature set into a small, well-organized, battery-powered package.



that track counts and physical inputs differ greatly. For example, although Zoom's MRS-8 gives you eight audio tracks, you can record only two tracks at a time (see Fig. 1).

Many devices that boast higher track counts or more inputs and outputs have slightly different limitations: choosing the highest-quality bit depth and sampling rate will affect the number of tracks available for recording and playback. Korg's flagship D32XD has 32 simultaneous tracks of playback and 16 tracks of recording, but only at 16-bit resolution. Furthermore, you are limited to eight analog inputs unless you spring for the AIB-8 input-extension board (\$350). At 24-bit, 96 kHz settings, it tops out at eight tracks of playback with four simultaneous record tracks. The Akai DPS24 has 24 tracks of playback and recording, except at its 96 kHz sampling rate, which halves the record and playback track count.

Other recorders, because of either a simpler design or a fixed sampling rate and bit depth, have an unvarying number of inputs and track count. The Fostex MR-8 and the Zoom MRS-8 maintain two tracks of input and eight tracks of playback. The Boss BR-1600CD has 8 simultaneous recordable tracks and 16-track playback with 16-bit, 44.1 kHz audio. Tascam's 2488 gives you 24 tracks of playback and 8 simultaneous recordable tracks at 16- or 24-bit resolution. The Fostex VF160EX will record eight tracks of analog input, but it can simultaneously record another eight channels through its optical ADAT Lightpipe inputs (see Fig. 2).

Roland's VS-2480 holds as many as 24 playback tracks, depending on bit depth, sampling rate, and recording mode. (As with earlier Roland PDS units, the VS-2480 has various levels of its proprietary R-DAC compression scheme, as well as linear 16- and 24-bit modes, which affect track count and the amount of disk space used.)



FIG. 3: The diminutive form factor of the Fostex MR-8, combined with a pair of XLR jacks, CompactFlash storage, and battery power make it a good choice for recording outdoors.



FIG. 4: Dedicated, extra-large knobs make Tascam's DP-01FX effects editing and basic pan and EQ parameters instantly accessible.

Ways In and Far Outs

The number and types of inputs and outputs that a PDS has is an important consideration. A unit that has a limited number of XLR connectors will affect your choice of microphones. If it has only two phantom-powered XLR inputs, you will need some other means of connecting and powering any additional mics that you want to use.

In addition to a built-in mic, which is suitable for scratch tracks and slating, the only inputs that the Zoom MRS-8 has are a balanced ¼-inch jack and a single XLR/¼-inch combo jack. The Fostex MR-8 trumps the MRS-8 with its pair of XLR and unbalanced ¼-inch inputs (see Fig. 3). The midprice Zoom MRS-1608CD gives you eight phantom-powered combo jacks, while the Boss BR-1600CD has eight phantom-powered XLR jacks, eight balanced ¼-inch inputs, and a high-impedance guitar input.

The Zoom MRS-8's single pair of left-and-right RCA outputs may be a deal breaker for some consumers. The Fostex MR-8 has only a single pair of unbalanced ¼-inch analog outputs, but it also sports a second set of headphone jacks and optical S/PDIF output, so that you can simultaneously mix digitally to a compatible external recorder. The Tascam DP-01FX has two unbalanced ¼-inch jacks for its stereo mix output, as well as a second pair of unbalanced ¼-inch jacks for monitor outs, two ¼-inch effects returns, and a ¼-inch send.

You should also consider the other types of I/O that you will need in addition to audio I/O. If you need word-clock sync, the Akai DPS24 is the only unit discussed in this article that supports it as master or slave. The Korg D32XD has word-clock I/O as part of the ADAT output option (DIB-8, \$125), and the Roland VS-2480 supports word-clock input only. The VS-2480, however, can connect to other devices that share its proprietary R-Bus system, which provides a bridge to a host of expansion options, including analog-input expanders and digital mixers, AES/EBU and computer connectivity, and a direct digital-audio connection to some Roland synths. As I mentioned earlier, many of the units in this roundup have USB connectors,



giving you a means to off-load audio data, backup a project, and update your operating system.

MIDI is pervasive in many different aspects of the recording process, and every recorder reviewed here uses MIDI to supply synchronization with MIDI Clock or MIDI Time Code (MTC). One limitation of the

entry-level Fostex, Tascam, and Zoom recorders is that they support only one-way MIDI communication with their single MIDI Out port. The absence of a MIDI In port means that those units must be the master clock when synchronizing and recording sequenced arrangements. That can be a drag, considering how much easier it is to create tempo tracks in your

DAW software. More significantly, lack of a MIDI Input means that you cannot use the device to record fader moves to a sequencer and then play them back for MIDI-automated mixdown (which I will discuss in a moment).

Parameters on Parade

Just as the first digital synthesizers came with opaque user interfaces, early portable digital studios were hampered by numerous menus, submenus, and pages that were often difficult to navigate. Today's PDS, however, gives you the immediacy of dedicated hardware controls, conveying the internal routing-buses, sends, returns, and effects as graphically as possible.

Considering the relatively rich feature sets packed into the diminutive, lower-end Fostex, Tascam, and

Zoom units, they are remarkably easy to use: I was able to get up and running on them with hardly a glance at their respective manuals. Controls for the pared-down effects array of the Fostex MR-8 are at your fingertips. You can select mic- and amp-simulation effects from buttons on the surface of the unit, select delay or reverb types from another set of neatly arranged buttons, and control reverb and delay time from a dedicated top-panel knob. Below the simulator buttons are effects send-level knobs, and to the right of those, you have a choice of three mastering presets, which you can apply to the stereo buses.

The Tascam DP-01FX has a considerably more varied and complex group of effects, but the unit's large, dedicated knobs for each channel send and a knob for editing effects parameters make them easy to handle (see Fig. 4). Many of the basic controls for each channel, including EQ and pan position, are also easy to access.

Navigating the Zoom MRS-8 is a cursor-and-menu affair. Nonetheless, editing on it is a breeze because of its logically laid out display and intelligently integrated cursor-navigation system. Pressing the Track Parameter button lets you use the cursor up and down buttons to access each track's EQ, pan, and effects send parameters. Left and right cursors access neighboring tracks while letting you remain on one parameter, such as effects send levels or pan position. The Value knob sits directly to the right of the cursor buttons. Despite its lack of dedicated knobs and buttons, navigating the MRS-8 is a remarkably quick and ergonomic experience. The Fostex MR-8, the Tascam DP-01FX, and the Zoom MRS-8 do not have jog or shuttle features

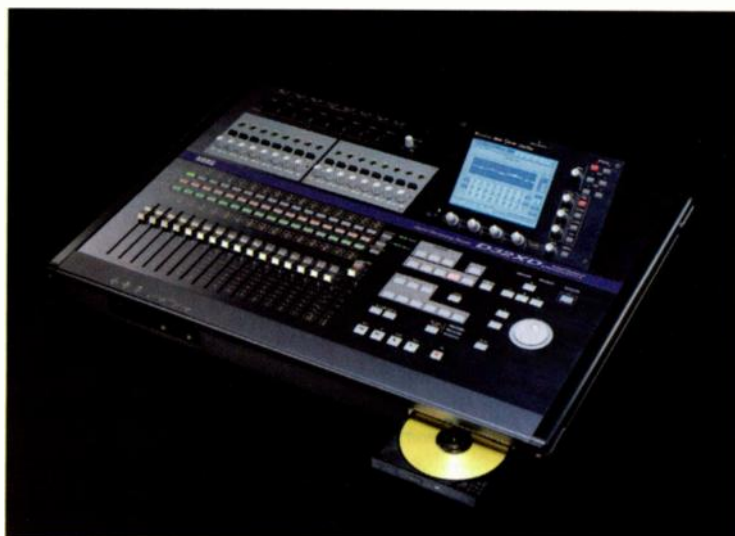
The user interfaces of the Korg D1200mkII and the D32XD have evolved somewhat from their antecedents to accommodate new features. For example, some of the features that used to be buried within menus, such as amp- and mic-modeling parameters, are accessible from an array of knobs on the recorder's surface. The D32XD touch screen feels considerably more responsive and precise than the first touch screen models (I often reverted to cursor navigation with earlier models). Nevertheless, much of the navigational logic of their earlier systems remains. The angle of the displays on the D1200mkII and D32XD are adjustable (see Fig. 5).

The Akai DPS24 is an exceptionally powerful machine that is more difficult to grasp at first glance. Stenciled, color-coded directions on the instrument's surface indicate multifunction controls, but it's not clear how to access secondary functions without diving into the manual. An audio tour of the unit that was stored on the hard drive was the key to comprehending the DPS24's basic functions.

CONTACT INFORMATION

Akai www.akaipro.com
 Boss www.bossus.com
 Fostex www.fostex.com
 Korg www.korg.com
 Roland www.rolandus.com
 Tascam www.tascam.com
 Yamaha www.yamaha.com
 Zoom www.samsontech.com

FIG. 5: The Korg D32XD sports motorized, long-throw faders; an adjustable-angle display; and 24-bit, 96 kHz recording capabilities.





As visually intimidating as the DPS24 may seem, once you realize that its Q-Link knobs are context-sensitive controls based on the parameters that you selected with the function buttons, you are well on your way to swiftly getting around much of the unit's feature set (see Fig. 6).

Manufacturers have worked hard to make the PDS user interface less daunting.

Navigating the surface and menu structure of the full-featured VS-2480 can be daunting, but the included two-button mouse, along with an optional VGA monitor, makes it much easier to explore the menus. Clicking on the left mouse button reveals the full menu in a vertical array, and you can drag and quickly open another page, or click on and access any parameter on the current page. The stenciled, pale-colored guide to the VS-2480 rear-panel connections is a poor design choice because overhead lighting or glare can completely obscure the labeling.

Three buttons on the right-hand side of the Boss BR-1600CD give you quick and direct access to application-specific DSP processes (see Fig. 7). The Vocal Tool Box button calls up parameters for pitch correction and harmonization of audio tracks (and they don't have to be vocal tracks). The Mastering

Tool Box opens multiband dynamics and EQ processors, and the Speaker Modeling button lets you audition your project through a variety of different simulated monitor types. I did not have the opportunity, however, to audition

that feature through the recommended Roland digital monitors.

Personal Effects

Typically, portable digital studios group their built-in effects in two main configurations. With track-based effects, you can apply them while recording (in which the effects are printed with the performance), or you can apply them to a track (or group of tracks) that has already been recorded. Mastering effects usually appear at the stereo bus of the PDS for a global treatment of

THE PALM-SIZE PDS

Musicians who seek a diminutive multitrack digital recorder need to look no further than the portable digital studios with the smallest footprints: the Korg ToneWorks PXR4 (\$500) and Samson Technologies Zoom PS-04 Palmtop Studio (\$359.99). Both are handheld 4-track devices that record two tracks at a time, play four tracks simultaneously, and use a SmartMedia card for storage. Each unit has a built-in microphone, analog inputs and outputs, a metronome, drum patterns, a tuner, programmable effects, virtual tracks (32 for the PXR4 and 40 for the PS-04), data compression, and track-editing capabilities. In addition, each runs on an AC wall-wart power supply or on AA batteries.

The PXR4's blue control surface is tightly but sensibly laid out and clearly labeled. Its LCD is economical, informative, and easy to read, considering its size. I was able to get up and running with the PXR4 fairly quickly, and was generally pleased with the sound quality of its built-in mic when tracking a large ensemble during a rehearsal. The PXR4's USB connector lets you back up audio data to a Mac or a PC. The PXR4, however, saves bounced audio data in MPEG-1, Audio Layer 2 (MP2) format. If you want to burn your masterpiece to an audio CD from MP2 data, you must first convert MP2 files to WAV files, using a program such as Audacity (Mac/Win; freeware). (Korg offers the Song Converter utility, a free Windows-based program, available online, for converting individual PXR4 track files to the WAV format.) EM

reviewed the PXR4 in its May 2002 issue (available online at emusician.com).

The Zoom PS-04 offers similar features and functionality. Its built-in mic has good audio quality, and its bass and drum patterns could inspire song ideas. The PS-04 saves audio data in a proprietary file format. You can convert its audio files to AIFF or WAV files by transferring them to your Mac or PC with a SmartMedia card reader and downloading Zoom's free PS-04 Card Manager software (www.zoom.co.jp). Using this unit was a bit difficult at first. For example, I had to consult the user's manual to execute basic recording tasks. Also, I accidentally discovered on page 100 of the user's manual that SmartMedia cards must be formatted in the PS-04 before you can record or save audio data—something I needed to know right away. But once I began to familiarize myself with the PS-04's operation, I enjoyed working with it. For more information about the PS-04, visit www.samsontech.com.

At press time, Korg was planning to announce a compact, 4-track recorder that will join its D-series line of portable digital studios. The D4 will include a built-in mic, ¼-inch and XLR inputs, and USB connectivity. The D4 also records audio data as MPEG-1, Audio Layer 2 files. It will have 32 virtual tracks, built-in effects, audio-editing capabilities, and the ability to record two tracks at once to CompactFlash cards. Korg expects to begin shipping the D4 by the time you read this.

—Matt Gallagher



sweetwater
creation
stationseries

SONY

THE PERFECT PAIR

**Combine a Sweetwater Creation Station and Sony Sound Forge 8 for
Unsurpassed Audio Power**

Sweetwater Creation Station Series: Strong but Silent

No computer on the planet is a better match for Sound Forge® software than a Sweetwater Creation Station. Built from the ground up for recording studio applications, Creation Station computers are whisper-quiet and optimized for use with the most powerful audio applications available, from Sound Forge software and ACID® software to the latest multitrack DAWs, software synths and samplers. Sweetwater can even install all of the necessary hardware and software to create a custom turnkey audio solution.

A Creation Station PC offers:

- CPUs, motherboards, and chipsets selected by computer audio experts
- "Whisper Quiet" certification by Auralex
- Dual Glyph SATA hard drives
- Two FireWire, seven USB ports
- Up to five unoccupied PCI slots with card clips for extra reliability
- 7-in-1 media/memory card reader
- SweetCare™ Remote - Future Support Now!
- Rack, tower, and cube models available
- Certified by Digidesign, MOTU, Tascam and others

Sony Sound Forge 8: Pristine Audio Power

When Sweetwater customers are looking for a powerful, flexible, professional PC audio editing solution, they turn to Sound Forge software. For over a decade, Sound Forge software has been the tool of choice for serious audio editing. Combined with a super-powered Sweetwater Creation Station, Sound Forge 8 software has everything you need to record, edit, analyze, process, and master audio, and to burn your final files to compact disc.

Sound Forge 8 offers:

- VST plug-in support
- ACID loop creation tools
- ASIO driver support
- 24-bit/32-bit 192kHz support for pristine audio quality
- Audio restoration tools
- Application scripting
- Extensive video support
- Batch conversion
- Includes CD Architect™ 5.2 software free of charge!

**Find out more about Sound Forge and Creation Station audio PCs at
www.sweetwater.com/perfectpair**

All trademarks are property of their respective holders.

**CALL SWEETWATER TODAY!
(800) 222-4700
www.sweetwater.com**





the tracks. Dynamics processors and multiband EQ are typical mastering effects.

I particularly like Korg's simplified division of effects into Insert, Final, and Mastering categories. Insert effects can be single or multiple-effect algorithms with a variety of signal-flow configurations such as mono in/stereo out or eight in/eight out. The more complex the configuration is the fewer simultaneous insert effects you can use. In practice, this was never a problem: I simply adjusted the send of each track to the Master effects, which includes fine-sounding reverbs, delays, and less conventional effects such as a ring modulator and talk-box simulator. You can modulate almost all of the effects with an expression pedal, LFOs, or MIDI, which can provide parameter sweeps via Control Change (CC) messages or synchronization with MIDI Clock. Many of the systems here—such as the Boss BR-1600CD, the Roland VS-2480, the Tascam 2488, and the Zoom MRS-1608CD—have similar controls.

From a sonic perspective, the Roland and Boss guitar-oriented effects are at the top of my list. With the optional VS 8F-3 expansion board, the VS-2480 (see Fig. 8) hosts a burgeoning list of Roland and third-party plug-ins, such as Antares Auto-Tune, TC Electronic TCR 3000 Reverb, IK Multimedia T-RackS Analog Modeled Mastering Station, Massenburg Hi-Res EQ, and Universal Audio 1176LN.

Zoom's MRS-8 hosts a remarkable number of great-sounding effects. The chorus and other modulation algorithms are particularly warm sounding, as are the guitar-amp models. Two basic effects-routing schemes break down into multiple effects algorithms.

FIG. 6: The Q-Link pots to the right of the Akai DPS24 display correspond with the function buttons at the bottom of the display and allow for quick editing of any onscreen parameter.



FIG. 7: Buttons on the Boss BR-1600CD give you direct access to application-specific DSP processes, such as the Vocal Tool Box.

The mic algorithms are titled by application, such as ForBrass, LO-Boost, and the ever-popular FanFan, which simulates the sound of talking into a fan. More importantly, I was pleasantly surprised by a variety of interesting and useful mastering algorithms, primarily multiband dynamics, EQ, spatial enhancers, and a resonant filter. All of the effects are programmable.

Controls for the Fostex MR-8 effects are simple because, apart from send level and reverb-delay time, there are no other parameters to tweak. The MR-8 also has amp and mic-modeling selections, and three preset mastering algorithms, none of which is editable.

Assistant Editors

Regarding editing, a typical PDS gives you fewer editing features than a DAW does. The ability to precisely set markers and location points is especially important when editing on a PDS, and some models make it easier than others. The Akai DPS24 can edit at the single-sample level, and its waveform display zooms in with an equal resolution. When cutting and pasting, imprecisely identified regions will create pops or clicks due to mismatched amplitudes. The Search Zero feature in the Wave display of the Korg D32XD automatically finds the next zero crossing, giving you a seamless edit point. According to Korg, that feature can be used to remove clicks and pops automatically.

One of the great advantages of computer-based digital recording is the ability to shuttle between alternate takes or create a composite track. Almost every PDS has virtual tracks for that purpose, but some manufacturers implement virtual tracks differently.

Portable digital studios typically have between eight and ten virtual tracks for each mono track. Zoom's MRS-8 holds ten virtual tracks for each of its eight regular tracks, and it also holds ten virtual tracks for its stereo master track. The Fostex VF160EX has eight virtual tracks that you can freely divide among the eight regular tracks. The Fostex MR-8 doesn't have

ff
Focusrite®



One-click recording solutions guarantee uninterrupted creative flow



Hardware-powered Plug-ins for tracking:
EQ, Compression, Reverb and Amp Modeling
- Zero impact on your CPU!



SaffireControl: The most comprehensive yet intuitive Input/Output control software to date



Saffire Plug-in Suite: VST and AU format (PC and Mac) plug-ins also included for use in the mix.



Cubase LE: Includes Steinberg's award-winning Multi-Track recording/sequencing software



Firewire: The ultimate audio/power interface guarantees true mobility and seamless audio communication



Two Focusrite Pre Amps: Class-leading pre amp quality from one of the most prestigious names in music recording



Multiple Outputs: Up to five unique stereo monitor mixes simultaneously



MIDI I/O:
MIDI in, MIDI out and MIDI Thru



2 independent headphones outputs:
Providing two artists with two unique cue mixes



Software-powered Hardware PLUG IN[S]

Hardware-powered Software



ALL YOU NEED
everything you need to start recording.
Includes the software you need:
Cubase LE
All back-end software/sequencing software from Steinberg



Saffire combines state-of-the-art hardware with advanced integrated software control and hardware-powered plug-ins, taking you one giant step closer to the professional studio experience.

Four inputs and ten outputs (including stereo digital I/O up to 192kHz) with unrivalled monitoring options, ensure you have all that's required to easily navigate through a recording session.



Professional Mobile Firewire Audio Interface

Take the Saffire tour at www.focusrite.com/saffire.

For more information email us at focusrite@AmericanMusicAndSound.com or call 1.866.FOCUSRITE

\$399
MAP





virtual tracks, but you can move data between the eight regular tracks and the clipboard with standard cut, copy, and paste operations.

It's surprising how many small items you need to keep track of when you're recording and mixing. You may need to remember exactly where you want an acoustic guitar to come in, or where you need to fix a note that sounds a bit sharp. The Fostex MR-8 has one Locate button each for In and Out locate points. You can store those locations on the fly or with playback turned off, but there is no facility for markers. In contrast, Roland's VS-2480 stores 100 locators that are divided into 10 banks, and each project can hold as many as 1,000 markers. Additionally, the VS-2480 uses a special set of markers for CD-track indexing.

With the exception of the Fostex MR-8, the Tascam DP-01FX, and the Zoom MRS-8, all of the studios in this roundup support at least one of two convenient types of mixing: scene-based and dynamic automation. Scene-based automation is a sequence of mixer-setting snapshots that can abruptly change at different junctures of a project. Dynamic automation gives you linear, continuous mixer moves.

Automated mixing captures the work of many hands changing volume, panning, EQ, dynamics, and effects settings. Scene-based automation is great if there isn't any gain riding or continuous parameter changing required. For continuous tweaking, dynamic modulation is the only choice. Recorders that have

dynamic and scene-based automation are convenient because you can use a scene as a starting point and add dynamic mixing after the fact. The Korg D32XD, Roland VS-2480, and Akai DPS24 have scene automa-

FIG. 8: The Roland VS-2480 holds a wealth of expansion options, including SVGA monitor and mouse operation and—with an expansion board—a hefty selection of popular third-party plug-ins.



FIG. 9: The Korg D1200mkII lets you bounce all tracks down to overwrite a stereo pair of normal tracks, and includes the content of the target tracks. You can also bounce to virtual tracks.

tion and built-in dynamic automation. (The D1200mkII has built-in scene automation.) Many of the other units, however, have another form of automation of which you may not be aware.

The Secret Life of Altered MIDI

Surprisingly, one of the least promoted aspects of portable digital studio recorders is their ability to send CC messages for virtually every mixer move and parameter change. Once captured in your MIDI sequencer, CC messages can give you the same results as an automated mix-down and allow for detailed, pinpoint editing.

The Roland VS-2480 has V. Fader mode, a control-surface menu that allows you to assign CC messages to the faders and the pan- and aux-send knobs. The list of messages is generous, although not comprehensive, and you must remain in the V. Fader menu because the VS-2480 reverts to its default assignments when you exit.

With some research into the MIDI implementation chart of your PDS and a bit of MIDI mapping, you can turn many of these units into versatile and powerful control surfaces (see "Master Class: All Over the Map" in the August 2003 issue of EM at emusician.com). The Akai DPS24 relies on its built-in dynamic automation, neither transmitting or receiving CC messages.

Mix, Bounce, and Burn

When you're ready to buy a PDS, something that you may want to consider is how you'll create your stereo mix. Despite having features in common, the various models in this roundup handle that process differently. The MRS-8 lets you mix all tracks, including the bass and drum tracks, to a separate Master Track or a pair of virtual tracks. In addition, the Master track has ten virtual tracks, so you can create alternate mixes. The

Everything within Reason.



example Reason Rack featuring new Combinator Modules



Sonic Reality is proud to present Reason™ 3 Refills with all new Combinator sound modules to expand your Reason 3 workstation. Each title is like a sound module plugin and a sample library for Reason all in one! All-new and classic Sonic Reality titles in this range give you playable instrument samples, synth patches and Rex™ file loops for all styles of music.

Add the sounds that suit your individual needs and build the ultimate custom Reason 3 workstation set up for an incredible price of only MSRP \$49 each! **Expand your Reason 3 today!**

"Propellerhead are proud to collaborate with Sonic Reality. Their high quality sounds and programming support us in our quest of making Reason the ultimate replacement for the hardware workstation." - **Propellerhead Software**

"If there is one thing that sums up Sonic Reality Refills, it's that they do exactly what they say WELL!" - **Computer Music Magazine**

"Sonic Reality samples are the ultimate sound survival kit for my sessions." - **Roger Manning (Keyboardist for Beck, Jellyfish)**

"If I am searching for a great sound, I know I'll find it in my Sonic Reality collection." - **John Blackwell (drummer for Prince, Lauren Hill)**

available at



www.sonicreality.com

Call Toll-Free:

800-232-6186

Outside the U.S.:

954-846-9447



SAMPLE EVERYTHING

Visit www.esoundz.com/free and get a **FREE REFILL!** Enter Code: **FEMAUG2005**

Save \$10 off your esoundz.com order - look for coupon in classified section

All trademarks are the property of their respective owners.



main limitation of the MRS-8 is that although you can mix everything internally, there is no way to convey your mixed project to the outside world except through its analog outputs.

Mixing in the Fostex MR-8 is a bit more cumbersome. The last four tracks are stereo pairs, and you can either bounce tracks 1 through 4 to tracks 5 and 6, or bounce the first six tracks to tracks 7 and 8. Although you can fill up all eight tracks, the MR-8 has no internal facility to bounce all the tracks to a stereo pair. You can mix to an external device using the unit's optical S/PDIF port or analog outputs, or you can export the tracks as WAV files to your computer for assembly in a digital audio sequencer.

The Tascam DP-01FX mixes all tracks down to a stereo master track, and the master track is also the conduit for bounces to other stereo pairs. Optical S/PDIF and stereo ¼-inch analog outputs let you record the finished product to another device, or you can export the mix to your computer using the USB port.

With the Korg D1200mkII, you can bounce a final mix to a pair of virtual tracks or overwrite a pair of normal tracks, even if you are using all 12 tracks (see Fig. 9). In the latter case, you'll overwrite any preexisting data, but that data will be included in the mix.

The Korg D32XD, the Korg D1200mkII, the Zoom MRS-1608CD, the Fostex VF160EX, and the Tascam 2488 let you burn your finished product to disc using a built-in CD-RW drive. The Boss BR-1600CD and Roland VS-2480 can bounce tracks to overwrite a stereo pair of tracks. Or, in Mastering Mode, you can mix your full track count through dynamics processors to a pair of virtual tracks.

Station to Station

FIG. 10: The Zoom MRS-1608CD is the only PDS in this roundup that lets you trigger its built-in drum and bass sounds with an external MIDI controller.

Despite their remarkable self-sufficiency, even the best of these studios can benefit from the flexible editing options and visual



FIG. 11: The Tascam 2488 holds 24 tracks of audio and 8 tracks of simultaneous recording regardless of bit-depth settings. It also has a complete GM-compatible synth.

capabilities of computer-based workstations. Almost every PDS discussed here can store and retrieve audio in a standard format—usually WAV or AIFF—and give you some means of transferring audio to a personal computer. The Zoom MRS-8 records directly to CompactFlash cards, which can be used to shuttle data to your computer. Unfortunately, it saves only bundled data, not the 16-bit, 44.1 kHz WAV files that comprise its tracks.

The Fostex MR-8 can use CompactFlash or a USB port to transfer audio. WAV Manager (Mac/Win, free) is a simple application that reads MR-8-format CompactFlash cards for importing and exporting WAV files, and it's available as a download from the Fostex Web site.

Beats in a Box

It's handy to have at least a metronome click for bar-to-bar editing and to stay in the pocket while recording. It's an added bonus when a PDS gives you full-fledged drum tracks. Korg's D- and XD-series studios have plenty of sampled grooves that you can string together into song form or use as a rhythm guide. Because they are sliced into individual hits, the grooves can adapt to practically any tempo.

The Zoom MRS-8, the Zoom MRS-1608CD, and the Boss BR-1600CD let you create your own rhythms with a built-in drum, percussion, and bass sound set. The Zoom's Velocity sensitive trigger pads feel surprisingly sturdy, allowing you to sequence patterns, link them together, and then print them to a stereo pair of audio tracks. The MRS-1608CD lets you sequence patterns with an external MIDI controller, something that no other unit discussed in this article would do (see Fig. 10). The MRS-1608CD also has banks of guitar sounds and exotic-sounding loops.

Ivory

SYNTHOLOGY

GRAND PIANOS

This groundbreaking sample-based Virtual Instrument was conceived and crafted to bring out the resonance, response and character of the world's finest Concert Grands. The largest piano plug-in ever.



"Synthogy's Ivory goes where no virtual piano has gone before... it is such a major advance in the cause of the virtual grand piano, it is hard to do anything but praise it... With Ivory, I would feel comfortable going out and playing a solo gig for the first time... an extraordinary playing experience!"
—SOUND ON SOUND

Three Glorious Grands: Bösendorfer® | Steinway® | Yamaha® C7

- Bösendorfer® 290 Imperial Grand, German Steinway® D 9' Concert Grand, Yamaha® C7 Grand (Each piano can be installed separately).
- Over 30 GB of phase-perfect stereo samples in 32 bits!
- All 88 keys individually sampled in up to 8 dynamic levels (plus Bösendorfer extended low octave).
- Full length sustain samples, no loops.
- Real Release and Soft Pedal samples.
- World class digital FX including Real Ambience, Chorus and EQ.
- Optional synth pad layer for modern/pop combinations.
- Synthogy's exclusive, powerful 32 bit Sample Playback and DSP engine, engineered specifically for recreating the acoustic piano.
- Sympathetic String Resonance DSP for realistic Damper Pedal response.
- Incorporates sample interpolation technology used for ultra-smooth velocity and note transitions.
- Customizable with User controls for Timbre, Stereo Width and Perspective, Velocity Response, Mechanical Key Noise, Tuning and more.
- Dozens of user-adjustable presets.



\$349



800.747.4546 www.ilio.com



synthogy.com

All trademarks are property of their respective holders. All specifications subject to change without notice.



PORTABLE DIGITAL STUDIO SPECIFICATIONS

Product	Akai DPS24	Boss BR-1600CD	Fostex MR-8	Fostex VF160EX	Korg D1200mkII
Analog Inputs	(12) XLR/¼" combo, (14) ¼" balanced, (1) ¼" unbalanced high impedance, (2) RCA	(8) XLR, (8) ¼" unbalanced, (1) ¼" unbalanced high impedance	(2) XLR, (2) ¼" unbalanced	(2) XLR, (10) ¼" unbalanced	(2) XLR, (4) ¼" unbalanced, (1) ¼" unbalanced high impedance
Analog Outputs	(2) ¼" balanced Stereo Mix, (2) ¼" balanced Stereo Monitor, (2) ¼" balanced Stereo Nearfield Monitor, (2) ¼" balanced Stereo Studio Output, (2) ¼" balanced Stereo Direct, (2) ¼" stereo headphone	(2) ¼" unbalanced, (1) stereo headphone	(2) ¼" unbalanced, (2) stereo headphone	(2) ¼" unbalanced, (1) stereo headphone	(2) ¼" unbalanced, (1) stereo headphone
Aux Sends/Inserts	(4) ¼" balanced aux sends	n/a	n/a	n/a	n/a
Aux Returns	(2) ¼" balanced	n/a	n/a	n/a	n/a
Digital I/O	S/PDIF coaxial, ADAT Lightpipe	S/PDIF coaxial	S/PDIF optical out	ADAT Lightpipe	S/PDIF optical
Other Connections	Word Clock BNC In, Out; MIDI In, Out, Thru; S/PDIF (coaxial); ADAT Lightpipe; footswitch	MIDI In, Out, Thru; footswitch; expression pedal	MIDI Out, USB, footswitch	MIDI In, Out; footswitch	MIDI In, Out; USB; footswitch; expression pedal
Bit Depth	24, 16	16	16	16	24, 16
Sampling Rates (kHz)	96, 88.2, 48, 44.1, 32	44.1	44.1	44.1	44.1
Dimensions	28.58" (W) × 7.48" (H) × 22.8" (D)	19.5" (W) × 3.93" (H) × 13.37" (D)	12.25" (W) × 3.5" (H) × 10.37" (D)	15.75" (W) × 4.25" (H) × 14.62" (D)	15.75" (W) × 3.03" (H) × 10.55" (D)
Weight	55 lbs.	10.81 lbs.	6.51 lbs.	13.3 lbs.	7.28 lbs.

Korg D32XD	Roland VS-2480	Tascam 2488	Tascam DP-01FX	Zoom MRS-8	Zoom MRS-1608CD
(8) XLR, (8) ¼" unbalanced, (1) ¼" unbalanced high impedance	(8) XLR, (16) ¼" balanced mic/line, (1) ¼" unbalanced high impedance	(4) XLR/¼" combo, (4) ¼" unbalanced, (1) ¼" unbalanced high impedance	(2) XLR, (4) ¼" unbalanced	(1) XLR/¼" combo, (1) ¼" unbalanced	(8) XLR/¼" combo, (2) RCA, (2) ¼" unbalanced high impedance
(2) ¼" balanced Stereo Master, (2) ¼" balanced Stereo Monitor, (2) ¼" stereo headphone	(2) ¼" balanced Master Out, (2) ¼" Balanced Monitor, (2) ¼" stereo headphone	(2) ¼" balanced Monitor Out, (2) RCA, (1) ¼" stereo headphone	(2) ¼" unbalanced, (2) RCA, (1) ¼" stereo headphone	(2) RCA Mix Out, (1) ¼" stereo headphone	(2) ¼" unbalanced out, (2) RCA Master Out, (1) ¼" stereo headphone
(4) ¼" unbalanced aux sends	(1) ¼" unbalanced aux send, (2) stereo aux sends, (4) ¼" balanced aux sends	(1) ¼" unbalanced	(1) ¼" unbalanced	n/a	n/a
n/a	n/a	(2) ¼" unbalanced	(2) ¼" unbalanced	n/a	n/a
S/PDIF optical	S/PDIF coaxial and optical	S/PDIF coaxial	S/PDIF optical out	n/a	S/PDIF optical
MIDI In, Out; USB; footswitch; expression pedal	Word Clock In; MIDI In, Out, Thru; SCSI; PS/2 Mouse; PS/2 VGA; SMPTE In; (2) DB-25 R-Bus; footswitch; expression pedal	MIDI In, Out; footswitch	MIDI Out, USB, footswitch	MIDI Out	MIDI In, Out; footswitch
24, 16	24, 16	24, 16	16	16	16
96, 48, 44.1	96, 88.1, 64, 48, 44.1, 32	44.1	44.1	44.1	44.1
26.85" (W) × 7.28" (H) × 18.66" (D)	24.37" (W) × 5.43" (H) × 20.5" (D)	22" (W) × 6" (H) × 14" (D)	18" (W) × 6" (H) × 14" (D)	15.83" (W) × 4.33" (H) × 14.57" (D)	11.14" (W) × 2.56" (H) × 8.46" (D)
29.76 lbs.	29.56 lbs.	18 lbs.	9 lbs.	3.53 lbs.	13.45 lbs.



The Tascam 2488 hosts a complete set of GM-compatible instruments (see Fig. 11). I doubt that I would use those in a serious arrangement, but they work just fine as guide instruments that you can replace later with better synths or live musicians. You can import Standard MIDI Files (SMFs) for playback through a USB connection to your computer, but the unit has no facility for sequencing with an external controller. You can link the unit's built-in drum and percussion patterns to create a rhythm sequence, and the 2488's Pattern

Arrange screen displays all of the information that you need to lay out a song from beginning to end. You can edit the length of individual patterns and insert tempo changes for each selected pattern. Nonetheless, that method of creating a rhythm track is counterintuitive and less than inspirational.

With the Tascam 2488, you'll need to edit MIDI files before importing them. The built-in tone generator, however, has basic editing features, including a selection of GM instrument banks and programs. In a

PORTABLE DIGITAL STUDIO SPECIFICATIONS

Product	Akai DPS24	Boss BR-1600CD	Fostex MR-8	Fostex VF160EX	Korg D1200mkII
Price	\$3,599	\$1,595	\$429	\$999	\$1,250
Physical/Virtual Tracks	24/256	16/256	8/1	16/8	12/96
Simultaneous Record Tracks	24	8	2	16	4
Built-in Storage	80 GB hard drive	40 GB hard drive	CompactFlash	40 GB hard drive	40 GB hard drive
Data Transfer	CD-RW, USB	CD-RW	USB	CD-RW	CD-RW, USB
Markers/Locations	2/100	100/0	0/2	7/14	100/4
Undo Levels	250	20	1	1	99
Faders	(12) stereo, (1) stereo master	(8) mono, (4) stereo, (1) stereo master	(4) mono, (2) stereo, (1) stereo master	(16) mono, (1) stereo master	(6) mono, (3) stereo, (1) stereo master
Dynamic Automation: Onboard/MIDI	Y/N	N/Y	N/N	N/Y	N/Y
Scenes	24	100	0	99	100
Phantom Power	Y	Y	N	Y	Y
MTC Send/Receive	Y/Y	Y/Y	N/N (MIDI Clock/SPP send only)	Y/N	Y/Y
MMC Send/Receive	Y/Y	Y/Y	N/N	Y/Y	Y/Y
Tempo Map/Tap Tempo	Y/Y	Y/Y	Y/N	Y/N	Y/Y
Waveform Display	Y	Y	N	N	Y

nice touch, the GM instrument effects are independent of other recorder DSP. That means that you can audition files without allocating DSP resources or wasting time routing them to the MIDI tracks.

A wonderful collection of drum loops from Discrete Drums is supplied with the Roland VS-2480 and the Boss BR-1600CD. The BR-1600CD also has a built-in drum and bass sequencer, plenty of preset grooves to string together, and user memory to store your own patterns. The Zoom and Roland drum kits sound great and are expressive, but

triggering a bass using the pads doesn't give you the same playing dimensionality that you get from a keyboard that has pitch bend and modulation capabilities.

Goodies

Although the units discussed here have more in common than is readily apparent, I found a grab bag of surprises in many of the units. The Boss BR-1600CD can trigger and sequence banks of loops with drum-machine-style pads, and it can read WAV files directly from commercial

Korg D32XD	Roland VS-2480	Tascam 2488	Tascam DP-01FX	Zoom MRS-8	Zoom MRS-1068CD
\$3,750	\$3,295	\$1,499	\$649	\$599.99	\$1,799.99
32/256	24/384	24/250	8/0	8/80	16/160
8 (16 with optional analog input board)	16	8	2	2	8
40 GB hard drive	80 GB hard drive	40 GB hard drive	40 GB hard drive	CompactFlash	30 GB hard drive
CD-RW, USB	CD-RW	CD-RW, USB	USB	N/A	CD-RW
100/6	1000/100	999/3	99/2	100/1	100/1
99	999	999	1	0	0
(16) stereo, (1) stereo master	(8) mono, (8) stereo, (1) stereo master	(1) stereo TG (GM Synth), (6) mono, (12) stereo, (1) stereo master	(8) mono, (1) stereo master	(1) Stereo Rhythm, (4) mono, (2) stereo, (1) stereo master	(1) Stereo Drum, (1) Mono Bass, (8) mono, (4) stereo, (1) stereo master
Y/Y	Y/Y	N/Y	N/N	N/N	N/Y
100	100	100	0	0	100
Y	Y	Y	Y	N	Y
Y/Y	Y/Y	Y/Y	N/N (MIDI Clock/ SPP send only)	N/N (MIDI Clock/ SPP send only)	Y/Y
Y/Y	Y/Y	Y/Y	N/N	N/N	Y/Y
Y/Y	Y/Y	Y/Y	Y/N	Y/Y	Y/Y
Y	Y	Y	N	N	N



CD-ROMs, giving you access to third-party loops. The BR-1600CD also will automatically time-stretch imported drum loops to match the tempo of your song.

Using cursors, wheels, and buttons to name tracks, songs, and files is a time-consuming and awkward process. The Akai DPS24 and the Roland VS-2480 get kudos for supporting the use of an ASCII keyboard.

The Akai DPS24 sports direct inputs to its A/D converters, allowing you to skip the internal preamps and avoid gain-staging problems when using an external mic preamp. The Tascam 2488 has traditional variable speed and SSA (Slow Speed Audition), which lets you rehearse parts at slower speeds without changing the pitch of the material.

The Zoom MRS-1608CD and the Boss BR-1600CD have the ability to generate 3-part audio harmonies based on chord data that you supply from the built-in rhythm section sequencer. On the more pragmatic side, if you want to tune your playback system's frequency balance to work with your room, the Roland VS-2480 has an oscillator that can generate white or pink noise. Just set up a mic and feed the oscillator back to the VS-2480's built-in frequency analyzer, which has a Fast Fourier Transform display.

They may be endowed with fewer features than their more expensive siblings, but keep in mind that the Zoom MRS-8 and the Fostex MR-8 are nearly as portable as you can get while keeping a full-format size. In addition to being small, they can be battery powered. Both recorders store data on CompactFlash cards rather than comparatively fragile built-in hard

drives, making them a bit more robust and therefore better candidates for recording on the go.

Rev Up

One criticism leveled at the PDS category overall is that the devices are closed systems that can't be significantly upgraded or expanded. Some of the units discussed here, however, have undergone several significant upgrades in software and hardware. For instance, version 2.0 of the Korg D32XD operating system increases the record and playback track count in 24-bit mode, adds new navigational tools, and adds the ability to load files from other Korg recorders as far back as the D12. In many cases, you can visit a manufacturer's Web site to obtain more recent updates than the ones that come with the unit. You typically update a PDS by installing files from a CD or uploading them from a connected USB port.

The development of ak.Sys TrackView software (Win) allows the Akai DPS24 to have computer-and-mouse navigation with the benefits of your computer's display. Features include a meter-bridge display of tracks, groups, inputs, sends, and returns, as well as scrolling waveform displays. A huge benefit is the ability to color-code tracks, which makes it easier to see edit regions and playback or record status.

You can use a QWERTY keyboard or a mouse with the ak.Sys TrackView software to remotely run the Akai DPS24 transport; enter names; and perform standard track copy, cut, and paste operations. You can also import and export WAV and AIFF files, back up projects, and update the DPS24's operating system.

NEWS FROM YAMAHA

At press time, Yamaha introduced two new personal digital studios—the AW1600 (\$1,495) and the AW2400 (\$2,499)—and informed EM that the company will no longer manufacture the AW16G by the time this issue goes to print. The AW16G will continue to be available, however, while stock remains.

The AW16G has 8 recordable tracks, 16 playback tracks, a fixed sampling rate of 44.1 kHz, and 16-bit recording resolution. It also has a dedicated Stereo Track for mixdown, which includes the output from the Sound Clip section and the sample pads. The Sound Clip feature lets you quickly record almost three minutes of audio without having to switch from menu to menu. It isn't quite a plug-and-play button, but it's handy for capturing ideas in a hurry. In addition, the AW16G has drum-machine-style pads to trigger and sequence banks of loops, and it can read WAV files directly from commercial CD-ROMs, so you can use third-party loops.

According to Yamaha, the new AW1600 and AW2400 workstations are fully backward compatible with

earlier Yamaha workstations. The 16-track AW1600 has 8 phantom-powered combo inputs that are similar in design to the company's O-series preamps, a high-impedance guitar input, USB 2.0 support for moving files to your computer, 24-bit resolution, and a 40 GB hard drive. Other bells and whistles include a new Pitch Fix algorithm for correcting vocal tracks, a Quick Loop Sample function, guitar and mastering effects, and sample playback pads.

The AW2400 offers 24 simultaneous tracks of playback (each with 8 associated virtual tracks), motorized 100 mm faders, and a 40 GB internal drive. The 24-bit device has eight phantom-powered XLR inputs, eight ¼-inch TRS inputs, insertion inputs on channels 1 and 2, four dedicated aux outputs, an integrated Pitch Fix function, and USB 2.0 connectivity. For editing, the AW2400 includes ten user-definable function keys and a large, Q2R-size LCD screen.

—Gino Robair

BROAD SCOPE AUDIO

- Desktop Audio
- Live Sound/PA
- Pro Recording
- Broadcast/ENG
- Electronic Field Production

B&H Pro Audio...

is uniquely positioned to meet the diverse needs of today's Audio Professional. Our 30,000 sq. ft. Superstore, comprehensive Website, and experienced sales staff provide real world solutions for the increasingly specific requirements of Pro Media's converging technologies. Our huge inventory and prompt worldwide shipping make B&H a true one-stop source for every pro-audio need.

800-947-5509
212-444-6679
420 Ninth Avenue
New York, NY 10001
visit B&H Online at
www.bhproaudio.com

The Professional's Source





Unfortunately, the TrackView features are not available for the Mac. That confuses the issue somewhat, because the bundled CD-ROM contains ak.Sys software that runs in Mac OS 9 for other Akai products. You can, however, download ak.Sys Server software for Mac OS X, a simple utility that gives you file import and export and OS upgrade capabilities for the DPS24.

Down at the Docs

Despite tremendous user interface advancements, documentation that is organized, clear, and concise is essen-

tial to getting the most out of a PDS. Sadly, despite all of the advances in functionality, lucid and well-organized manuals are still the final frontier. On the positive side, Korg, Tascam, and Zoom took extra pains to make their systems easier to comprehend.

The main Akai DPS24 manual, however, is badly in need of an update and an expanded index. The main manual has no information on the ak.Sys networking software. Instead, there are a handful of separate update guides, making it difficult and confusing to find the information that you need. Overall, the DPS24 manual would benefit greatly from an integrated rewrite.

Roland's VS-2480 has a slew of addendums, but they are much better organized than Akai's. Some instructions for the Fostex VF160EX are so needlessly convoluted and incomprehensible that you'll probably reach for an aspirin while trying to figure them out.

Trends and Wish Lists

Because of the evolution of the PDS since EM's last survey, it's tempting to speculate on future developments. In this day of high-resolution audio and huge file sizes, it is foreseeable that portable digital studios make the move from built-in CD-RW drives to built-in DVD writers. Additionally, having FireWire connectivity would allow you to quickly and conveniently backup recorder data to high-capacity hard disks.

Although Tascam's 2488 built-in synth, SMF support, and backing tracks are terrific resources, the inclusion of sequencing or real-time triggering of internal sounds would extend the studio-in-a-box concept even further. With the availability of plug-in expansion boards, the inclusion of a full-featured software synthesizer in a PDS can't be far behind.

If a manufacturer combined built-in sequencing, a software sampler, and an analog-modeling synth, and I'll bet the personal studio community will beat a path to its door. Whatever the future holds for portable multitrack recording, now is the best time to jump in. **EM**

During the commission of this story, Marty Cutler harbored up to 220 tracks (not counting virtual tracks or his own PDS) of portable digital studio, depending on sample rate and bit depth. He is still trying to calculate the total number of Undo levels.

Now hear this...



Whether it's your voice, or your instrument, or both - in order to deliver your best performance you've got to hear yourself.

From the simple passive PM52 Headphone Tap to the three input PM350 Personal Monitor Mixer, Rolls makes a personal monitoring device to fit your exacting need.

Plus, we have four, five, and six output headphone amplifiers for a custom fit to your application.

All Rolls Personal Monitors and Headphone Amplifiers feature full frequency responses and tons of output level, to make sure you can hear... YOU.




ROLLS

5968 South 350 West
Salt Lake City, UT 84107
(801) 263-9053 - FAX (801) 263-9068

For complete info on all our products, see
www.rolls.com

Get rid of the wire. The Rolls WPM61 system will take the output signal of any personal monitor amp or mixer monitor send, and transmit the output directly to your ears.





Soon you can sound like all the voices in your head.

Announcing **AVOX**, the Antares Vocal Toolkit.

Featuring the revolutionary **THROAT** Physical
Modeling Vocal Designer — and a whole lot more.

Available this fall at your Antares dealer.

antares 

FOR ALL THE VOICES IN YOUR HEAD

ANTARES AUDIO TECHNOLOGIES 231 Technology Circle, Scotts Valley, CA 95066 USA
voice: 831-461-7800 | info@antarestech.com | www.antarestech.com

Empower Your Laptop

\$499.99*

MASTERING GRADE
24-bit/192kHz
120dB SNR-measured
A/D & D/A Converters



E-MU's new 1616M is the only laptop audio interface to offer mastering-grade 24/192 converters, zero-latency monitoring and hardware-accelerated effects – at any price. E-MU's CardBus card plugs straight into your laptop's PCMCIA slot, offering you all the DSP power of E-MU's award-winning PCI Digital Audio Systems in a mobile interface. You can use the CardBus card alone for its hardware-accelerated effects and premium stereo headphone/line output, or plug in the MicroDock for complete analog and digital I/O flexibility.

- ▶ 2 Mic/Line/Hi-Z preamps
- ▶ 4 TRS line inputs
- ▶ Turntable input
- ▶ 6 TRS line outputs
- ▶ 5.1 speaker outputs
- ▶ ADAT I/O
- ▶ S/PDIF I/O
- ▶ Headphone/Line output (x2)
- ▶ MIDI I/O (x2)

You don't have to compromise performance for mobility anymore.



MicroDock M back

E-MU Production Tools Software Bundle included:

SONAR LE

T-RACKS EQ

live lite 4

POWER FX

WAVELAB lite

SM machine

Proteus X LE

AmpliTube 1.0

Cubase • LE

* Estimated Street Price. E-MU 1616 Laptop Digital Audio System (with 112dB SNR converters) also available for \$399.99

CREATIVE PROFESSIONAL

WINNIX 2000 XP

POWER FX
Hardware Accelerated
VST Effects

E-MU

© 2005 E-MU Systems, Inc. E-MU is a registered trademark of E-MU Systems, Inc. in the US and other countries. All other brand names are the property of their respective owners.

www.emu.com

Toll-free
877-742-6084



DEPT. OF MUSIC

The World Wide Studio

By Mike Levine

Be a session musician for anyone, anywhere—without ever leaving home.

Nobody can deny the tremendous impact that the technologies of MIDI, digital audio, and desktop production have had on the music industry. For many musicians and producers, the ability to create professional-quality tracks in a personal studio has been revolutionary.

For many studio musicians, though, these technological advances have come with a significant downside. Once-abundant session scenes have shrunk considerably, with players losing work to synths, samplers, and loops. Drummers, percussionists, bassists, string players, and horn players have been particularly hard hit.

Many producers are now doing much or all of their work in home setups. That change has led to the closing of many commercial studios, which were once hubs of work and networking for studio players, and culminated in a decentralization of the remaining session work.

Economic factors have also contributed to the decline in studio work. The financial downturn after the 9/11 attacks hit the commercial recording industry particularly hard. Technological changes, however, have clearly been the most significant single factor.

But all is not doom and gloom for studio players. A growing number have discovered a way to harness personal-studio technology, in conjunction with broadband Internet access, to create a new kind of studio work—remote sessions.

Far and Wide

A broadband Internet connection, with its ability to quickly transfer relatively large files, makes it much easier for musicians to work remotely. They can offer their services not just to producers and songwriters in their area, but around the entire world.

Savvy players are setting up Web-site interfaces that allow them to solicit clients, procure client information, facilitate payments, and, most importantly, send and receive music files. It's too soon to know if this development will be the way of the future, but it's certainly promising. The profiles scattered throughout this story provide a variety of examples of musicians who now include remote sessions as part of their income stream.

But remote recording isn't just for session players. Recording musicians of all types are discovering that

they can collaborate over long distances using the file-transfer capabilities of the Net, or even by snail-mailing CD-Rs or DVDs with their tracks. Remote recording changes the dynamics of collaboration because, at least for now, the playing is done mainly in an "offline" fashion, with the musician (or musicians) working separately from the producer and from other musicians. That offers both advantages and challenges for all involved.

That Far Away Feeling

Remote recording sessions aren't a completely new phenomenon. Since the early '90s, ISDN lines have been used in some commercial studios to record distant talent. Perhaps the most groundbreaking example was Frank Sinatra's CD *Duets* (Capitol, 1993), on which producer Phil Ramone paired Sinatra with

A DRUM LEGEND GOES REMOTE

Dave Weckl (www.daveweckl.com) is one of the top drummers in the world, and he's leveraged his stellar reputation into a lucrative remote-session business (see Fig. A). He offers clients the cachet of having his drumming on their projects, and he records the tracks using top-notch gear that includes a Digidesign Pro Tools HD3 system, Grace and Universal Audio mic pres, a Dangerous Music 2-BUS LT. Weckl does his own engineering, just as he does on his CDs.

Working in his own studio with everything set up and ready to go makes it easy for him to maintain strong quality control. He finds remote playing to be quite productive. "It allows me to work on my own time and spend the necessary time getting a really great track, with my sound already built in," he says.

Weckl's method for exchanging files is similar to the others profiled here, but he relies more heavily on sending the data on physical discs than do the other musicians mentioned in this story. "I ask them to send files—in Sound Designer II, AIFF, or WAV format—however they like," he says, "but usually via FedEx or a similar service on CDs or DVDs, with all files beginning at zero so there are no sync issues. I usually return my tracks, either mixed or unmixed depending on their preference, in the same format. I also use Digidesign's DigiDelivery service over the Internet when it is appropriate for both parties."

Because of his reputation, Weckl is able to charge top dollar for his services. "My standard basic rate is \$1,000 per song,

which includes my regular recording fee, studio time, engineering fee, and administrative costs. There are slight additional costs for solo features and stereo drum mixes," he says.

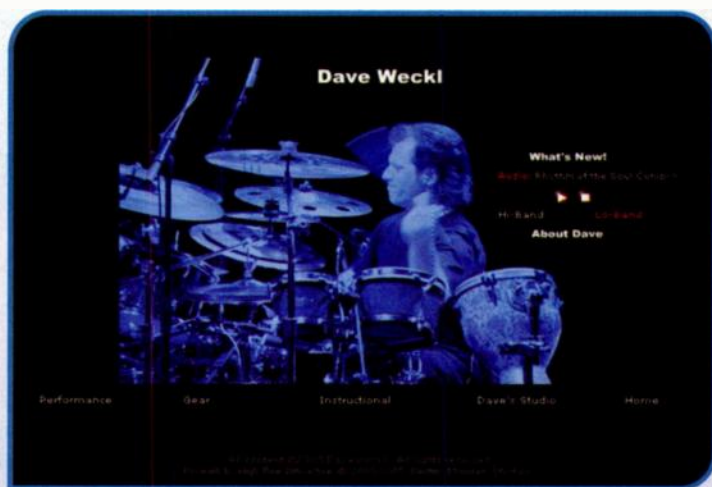


FIG. A: In addition to using his Web site to publicize his recordings and performances, Dave Weckl also promotes his remote-session business from it.

Does Weckl's fee include revisions? "It depends on the project," he says. "For demos there is no revision process. For final tracks, yes, I provide a one-time approval MP3 mix via the Internet. Additional fee charges (per hour) occur if after the first approval, if the adjustments are not to their liking."

Overall, he doesn't find a lot of negatives to the remote-recording process, except perhaps for its isolated nature. "It removes the social aspect of a session—hanging and playing with live musicians. But for the people who don't produce their CDs that way in the first place, it is optimum for all involved." —Additional reporting by Matt Gallagher

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

ELECTRONIC MUSICIAN, MAY 2005



GIGASTUDIO™ 3.0



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

WRB

TASCAM
www.tascamgiga.com



FIG. 1: Digital Musician.net is scheduled to launch in August 2005, using DSL lines to move data. According to the company, it will offer CD-quality audio, and videoconferencing among its features.

a host of remote duet partners. ISDN is expensive, however, and not easily accessible to the average musician.

Some less pricey alternatives are available, but all use audio compression. Users of Pro Tools TDM or LE can get Source Connect 2.1, developed by Source-Elements (www.source-elements.com). This plug-in allows streaming of audio (using an AAC codec) between multiple remote systems using cable, T1, or DSL, and also has instant-messaging capabilities. The plug-in can be purchased for \$1,495 or rented in a rent-to-own program.

A brand-new service, Digital Musician.net (www.digitalmusician.net), is scheduled to debut in August of this year (see Fig. 1). It will use DSL to transfer MIDI and audio files (256 kb MP3 files) in real time, and has videoconferencing capabilities.

FIG. 2: The workflow for a typical remote session. Simultaneous, multistudio recording appears to be the wave of the future, but for now, the most

practical way for personal-studio owners to record uncompressed audio remotely is to do it offline and transfer files back and forth using the Internet. That method is the one this article focuses on.

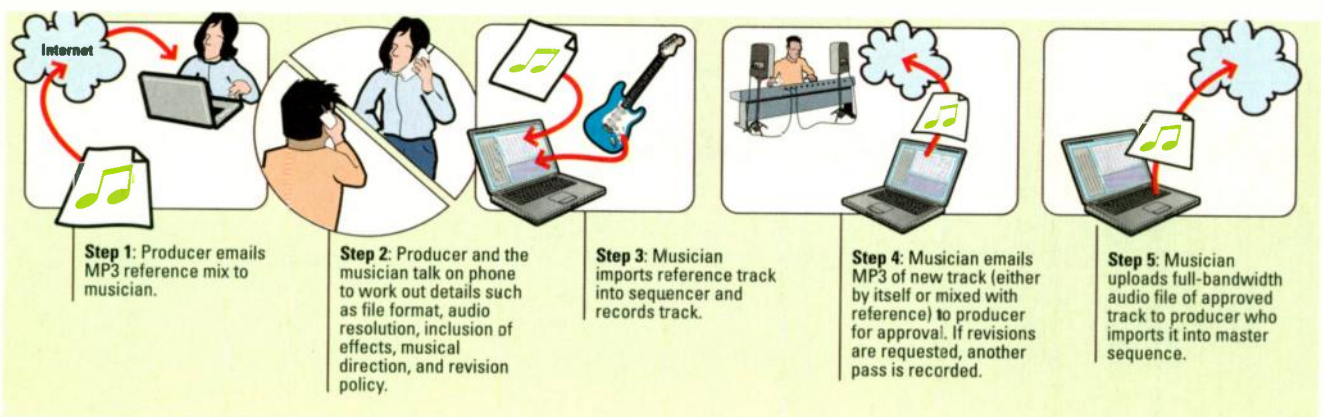
Do Your Own Thing

First, I'll explain what you will need to do a remote session. I'll assume here that you are the studio musician, and that the person you are working for or collaborating with is the producer (although the situation could be reversed).

As the musician, you'll need a studio setup that's good enough to record your instrument with professional results. If you play an acoustic instrument, you'll need a good mic or two and a decent mic preamp.

You and the producer should both have broadband Internet access. Unless you have the patience to send tracks through the physical mail or by an overnight delivery service, one of the parties should have an FTP site or the equivalent for transferring files that are too large to email. (If either of you have Digidesign's DigiDelivery system, which is expressly designed for sending session files of all types over the Internet, so much the better. Only one of you needs DigiDelivery for you both to use it. It requires an investment of several thousand dollars to get the gear, though.)

A great thing about working remotely is that the producer and the musician can have different DAW software because audio-file formats are so interchangeable. For most situations, there's no need to send application-specific files. The producer can send MP3 reference tracks to the musician, and the musician can send uncompressed audio files back to the producer.



MACKIE
ONYX 800R

ANALOG MIC PREAMP WITH 192kHz DIGITAL OUTPUT



RIVALS THOSE TWEAKY, ESOTERIC, SNOBBY, ULTRA-PRICEY MIC PREAMPS... EIGHT TIMES OVER.

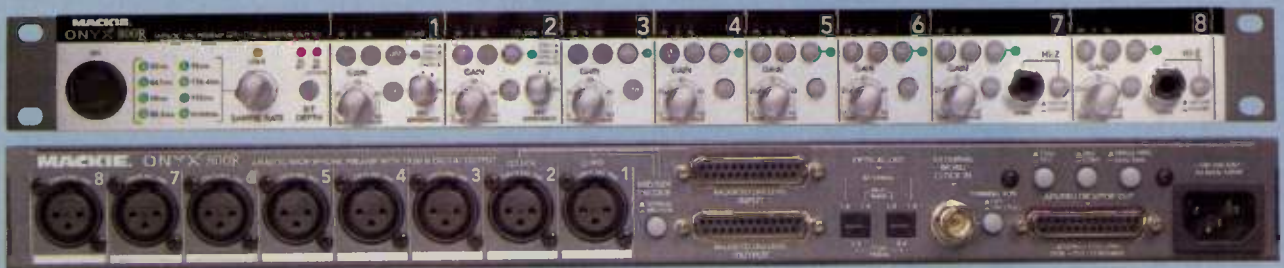
When you shell out thousands of dollars for a "boutique" studio microphone preamp, you should expect a tight, focused high-end, superior ambience retrieval, detailed bass octaves, and a highly articulated midrange. Not coincidentally, that's also what you get with Mackie's new Onyx 800R Eight-Channel Premium Microphone Preamp—eight times over—and at a decidedly less than boutique price.

The no-compromise Onyx 800R boasts all-new circuitry delivering 123dB dynamic range and an amazing 0.0007% THD. It also comes standard with high-quality multi-format

24-bit/192kHz digital outputs as well as tweaky features like a Mid-Side Decoder and a Variable Mic Impedance control, letting you "tune" the preamp to get the most out of any microphone.

So how does the 800R sound? "Classy and versatile," says *Sound on Sound*; "Modern, clean and accurate," according to *Tape Op*; and, "Extremely quiet and very revealing," according to *Resolution*. We couldn't have said it any better ourselves.

Find out more at www.mackie.com/onyx800r, or visit your local Mackie dealer to audition the Onyx 800R for yourself.



MACKIE ONYX 800R: EIGHT BOUTIQUE MIC PREAMPS W/ 192KHZ DIGITAL OUTPUT. PLUG IN TO ONYX.



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

MACKIE®

All the remote-recording musicians that I talked to for this story had DAW-based studios. There's no reason, however, that you couldn't do it from a PDS (personal digital studio), as long as it's able to import and export WAV, AIFF, or SD II files. You'd still need a computer for uploading and downloading, though.

The Planning Stage

A remote session requires more advanced planning than a conventional one (see Fig. 2). First, the producer should email you an MP3 reference mix of the song. (Some musicians prefer AIFF or WAV files as reference because of their better fidelity. In most cases, however, MP3 is fine, and the files are generally small enough to email.) After you've had a chance to listen to the file, it's essential that you and the producer work out a number of details.

One important point to clarify is which uncompressed audio-file format you'll deliver your final tracks in. Most likely you'll use WAV or AIFF, but you might use Sound Designer II. You'll then need to determine whether your gear can record at the same sampling rate and bit depth as the original session (which I'll refer to as the "master session"); if not, the producer will have to upsample your recorded parts.

In addition to resolving the format and resolution issues, it's crucial that you and the producer discuss the

artistic direction and sound that's expected of you. This is the time to request a particular element (or elements) that you'd like to hear louder or softer than normal in your reference mix. Remember, if you don't like the mix, it's not just a matter of turning a knob to change it. You'll have to request a different mix from the producer, who will have to make it and send it to you, which could take some time.

Sync or Sink

It's critical for the eventual syncing of your recorded parts with the master session that when the producer makes your stereo reference mix, it starts right at the absolute beginning of the sequence. In bars, beats, and ticks, that would be 1/1/000 (or 0:00:00 in hours/minutes/seconds). If your part calls for you to start playing at the top of the song, the producer should make sure that the song itself starts at least a measure after that 1/1/000 starting point, to make room for a count off, which should be included on the reference mix.

The tracks that you send to the producer also need to start at 1/1/000. That is true even if there are several measures between the point when the file starts and when you start to play or sing (see Fig. 3). If need be, paste a short piece of blank audio at 1/1/000, and then use your sequencer's feature for connecting noncontiguous audio

STRINGS ACROSS THE OCEAN

Although he doesn't actively seek out remote sessions, jazz violin legend Jean-Luc Ponty (www.ponty.com) has done his share of such work, both as a session player and on collaborative projects with other artists.

His studio is based around a Digidesign Pro Tools HD setup, with a ProControl console as the centerpiece (see Fig. B). One thing he's very particular about is his sound,

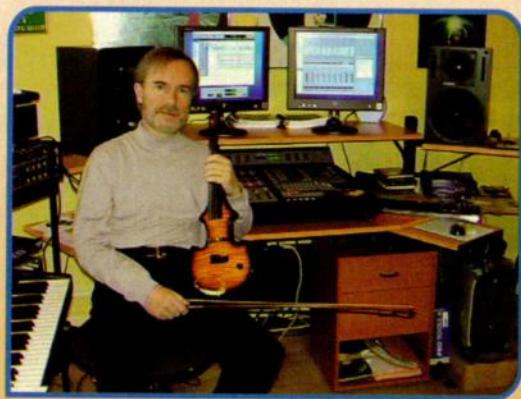


FIG. B: When he does a remote session in his studio, Jean-Luc Ponty carefully EQs his violin sound to his own demanding specifications before sending the file to his client.

and when he does a remote session, he's careful to deliver tracks with his signature tone already on them.

"My sound is part of my musical identity, as important as colors in a painting," he says. "I send it [his violin signal] already EQ'd through Metric Halo's ChannelStrip plug-in, which I really love," he says. "It's so efficient and easy to use. I have saved EQ settings for each of my electric violins in ChannelStrip, and I just do minor adjustments to fit the track if necessary. So I am sure that my sound is exactly as I want it."

Ponty enjoys the freedom that remote recording affords him. "I like the fact that I can take my time to experiment without worrying about using studio time. Also if there is no hurry, I can record fresh improvisations on different days, because after a few tries the spontaneity disappears."

When interviewed, Ponty had just released a DVD called *In Concert* (Navarre Distributors, 2004) and was about to begin a collaboration with Stanley Clarke and Bela Fleck called The Trio. The three were planning to start rehearsing soon.

"The idea is to play and record altogether so that we can catch as much interplay as possible, especially for our improvisations. Then, if we need to, each of us can take copies at home and put some final touches, each in our respective studios."

WE'VE GOT THE POWER

Meet Yamaha's New high-performance powered loudspeakers...the biamp'd MSR400 12" full-range and low-profile MSR800W 15" subwoofer. Delivering 400 and 800 total watts of output power, respectively, these high-impact models will exceed your most critical requirements while saving you money at the same time. Visit your favorite authorized Yamaha Pro Audio dealer for a demo and a price. You'll be amazed.



©2005 Yamaha Corporation of America • www.yamaha.com/proaudio

MSR400 as a monitor

rather than just audio files. That would allow you to record directly into a copy of the master sequence. In that situation, it's better for the producer to send the file with only a 2-track submix of the existing audio tracks. If you were to be sent a sequence containing all the individual audio tracks, the file could be very large.

Make sure that you get charts from the producer for any and all songs that you're working on. Because he or she won't be in the room with you when you're

cutting your tracks, having charts is essential for keeping you on course—even if they are just simple chord charts. When you're recording your parts, no one will be there to answer questions such as "How many measures after the bridge is it before my solo comes in?" The charts should have measure numbers on them that correspond to the sequence, and they should be easy to navigate. Otherwise, you might have to spend a lot of time familiarizing yourself with the arrangement before you're ready to nail your part.

BIG APPLE REMOTE

Ira Siegel (www.irasiegel.com) is one of the top session guitarists in New York (see Fig. D). His list of credits includes appearances on CDs with artists ranging from Jewel to Marc Anthony to Chaka Kahn to Sinead O'Connor. He's also played on countless jingles and on TV and film soundtracks.

Siegel got a Pro Tools rig back in 2000 on the advice of a colleague, and he has supplemented his conventional sessions with remote ones ever since. "Most of

How does he usually get the file to his clients? "I'll either post it up on an FTP site that they have set up, or I'll put it up on my .Mac site or theirs."

Surprisingly, some of Siegel's clients are satisfied with MP3 tracks and don't request WAV or AIFFs. "I can't tell you how many times I've posted up MP3s of what I've done in Pro Tools for expedience sake, and they end up going on the air."

Even when he's on tour, he's still able to do remote sessions. "I just bring my laptop and the Mbox. I've done a few of those. As long as you have a high-speed internet connection, you're good to go. Hell, you could do it from the tour bus—and I have."

As a five-year veteran of remote recording, Siegel has developed some interesting tricks. One is a quick way to post his files using Apple's iChat software. "iChat is another way of putting stuff up," he says. "An instant message in iChat is one of the fastest ways to suck up a 35 MB file. You just drag-and-drop into the Instant Message window."

He also uses the videoconferencing facilities in iChat during some of his remote sessions. "What I've taken to doing is having my laptop open with iChat and the iSight camera on so I can videoconference with them while I'm doing it." Although the quality of the video is far from perfect, it's enough to establish two-way communication during the session. "They can kind of hear what I'm doing. Because otherwise, what if you do these tracks and they don't like them? If you have to do that six or seven times, it's going to be three days before you finish a 3-minute song—which totally defeats any kind of technological aspect that might have made this advantageous."

Although Siegel takes advantage of remote recording, he doesn't see it as a perfect way to go. "Even though you're at home, it can be a lot more work because you're also the engineer. Truth to tell, that's what takes up most of the time—the uploading and all that stuff."

What's the future of remote recording in Siegel's opinion? "I think it will find its niche. I don't think it will take over," he says. He doesn't think it can replace working one-on-one in the studio with a producer. "A producer can work his magic much better in person," he says. "I don't think anything is going to take the place of that."



COURTESY IRA SIEGEL

FIG. D: Ira Siegel performing in New York City, where he's an in-demand session guitarist for conventional and remote sessions.

the time, people send me an MP3 file to play to that has a click track on it," he says. "I don't need anybody sending me a WAV file or an AIFF file or a Sound Designer II file. Most of the time they'll want me to send them back a full bandwidth file."

SEE IT FROM THE OTHER SIDE



training for a career in the audio industry

OPEN HOUSE August 6th: Los Angeles, Miami, Nashville
August 7th: New York City

Individual Lab Time
Hands-on Training
Over 40 Schools Worldwide
Full and Part Time Courses
Job Placement Assistance for All Graduates
Financial Assistance for Those Who Qualify



Solid State Logic - Approved Training



New York City*

1293 Broadway, 9th Floor
New York, NY 10001
212-944-9121

Los Angeles

6565 Sunset Blvd., Suite 100
Los Angeles, CA 90028
323-466-6323

Miami

16051 West Dixie Highway
Suite 200
North Miami Beach, FL 33160
305-944-7494

Nashville^Δ

7 Music Circle North
Nashville, TN 37203
615-244-5848

* accredited by the Accrediting
Commission of Career Schools and Colleges
of Technology (ACCSCCT)
Δ accredited by ACCSCCT, federal financial
aid for those who qualify

Every new student enrolling in our Audio Technology Program at SAE Institute in the US receives their own Apple iBook and Pro Tools LE digital recording system! Subject to change without notice; terms and restrictions apply.



1-877-27-AUDIO • www.sae.edu

If the song doesn't clearly specify at which places you are supposed to play your instrument, make certain to discuss that in advance, too. (Hopefully, that will be indicated on the chart.) Otherwise, you could waste time playing during sections that won't be used in the final mix.

Unless you have videoconferencing facilities (Apple's iSight, for example), one disadvantage of working remotely is that the producer can't see or hear you while you're playing, and therefore can't "produce" you. Whereas in a conventional session you might be asked to try several different directions for your part, you get no immediate feedback when you work remote-

ly. To minimize the possibility of recording tracks that don't fit with the producer's vision for the song, make sure that musical direction is part of your pre-session planning.

Rough Stuff

Once you've recorded your part, send the producer an MP3 of it (either by itself or combined in a mix with the reference track) so that he or she can approve what you did before you upload the full-bandwidth files. To avoid too many revision requests, agree on a revision policy in advance (see "Curb Their Revisionism").

SMART STUDIO

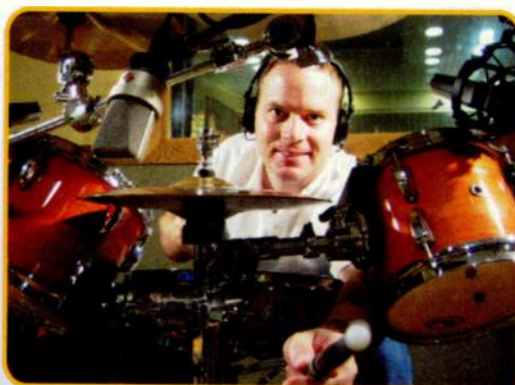
Drumming has been a big deal for Frank Basile (see Fig. E) for a long time. Not only does he play, but he's also the owner of Smart Loops, a company based outside of Boston that puts out drum loops and various instrument loops. Sensing the possibilities for remote-studio work, Basile set up Live Studio Drums (livestudiodrums.com), a remote-studio drumming service. Although he doesn't have a national reputation as a player, he regularly deals with Smart Loops customers, most of whom are looking to buy drum loops and can be convinced to spring for the real thing. That has proved to be a fertile client base.

Before launching Live Studio Drums, Basile spent six months putting together an extremely comprehensive Web interface that's designed to get and provide all the information necessary for a client to order studio-drumming services. "It's pretty different from anything else I've seen," he says.

The client starts by filling out a checklist and creating an account. "You go through this checklist; you can choose a snare drum," says Basile. "Click on a snare drum, and you'll hear an example of the particular snare drum that you'll be getting. There's technical information up there, sampling rate, bit depth. People tell me what they're looking for; you can see the other information. Then they submit the checklist."

Basile's rates are based on how quickly you want the drum tracks turned around. If you can wait 21 business days, he'll do a song for \$99. If you want it done overnight, it will cost \$199. His standard session is \$119, which is turned around in five business days. Additional takes cost extra, but Basile says they're rarely requested. "I probably get less than five percent of people who want a second take," he says.

Basile's studio is based around a PC running Cakewalk Sonar 4 and a Yamaha 01V96 mixer. He has plenty of drums to choose from. "I'm a Pearl endorsee, so I get lots and lots of drums. That works out great." His mics include models by Audix, Audio-Technica, Neumann, and Shure.



COURTESY FRANK BASILE

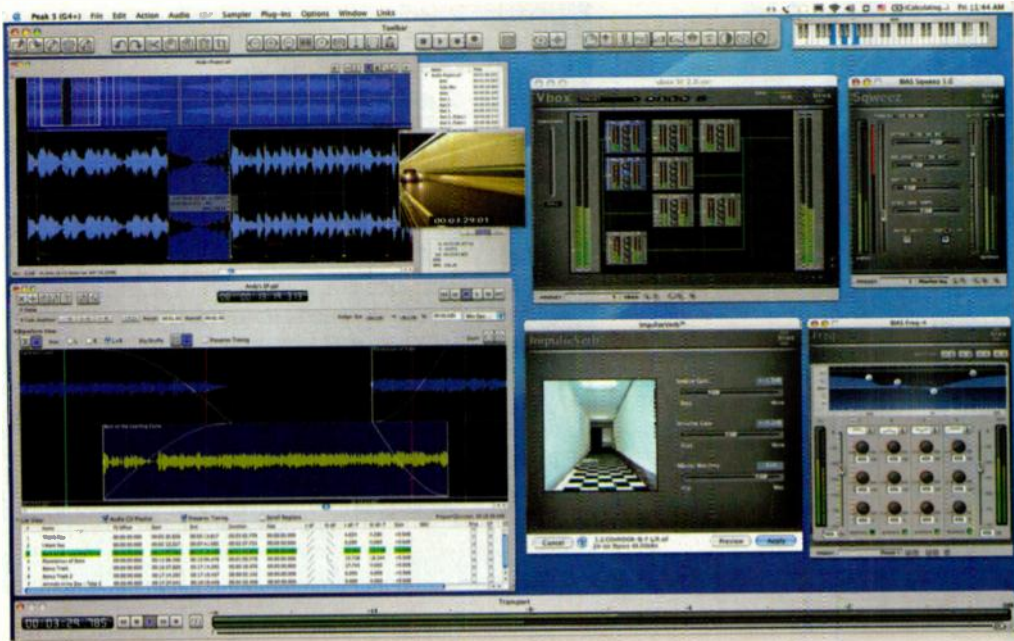
FIG E: In addition to top quality drums and mics, Frank Basile's remote drum session business features a unique, Web-based interface that makes the logistics of the remote recording process.

Basile describes what happens once he records his drum part. "When I'm done doing a recording, and I'm happy with the take that I want to submit to them, I'll create an MP3 mix of their scratch [reference] track and my drum track. And then I'll upload that, and they'll get a message saying 'Login to your LSD account. Your preview file is waiting for you to approve.'"

Once the client approves, Basile sends them links that allow them to download the nine individual drum tracks for their song from his own server in WAV or AIFF format. "It's not even FTP, it's better than that," he says, explaining that he initially used FTP but had some problems with certain clients being unable to access their files. His new system has worked flawlessly. "You just right-click the link, and it downloads the files."

The biggest disadvantage of working remotely, says Basile, is the lack of instant feedback from the client. "But the funny thing is, that's also an advantage in some cases," he says. "I can be on my own, I can concentrate on the song, I don't have any distractions."

Edit. Process. Master. Burn. In ways your DAW can't touch.



www.bias-inc.com • 1 [800] 775-BIAS

In this age of "do-everything" digital audio workstations, it seems they all forgot something big. Namely, true professional-quality CD mastering.

Fortunately, your own mastering lab awaits you: Peak Pro 5. Along with award-winning editing and sound design tools, now you also get the world's very best mastering solution. With advanced playlisting. Superb final-stage processing. Disc burning. Plus subcodes, DDP export, and other 100% Redbook-compliant features.

Need even more power? Check out our Peak Pro XT 5 bundle — with over \$1,000 worth of additional tools, including our acclaimed SoundSoap Pro, SuperFreq, five new plug-ins, and more.



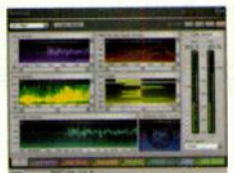
So, when you're ready to master, Peak Pro 5 has everything you need. It's the perfect complement to your DAW. Or, perhaps we should say, it's the perfect finishing touch.



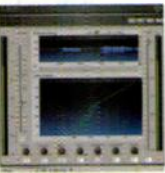
Peak Pro XT 5 comes with these five new plug-ins — plus SoundSoap Pro (a \$599 value) & more!



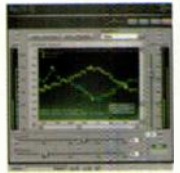
Squeeze-5™
5-band compressor/limiter
with linear-phase performance



Reveal™
Professional 7-tool audio
signal analysis suite



GateEx™
Top-performing gate/
expander plug-in



Repli-Q™
BQ matching, with
astounding results



PitchCraft™
Super natural
pitch correction

Limited Time Offer: Buy Peak Pro 5 or Peak Pro XT 5 & get even more extras — up to \$399 in value!

www.bias-inc.com/peak5



© 2005 BIAS, Inc. Peak, Peak Pro, Peak Pro XT, Peak LE, Peak DV, Deck, Deck LE, SoundSoap, SoundSoap Pro, Vibe, BIAS Studio, Frog, Squeeze, ImpulseWork, PitchCraft, Repli-Q, Squeeze-3, Squeeze-4, Reveal, GateEx and SuperFreq are trademarks of BIAS, Inc. VST is a registered trademark of Steinberg Media Technologies AG. All other trademarks are property of their respective holders. All features, prices, specifications, and offers are subject to change. Certain features such as the number of simultaneous plug-ins or tracks are dependent of specific versions of BIAS software, along with CPU, operating system requirements and capabilities. BIAS, Inc. assumes no responsibility for or guarantee of third-party software or hardware specifications, features, or compatibility with BIAS products.



foresight
is 2020



20 SERIES

AT2020
cardioid condenser
microphone

The \$99* studio
condenser that's way
ahead of its time.

Introducing Audio-Technica's new AT2020. This \$99 studio condenser establishes the quality/consistency benchmark for its class. With its custom-engineered low-mass diaphragm, extended frequency response, high SPL-handling, wide dynamic range and rugged construction, the AT2020 is tomorrow's standard for affordable side-address studio condensers. Available today, from Audio-Technica.

*Estimated street price.


audio-technica.
always listening.
www.audio-technica.com

The World Wide Studio



FIG. 3: To ensure easy syncing back into the master session, it's critical that the audio file containing your part starts at the absolute beginning (1/1/000 in bars/beats/ticks). The guitar overdub in this example starts at the fourth measure, but the start of the file is 1/1/000.

I recently recorded a remote session for an album on which I was playing multiple lead instruments on a variety of songs. My part of the project took longer than I had expected, because I spent so much time messing with effects and other mix variables on the rough mix in order to make it all sound as good as possible.

Another subject to talk about in your preproject discussion is that of effects. It's usually best to leave off ambient effects such as reverb and delay, unless it's a delay that's a big part of the sound you're going for, such as a slapback. Let the producer and engineer add those when they mix.

If, however, any effects are integral to your tonal signature (in the way that, for example, distortion or overdrive is for a guitarist), they should be printed on the tracks that you're sending. Don't

count on the producer to get them right. Your sound is part of your musical personality, and it's a big part of why you get hired. Don't cede that control to somebody else (see Jean-Luc Ponty's take on this topic in the sidebar "Strings Across the Ocean").

Curb Their Revisionism

The issue of revisions should be clarified prior to any remote session. In a conventional session, you play until the producer (or the client) is satisfied. If he or she doesn't like what you played, you'll be told and asked to do it over. The process is usually quick, and your time is limited to the period of time you were booked to play. Especially if the session was put together under the auspices of the musicians union (which is always preferable for the musician), any overtime would result in higher pay.



SONIC IMPLANTS®

WORLDS FINEST SAMPLE LIBRARIES AND VIRTUAL INSTRUMENTS

NEW



Sonic Implants COMPLETE SYMPHONIC COLLECTION

Sonic Implants, expanding on the huge success of its Symphonic Strings and Brass Collections presents the Sonic Implants Complete Symphonic Collection, four volumes and over 60 gigabytes of Orchestral Strings, Brass, Woodwinds and Percussion. No other orchestral product comes close to the beautiful rich sound, extensive set of articulations and playability of this library. Give your music the power and beauty it deserves. Visit us at www.sonicimplants.com for a free demonstration.

Powered by GIGASTUDIO3.0

NEW

Scarbee VINTAGE KEYBOARD GOLD BUNDLE

Scarbee products are famous in Europe for their incredible feel and sound, so we were very excited to offer their latest creations to North America. Four brand new Virtual Instruments dedicated to capturing the depth and soul of a Rhodes Stage Piano MKI, '73. Wuritzer 200A Electric Piano, Hohner Clavinet D6, and Hohner Planet N Electric Piano. Extensively multi-sampled and programmed, these VIs put the sound and feel of these retro keyboards under your fingertips. Scarbee Vintage Keyboard Collection, Scarbee Vintage Keyboard FX, and Scarbee Vintage Keyboard Gold Bundle, so retro you will need a new hairstyle. Visit us at www.sonicimplants.com for a free demonstration.



Powered by HALION

NEW

Fable Sounds BROADWAY BIG BAND

COMING SOON... It's rare when a new Virtual Instrument arrives that could be described as "revolutionary". But that's exactly what the Fable Sounds Broadway Big Band Series is, a huge collection of stunning big band brass, winds, drums, basses and more. Sampled in three mic positions, multiple articulations and phrases, legato samples, multi-dynamic layers, and more, and including Fable's Intelligent MIDI software application that lets you un-harness all this power without losing your creative flow. Your Big Band, Pop, Latin, Funk & R&B tracks deserve this new state of the art virtual instrument. Visit us at www.sonicimplants.com for a free demonstration.



Powered by HALION

To Purchase or find a dealer near you, contact WWW.SONICIMPLANTS.COM 888.769.3788

MIM 2005-2006
DJ, PROMOTER & PRODUCER
MUSIC INDUSTRY REFERENCE



Now available in the
U.S. from *Mix*,
Electronic Musician
and *Remix*

emusician.com/embookshelf
remixmag.com/remixbookshelf
mixonline.com/mixbookshelf

DJ? PROMOTER? PRODUCER?

...accept no other resource, the new International Edition MIM 2005/6 is the reference book for the global music production and dance scenes, and is now available in the United States.

This International Edition contains the original U.K. content and is loaded with U.S. and Worldwide listings. Now distributed in the United States by *Mix*, *Electronic Musician* and *Remix*.

This easy-to-use guide features 90 indexed sections packed full of thousands of contacts — everybody who's anybody in the professional music industry is (or should be!) listed here.

Nearly 900 pages of **Record Stores, Equipment Dealers, Recording Facilities, Music Production, Promoters, Club Venues, Brand Sponsors, Agencies, Record Labels, Event Services, Conferences, Sound and Lighting** and many more must-have references for the world's dance music and production scene.

**ORDER
NOW
\$39.95**

Special pricing for readers of *Mix*, *Electronic Musician* and *Remix* just \$39.95 (plus S&H). Order yours online at mixonline.com/mixbookshelf, emusician.com/embookshelf or remixmag.com/remixbookshelf or call 800-262-1954! Item # MIM05-06

The World Wide Studio

The session players that I spoke with who have commercial, Web-based, remote-studio services spell out the revision issue in their basic agreements. Los Angeles percussionist Michito Sanchez offers several different packages; as the number of revisions goes up, so does the price (see the sidebar "Percussion to Go"). Frank Basile of Live Studio Drums, offers revisions as an extra (see the sidebar "Smart Drums"). Drummer Dave Weckl offers them as part of his service when he's recording final tracks (which he charges more for), but not for demos (see the sidebar "A Drum Legend Goes Remote").

If you don't work out the revision issue before you start the session, you're at the mercy of the producer. The process could well end up taking considerably more time than you had expected.

Working Together

Up until now, I've been discussing musician-for-hire scenarios, but what if you're involved in a collaborative project with others in different locations, with each player contributing from his or her own studio?

Many of the issues are the same, like figuring out the file formats and audio resolution. But without the monetary part of the equation to worry about, you're much freer to revise, experiment, and work together toward creating the best possible product.

Remote recording is also used commonly as a preproduction tool. For example, I recently interviewed Kevin Hearn, the keyboardist/guitarist/vocalist from Barenaked Ladies. He described how before he and his bandmates get together to track a CD, they record ideas in their personal studios and then send the files to each other to review.

You Got to Get It

Like other types of studio work—and virtually any other type of work in the music business—getting remote-studio gigs depends

largely on your reputation and your contacts. That's why somebody like Dave Weckl is able to charge top dollar. For him, the only hurdle to getting remote gigs is letting people know that he's available for them. He uses his Web site as one way to promote that side of his work.

Most musicians aren't lucky enough to have the kind of reputation Weckl does, so they have to work a lot harder to get session work of any type. If you do have a Web site, by all means use it to promote that you're available for remote work. If you get traffic to your site for other music-related reasons (if, for example, you're also a performer and people come to your site for information on your gigs), you can push your studio work. You never know what might come of it.

If you have any connections with musicians or producers who might have a need for session players, contact them and let them know that in addition to doing traditional sessions, you're set up to work remotely. It couldn't hurt, and it gives you an excuse to get in touch with them.

The Short Answer

Continued developments in technology are sure to make remote recording even easier in the years ahead. Odds are good that "offline" remote sessions will recede in importance as live videoconferenced sessions become the standard.

But even with today's capabilities, working remotely is viable and within reach of most recording musicians. Whether you're trying to expand your session work or just do some long-distance songwriting, you can now conveniently collaborate with musicians from across town or across the ocean. *EM*

Mike Levine is an EM senior editor. He wishes to thank Frank Basile, Jean-Luc Ponty, Michito Sanchez, Ira Siegel, Dave Weckl, and Ron Franklin.

MUSIC MAKING MADE EASY.



If you enjoy clicking through layers of windows to create music, then Tracttion software is definitely not for you. It won't pretend to be a mixing console... It doesn't have cute 3D racks or patch cables... It doesn't contain a single instrument icon.

Instead, Tracttion lets you get right to the business of making music using a single screen for everything from audio recording and MIDI production, to mixing and mastering. Tracttion is a simple-yet-powerful application, with thousands of fervent users and dozens of glowing reviews.

And now with Tracttion 2, we've added more than 100 new features and a full suite of high-quality plug-ins — while maintaining the original's legendary simplicity and a reasonable price.

Visit www.mackie.com to learn more about Tracttion. Then call your friendly Sweetwater salesperson at 800.222.4700 to order your copy of Tracttion 2.

It won't make better music for you, but it sure lets you make it faster and easier.

SIMPLE. POWERFUL. REVOLUTIONARY. TRACTTION 2.

For a limited time, get a FREE artist website and 6 months of hosting from www.broadjam.com when you buy and register Tracttion 2.

www.sweetwater.com 800-222-4700

Sweetwater
Music Technology Direct

MACKIE
www.mackie.com

© 2003 LOBO TECHNOLOGIES INC. ALL RIGHTS RESERVED. "MACKIE" AND THE "RUNNING MAN" DESIGN ARE REGISTERED TRADEMARKS OF LOBO TECHNOLOGIES INC. ALL OTHER TRADEMARKS ARE PROPERTY OF THEIR RESPECTIVE OWNERS. ALL SPECIFICATIONS SUBJECT TO CHANGE. THE PHOTO IS BUT THERE... LINE OR WAY OUT THERE.

MIDI

Going Postal with Logic Pro 7

By Eli Krantzberg

Techniques for faster sound-for-picture editing.

Apple has added a number of features and enhancements to its Logic software that make the program more useful for post-production-style audio editing. You can use several of the program's features with the workflow techniques described in this article for basic post-production-style tasks such as editing source audio, editing and placing FX to picture, and preparing material for export and mixing.

To start, set up a custom screen set that consists of an Arrange window (with the bar ruler resized to display SMPTE time units only), a linked Sample Edit window, an Event Float window (click on the film icon for SMPTE view), a Transport bar set to display SMPTE only, and the QuickTime video with which you'll be working. Using a tempo of either 60 or 120 bpm allows beat- and format-based key commands (for nudging and shifting selections or locations) to work in time-based units.

Put a check mark in the Arrange box next to the Limit Dragging to One Direction option in Logic's Preferences

window. That is a useful precaution against losing sync while splitting imported Open Media Framework (OMF) regions vertically onto separate tracks. (OMF is the industry standard for transferring audio data between video- and audio-editing workstations.)

FIG. 1: Shown below is a typical edit, with equal power fades two frames before and after the scene cut. Note how the region-length information is displayed. The Event Float window shows the absolute end point, while the lower line in the Sample Edit window shows the region length.

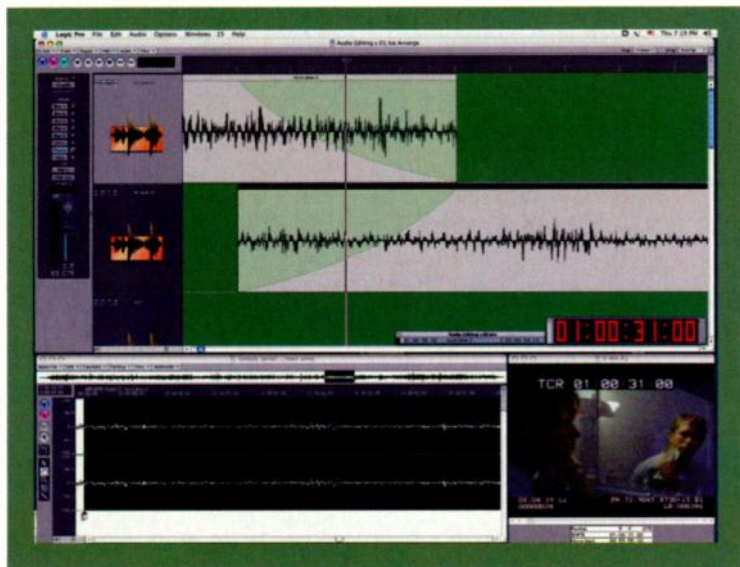
The Grid and I

Using Logic's edit groups for split tracks (for example, in dual-mic situations) is a great way to ensure that phase relationships are maintained when you're editing. Groups are accessible from the Arrange window channel strip. You can easily add or remove tracks by clicking in the group box while holding down the Option key. The Toggle Group Clutch key command is invaluable for quickly toggling groups on and off.

Start and end points of each region are visible in the Event Float window. The linked Sample Editor (or an Event List set to SMPTE view with Length as Absolute Position unchecked under the View submenu) will display the region start time and its length. It's important to use a linked Sample Edit window, because the duration is displayed differently if opened from the Audio window.

Logic offers many ways to zoom in on and make selections. If a region is selected, zooming in will center on the region's start point and keep it in view. If the region isn't selected, zooming in will keep the view centered on the Song Position Line (SPL) and the currently selected track. With the Marquee tool selected, pressing the Control key allows you to zoom by drawing a box around a selection if the cursor is directly over regions or events. (In Logic 7.1, simply adding the Option key eliminates the need to select the Marquee tool.) When set to Frames, Logic's new Snap feature allows you to use the Marquee tool to select and drag (even across multiple tracks) in order to snap to a frame-based grid, which is perfect for accurately shortening the beginnings or endings of regions.

To alter region-end boundaries, use the command Nudge Event Length By SMPTE Frame with its +1 or -1 options. Clicking on and dragging the right corner also works with the snap value set to Frames. To lengthen region-start positions, clicking on and dragging the left corner with the grid set to Frames works well with grouped tracks. Alternatively, you can click on and grab the start points in the linked Sample Edit window, and then pull them back to the left individually. Make sure that the Update Arrange Position option (in the Edit submenu) is enabled so that you don't lose sync. The Rewind 1 frame, Forward 1 frame, and Split Regions/Events by Song Position key commands are tools that help you locate boundaries and make cuts. Once regions



AmpliTube 2

Super Modeling.

Professional Tuner

12 Configurable Stomps

20 modeled Stomp effects

Must-have vintage Stomps

18 Pre-Amps

16 Amp EQs

5 Power Amps

16 Cabinets

20,000 Amp combinations

5 Mic models

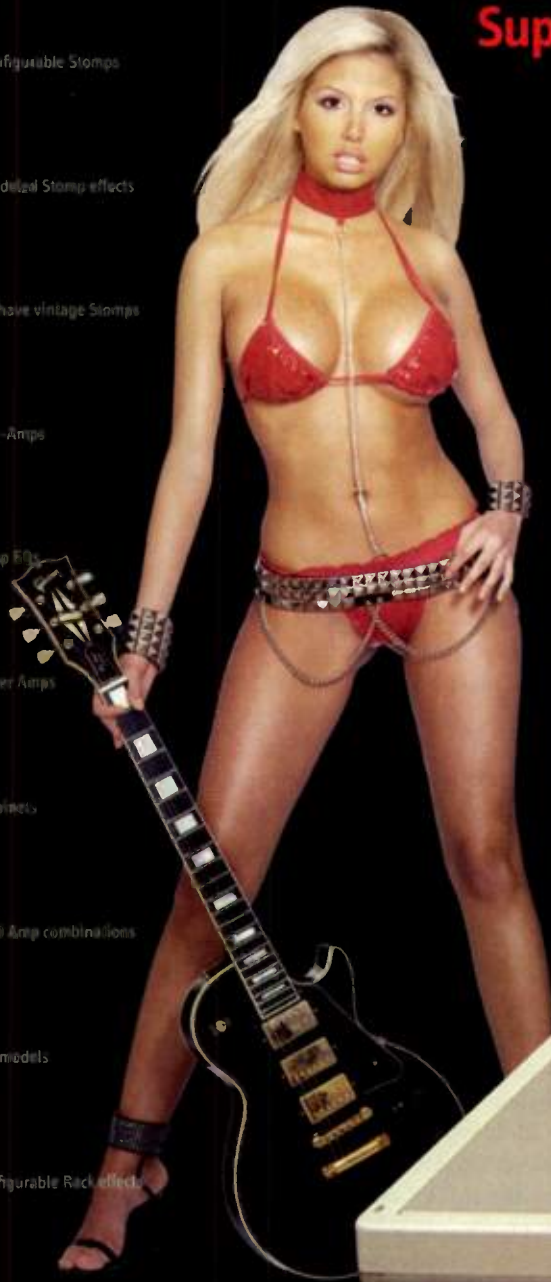
8 Configurable Rack effects

10 modeled Rack effects

Flexible routing

2 series/Parallel Guitar Rigs

Plug-in for all major platforms



20,000 Amps plus all the Stomps you've ever dreamed of.

Complete amp modeling plug-in with stomp, amp, cabinet, mic and rack effects for your Mac and PC. AmpliTube 2.0 is the major upgrade to the most award winning guitar amp and effects plug-in for Pro Tools®, Cubase®, Logic®, Sonar®, Digital Performer®, Traktion®, Live™ and more. A terrific jump forward with 20,000 amp combinations, ultra-accurate modelling, extreme flexibility, more stomp and rack effects with authentic vintage character, plus more professional features and ease of use than any other guitar effects processor.

www.amplitube.com



are trimmed, fades can be applied with the Fade tool (see Fig. 1).

To make edits at the beginning and at the ending of tracks, use the arrow keys to select the next or the previous regions. The Goto Position key command allows you to place the SPL at the region start. To get to the selected region's end, use a combination of the Set Locators By Object and Goto Right Locator key commands. Combine that with the nudge-length commands to avoid using the mouse.

Editing and Placing FX

Logic's new Project function can automatically copy and convert the sampling rate of imported audio. Sampling rate conversion algorithms have been greatly improved in Logic Pro 7.

Once the effects are imported into your session, they will need to be edited to fit the images. For that type of editing, I use a screen set with a small Arrange and Marker window (for quickly viewing hit points), Audio and Event List windows for dropping in regions at specific locations, and a linked Sample Edit window for the editing. The new Global Video and Marker tracks make ideal visual references for spotting the FX, and are easy to toggle on and off.

To edit the files, select a region in the Sample Editor. To fine-tune the boundaries, scrub the audio by dragging the mouse back and forth with the cursor positioned in the area just under the Overview section. When you reach an area that you want as the region boundary, hold down the Shift key and release the mouse to snap your selection to the new location. Use the Create New Region command to separate the selected area.

With markers set up at the hit points, the Goto Next Marker command will set the insertion point for placing your

regions. Command + click on the region from the Audio window, and it will be placed at the current SPL. Or, you can drag the region to the Event List (see Fig. 2). If you are working from an Edit Decision List instead of markers, enter the SMPTE time in the Goto Position key command entry box to locate the SPL. You can also place all your effects in the Arrange window at the end of your session, locate to the hit points with the markers or the Goto command, and then use the Pickup Clock & Select Next Event function.

You can audition different sections of the file while viewing the images. In the first screen set, using the

FIG. 2: The screen set shown below allows for editing effects and placing them either in the Arrange window or in the Event List window. With the effects in place, the linked Sample Edit window allows for slipping sync and auditioning parts of the file while in place with the picture.

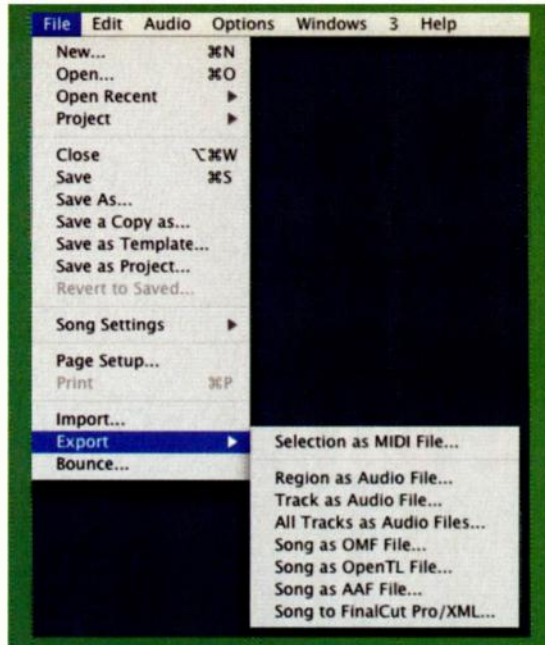
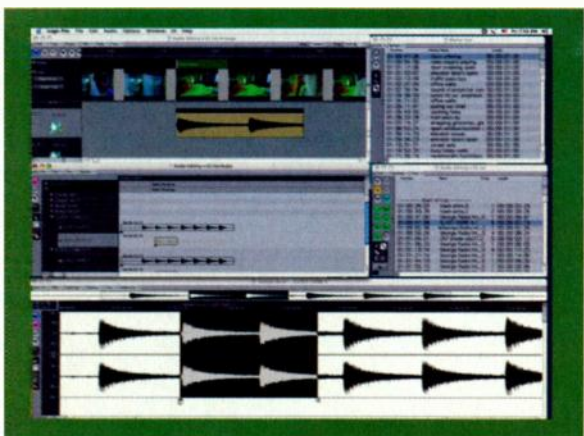


FIG. 3: The new file export options in Logic 7.

Set Locators By Object command along with Cycle mode sets up the area for looping while auditioning. In the linked Sample Editor, turn off Update Arrange Position (in the Edit submenu) so that the region location remains unchanged, but the audio inside of it shifts.

If you have a sync point that you want to maintain, leave Update Arrange Position enabled. With Update Arrange Position off and the region locked in the Arrange window, the anchor will remain at the sync point while the region start time can be extended. As a bonus, any fades that you may have set will be maintained throughout.

Travel Insurance

Logic's new export functions make for easy portability (see Fig. 3). While OMFs work great, I like to add a two-pop (a one-frame-long sine-wave beep) exactly two seconds before picture start on each track to avoid the occasional problems that arise, such as sync loss and different session start times. In case sync is lost, the two-pop method is a foolproof way of realigning tracks quickly. With the two-pops in place, select All, lock all regions, and export a new OMF.

The new option to export a track as an audio file, with two-pops on each track, is a great way to consolidate a session for use with non-OMF-compatible applications. It allows each track to be rendered without automation, named properly, and rendered to a user-definable file type and sampling rate. Try using the new Broadcast Wave Format when possible for the additional time-stamping that it provides. All tracks can be exported at once, but I prefer to export them one at a time and name each track separately, which makes for easier setup on the other end of the transfer. Be sure to record detailed file and session information to help make those transfers seamless. **EM**

Eli Krantzberg is a Montreal-based drummer, bandleader, Logic user, home-studio owner, and uncle.

PreSonus 
freedom to record.



FIREBOX
WWW.PRESONUS.COM



24-bit 96K 6x8 FireWire (IEEE1394) interface • 2 PreSonus mic/instrument preamplifiers • FireWire bus-powered or external power
Cubase LE recording software included • Estimate street price in US \$399

© 2005 PreSonus Audio Electronics all rights reserved. Mac logo is trademark of Apple Computer, Inc. registered in the US and other countries. Cubase LE is a registered trademark of Steinberg Media Technologies GmbH.

 **Musician's Friend**
The World's Largest Music Gear Company

For Your FREE Catalogs
1-800-436-6976 • www.musiciansfriend.com/free

Source Code: EMEHPS

- Lowest Price Guarantee • Satisfaction Guarantee
- Free Shipping on Most Orders over \$199* • Call or Click 24/7
- Huge Inventory of In-Stock Gear Ready for Immediate Delivery

Limited to stock on hand; prices subject to change; standard catalog shipping rates apply.
*Some exceptions apply, call or go online for details; limited time only.



Off the Wall

By Eli Krantzberg

Use reverb for more than emulating natural spaces.

Reverb is usually applied to a mixture of tracks as a send effect. That's fine for creating ambiences and emulating natural spaces, but you can get a lot more creative by applying reverb to individual tracks, and then separately processing the resulting wet files. In this article, I'll discuss a number of variations on that theme and present specific examples.

I restricted myself to a 2-bar drum loop and did the processing in Apple's Logic Pro using its built-in reverb plug-ins. The same processing can be carried out in a DAW using any hardware or software reverb.

Displacement

One useful reverb technique is to offset the wet signal from the dry signal. To do that you need to create a wet-only file, which you can do by soloing the bus that has the reverb and rendering (bouncing) it to disk. The reverb tail will usually make the wet file longer. But for purposes of displacement, it's a good idea to truncate the wet file to keep it the same length as the dry file (see [Web Clip 1](#)).

One of my favorite tricks is to offset the wet file by making a rhythmic subdivision. When I'm working with a loop, I may change the offset, either regularly or irregularly, at each repetition. For example, I may start with the wet file that is a 16th note before the downbeat, and then nudge it a 16th or an 8th note for each loop. The shifting relationship between the dry and wet files often generates nice cross-rhythms, and you can always delete the iterations that you don't like (see [Web Clip 2](#)).

Another useful technique that you can do is to shorten the wet file and use only a portion of it, looping it in parallel with the full looping dry file. The relative sizes of the two files will determine how long it takes for the pattern to repeat, and long cycles can yield fascinating rhythmic variations. For example, if you

shorten the wet file by a quarter note, the length of the cycle will be the length of the dry file multiplied by the number of quarter notes in the dry file. (For a 2-bar file in 4/4 time, that's a 16-bar cycle.) Alternatively, you can take any group of one, two, or three beats (quarter-, 8th-, or 16th-note groupings); loop it; and offset its start time (see [Fig. 1](#) and [Web Clip 3](#)).

Creative Fades

Using small fades at the beginning or at the end of the wet slices gives you even more variety. It is similar to using a gated reverb effect, but you have more control. You can gate each of the wet slices by a different amount by implementing different lengths of fade. Using fades to obscure attacks, releases, or both provides a variety of pumping and breathing effects.

Reverb is typically used to create the illusion of a performance taking place in a specific space. You can shatter that illusion by leaving some holes on the wet track. Take two quarter-note slices of the wet file, apply short fades, and then judiciously place them at different points in time, leaving plenty of dry holes in between (see [Web Clip 4](#)).

Slice and Dice

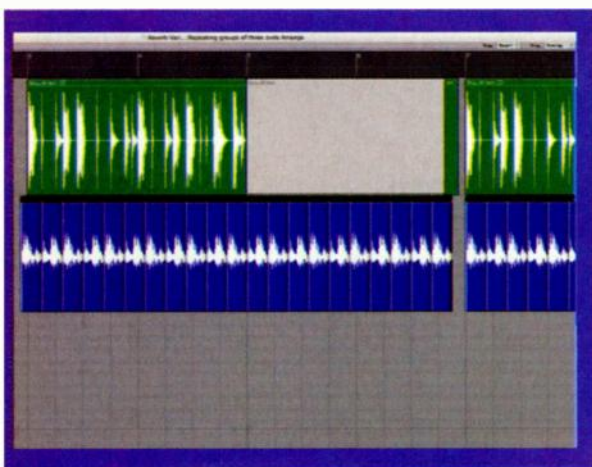
Most modern DAWs have tools for chopping up audio files into equal-size regions. (In Logic Pro, use the scissors tool while holding down the option key.) Chop up the wet file, and then rearrange the slices. You can repeat, offset, loop, or omit some of the slices. You can also create patterns of varying lengths by grouping some of the slices and looping the whole group. (To do that in Logic Pro, pack the slices into a Folder and loop it.) Because the slices are actually regions in a longer audio file, you can lengthen or shorten individual slices from either end. Alternatively, convert the slices into separate audio files, load them into a sampler, and trigger them from your MIDI keyboard.

All of those variations are time based. In my next article (to appear in the September 2005 issue of EM), I'll describe additional off-the-wall techniques that involve simultaneously processing wet files on different tracks. [EM](#)



Eli Krantzberg is a Montreal-based drummer, bandleader, Logic user, home-studio owner, and uncle.

FIG. 1: Shown below are slices of the wet file (in blue) that are three 16th notes in length and are offset by different amounts relative to each repetition of the looping 2-bar dry file.



BAND-IN-A-BOX®

Program for
Windows &
Macintosh

2005 FOR WINDOWS® IS HERE!

electronic Musician

EDITORS' CHOICE

Attention Macintosh Users: *Band-in-a-Box 12 for OSX is HERE!*

INTELLIGENT MUSIC SOFTWARE FOR YOUR PC OR MAC® IS HERE!

Band-in-a-Box 2005 for Windows® is here—Automatic Accompaniment has arrived!

The award-winning Band-in-a-Box is so easy to use! Just type in the chords for any song using standard chord symbols (like C, F#7 or C13b9), choose the style you'd like, and Band-in-a-Box does the rest... automatically generating a complete professional quality five instrument arrangement of piano, bass, drums, guitar and strings in a wide variety of popular styles.



NEW FEATURES IN BAND-IN-A-BOX 2005 FOR WINDOWS®

There's a new fully-featured **Piano Roll Window**, similar to the type found in many sequencer programs. This allows you to edit the Melody or Soloist tracks with greater ease and precision.

The Guitar window is enhanced, and now supports **Alternate Guitar tunings**, including DADGAD, Drop D, Double Drop D, Open G and 11 others, including Nashville High Strung tunings! Guitar bends now show up in real-time on the guitar fretboard.

New 3, 4, and 5-part Jazz Harmonies are added with voicing in Fourths.

"Auto Endings" are added for styles that don't have endings, such as styles made from MIDI files. **Synthesizer Patch file lists** (.PAT files) can now be made easily by converting PowerTracks or Cakewalk patch lists.

"**Jazz Chord-Symbol Graphics**" (triangles for major, circles for diminished and a circle with a slash for half-diminished) are now supported. A new "**Vocal Wizard**" displays and transposes to the best song keys for your vocal range.

Editing of the Audio Track is now **non-destructive**, so changes only become permanent if you save the file. The TC-Helicon Audio Harmonies have been enhanced with **Vocal Pitch-Styles** (automatic "Vibrato" and "Scooping") that can be added to the vocal harmony parts. **Multiple sound cards are supported**—you can now choose which sound card to use. **Full Stereo or Mono support** has been added for the Audio Track. There are now on-screen **VU meters** to monitor the Audio Track.

Multiple lines of Lyrics are now supported on the Fake sheet and Printout. Chords and

Lyrics can be displayed on separate lines on the Big Lyrics Window. A new **Play-Loop feature** allows you to select an area and play it in a repeated loop.

The SongPicker can display in subfolders, and you can add styles to the StylePicker. Karaoke files (.KAR) can now be read directly, including lyrics and analysis of chord symbols... and much more.

NEW! Styles Sets for Band-in-a-Box... only \$29 (each)

NEW! Styles Set 44: Unplugged 2... only \$29

Styles Set 44 includes twenty new styles featuring acoustic and electric guitars.

NEW! Styles Set 45: Southern Rock... only \$29

This great new set features 20 brand new Styles based on the feels of the great Southern-Rock bands such as SteveE, Alab, LynrydS, AilmBro, Creedence, LosLob, LFeat, and more.

NEW! Styles Set 46: Requested 4... only \$29

This set features more great styles suggested by our customers along with new fretboard styles that take advantage of the new Fretboard Tunings available with Band-in-a-Box 2005.

NEW! Styles Set 47: Contemporary Country 2... only \$29

Features 20 great new crossover styles with live drums, live MIDI guitar, driving bass, and contemporary keyboard sounds. Includes: Country, Folk, Gospel, Soul, R&B and more.

NEW! Soloist Sets for Band-in-a-Box... only \$29 (each)

NEW! Soloist Set 16: Saxophone... only \$29

Create an unlimited number of Swing and Modern solos specifically for the nuances of the saxophone.

NEW! Soloist Set 17: Trombone... only \$29

Older Swing and Modern trombone soloing. Instantly generate a Trombone solo in the style of the 30s and 40s players or choose a contemporary Jazz approach with some inside-outside playing.

Video Guitar Lessons—"PLAY LIKE THE PROS"... only \$19 (each)

Each volume of this series features hours of video instruction by master guitarists. Each program includes on-screen video guitar fretboard, transcribed notation, tab and complete printout. Lessons include riffs, songs, tips, techniques and guitar settings—everything you need to learn to play like the pros.

- ✓ NEW! Essential Blues Guitar Vol. 1: 101 Riffs **5 hrs. video**
- ✓ NEW! Essential Blues Guitar Vol. 2: 20 Tunes **2 hrs. video**
- ✓ NEW! Essential Rock Guitar Vol. 1: 101 Riffs **5 hrs. video**
- ✓ NEW! Essential Rock Guitar Vol. 2: 20 Tunes **2 hrs. video**
- ✓ NEW! Essential Jazz Guitar Vol. 3: 20 Tunes (Comping) **2 hrs. video**



Other Add-ons for Band-in-a-Box

- ✓ Styles Set 4-43: Variousonly \$29 (each)
- ✓ Soloist Sets 2-11only \$29 (each)
- ✓ "Artist" Soloist Setsonly \$29 (each)
- ✓ Melodist Sets 2 & 3only \$29 (each)
- ✓ NEW! Video Guitar Lesson Series: Variousonly \$19 (each)
- ✓ 101 Essential Phrases for Band-in-a-Box: Variousonly \$19
- ✓ Band-in-a-Box Video Tutorial PAKonly \$29

"...one of the few music products that sits in the 'must-have' category."
Sound On Sound

"...repeatedly surprises and delights you."
PC Magazine

"an incredible program"
Jazz Education Journal

"4-Star Rating"
MacWorld

"Editor's Choice"
Electronic Musician

"Technical Excellence Finalist"
PC Magazine

BAND-IN-A-BOX PACKAGES...

Band-in-a-Box Pro ONLY \$88

The latest version of Band-in-a-Box, includes 150 Styles, Soloist Set 1, and Melodist Set 1.

SPECIAL VALUE PAKS...

Band-in-a-Box MegaPAK ONLY \$249

This is "the works," a premium value Band-in-a-Box package! Includes the latest version of Band-in-a-Box PLUS Styles Sets 0-47, Soloist Sets 1-11, 16 & 17, Melodist Sets 1-5, and The Band-in-a-Box Video Tutorial PAK.

Features listed are for Windows® version. Macintosh® users: for a full list of features, please visit www.pgmusic.com/band.htm

PG music

PG Music Inc. • www.pgmusic.com

29 Cadillac Ave., Victoria, BC V8Z 1T3 CANADA

Phone (250) 475-2874 • (800) 268-6272

(888) PG MUSIC

www.pgmusic.com • sales@pgmusic.com

Fax (250) 475-2937 • (888) 475-1444

DOWNLOAD IT NOW !!!

Loop Your Dishwasher

By Mark Ballora

Everyday sounds make great material for creative loops.

In this era of recycled and quoted sounds, everyone is scavenging for the next cool sample to loop, process, and remix. Record shops are receiving healthy doses of cash for selling classic vinyl records. (Just how much are you willing to pay for Bernstein's vinyl recording of the Shostakovich *Fifth Symphony*?) But if you need fresh sounds and don't have a budget for vintage vinyl, don't despair. There's a universe of loop sources all around you. All you need is a microphone and an inquisitive pair of ears.

A Well-Stocked Heritage

Follow the example of Karlheinz Stockhausen when he created *Mikrophonie* in 1964. Using a variety of objects—glass, cardboard, metal, rubber, and anything else he could find—Stockhausen manipulated a tam-tam in a variety of ways, including striking, scratching, and rubbing it. He moved a microphone around the gong as if he were using a stethoscope, examining the sound from different positions and distances. The microphone signals were sent through all manner of filters and ring modulators.

Want your own indeterminate metallic sound? Try jingling some wire coat hangers together. There are many ways to jingle hangers, and there are just as many spots to place the microphone. Jingle the hangers for a minute or two, save the recording as an audio file, and open it in an audio editor. (Hangers, like some other household items, are not high sound-power output, so you may have to amplify the results.) Pick through the file, high-

There's a universe of loop sources all around you.

light the parts that you like the most, and save them separately. A long tinkling passage might work for an ambient background, whereas a single hanger collision may be a good substitute for a hi-hat or a rim shot. How



FIG. 1: Children's toys are a great source of sounds. Shown above are three "instruments" used in Web Clip 7.

do the recordings sound with echo, chorusing, an amplitude or modulation envelope, or reverb? Experiment with those effects and any favorites that you may have. In addition, try overlaying different versions of the audio—for example, play one sample along with itself in reverse. If that's not the effect you're looking for, what other items do you have that sound metallic?

All Greek to Me

Look around your home to find other things that might sound interesting. Listen to your vacuum cleaner, coffee-bean grinder, milk frother, electric razor, hair dryer, dishwasher, drain, and garbage disposal. Think chimerically: how can you put sounds together in new, unnatural hybrids? Try crossfading the sound of boiling water with an electric razor, and then cutting quickly to the sound of water rushing down a drain. By varying transpositions and effects, you can create a useful library from just a few sounds, and you won't even have to worry about copyright issues.

I once heard a great kick-drum sample that was made from bouncing a basketball in a gym that had a wooden floor. The ball was bounced at various places on the court floor, with the most resonant-sounding bounce giving excellent punch to a drum track. I

Pro Tools. M-Audio. Compatible.



PRO TOOLS

 M-POWERED

Pro Tools M-Powered™ software marks the beginning of a new era of compatibility between M-Audio® and Pro Tools®. The groundbreaking combination of select M-Audio hardware and Pro Tools M-Powered software gives you more choices about where, when and how you create. Customize an affordable desktop rig or build the compact mobile studio of your dreams—while remaining compatible with countless Pro Tools-equipped studios around the world. Together, M-Audio hardware and Pro Tools M-Powered software close the gap between home, studio, stage and the road. Get M-Powered... Pro Tools M-Powered.

 **Download a free trial**
www.m-audio.com/protools

designed for compatibility with select M-Audio hardware*

32 simultaneous tracks of high-fidelity audio up to 96k

fully integrated 256-track MIDI sequencing

includes over 30 Bomb Factory and DigiRack plug-ins

huge selection of optional plug-ins and applications available

ReWire for further mixing and processing of apps like Ableton Live

unique Beat Detective LE automatic groove analysis/correction tool

cross-platform operation on Windows XP and Mac OS X systems

M-Audio Compatible Products

Delta PCI interfaces

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


FireWire interfaces

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



*Pro Tools M-Powered currently compatible only with products listed above. See www.m-audio.com for complete compatibility information.

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

 digidesign

M-AUDIO

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

www.m-audio.com



got pitched percussion from a hollow railing on a Brooklyn-beach boardwalk. Rapping my knuckles on different spots of the railing with varying intensity produced different steel-drum-like pitches. Once transferred to the computer, each recording was transposed by a few semitones, creating a scale suitable for percussion melodies. And one of my all-time favorite sounds was a Jew's harp *boing*. After transposing it down an octave, I reversed it, added a slow LFO on the lowpass-filter's cutoff, and applied a slow-attack amplitude envelope. The result sounded like a gigantic mutant bullfrog.

Reverse reverb is a classic trick. Take your favorite sample and reverse it. Then put some reverb on that reversed sample, with at least a second or two of reverb time. Reverse that, and your original sound now plays in forward motion, but the reverberation is in reverse. It precedes the sound by a second or two, so the sound gradually becomes clear.

Feeling Loopy

Web Clip 1 is a rhythmic loop that was created by putting various water sounds into a sampler, writing a sequence to create a rhythm for the water, and then adding a synthesized xylophone with some echo. Web Clips 2 through 6 are sounds from miscellaneous noisemakers, including a plastic toy tube that makes a squawk reminiscent of an analog filter sweep when inverted, a Remo Thunder Tube that makes nice ominous rumbles, and a dolphin pen that makes Flipper-like squeaks and chirps when its lever is pressed (see Fig. 1). Web Clip 7 is a copped Apple GarageBand loop that was re-created using the three aforementioned toys.

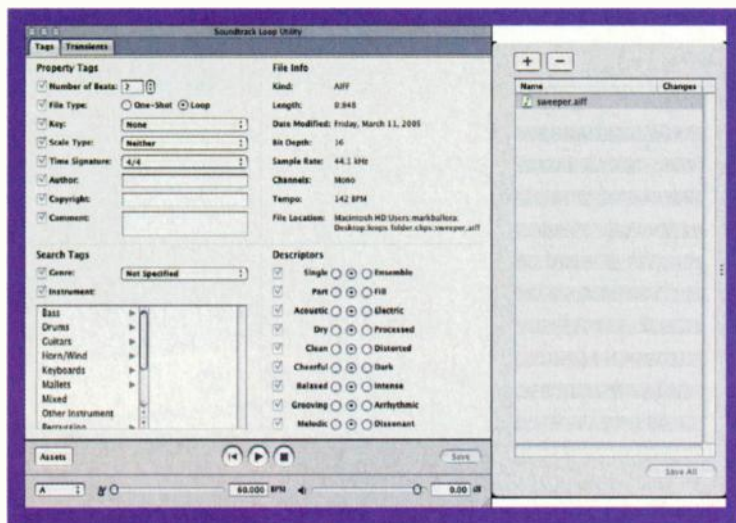


FIG. 2: Apple's Soundtrack Loop Utility allows you to set a number of file descriptors. Most importantly, it allows an audio file to be saved as a Loop or a One-Shot. The clip's assigned number of beats and tempo are also saved, along with data classifying instrument and genre.

Need more ideas for useful sound sources? Join the Yahoo! Nature Recordists Group (<http://groups.yahoo.com/group/naturerecordists>). You may find some interesting sounds there.

Loop programs such as Sony Acid and GarageBand give you increased flexibility when working with audio. Those programs use loop files that are stretchable and bendable. Properly prepared loop files will time-stretch or compress to match changes in a project's tempo, and they can also have their pitch adjusted. Acid automatically converts imported WAV files to Acid Loop format. Mac users can download the free Soundtrack Loop Utility (<http://developer.apple.com/sdk/#appleloops>) and save audio files as Apple Loops for use in Soundtrack or GarageBand (see Fig. 2).

The MIDI Treasure Trove

As you look for source material to plunder, think MIDI as well as audio. Try visiting the Classical MIDI Archives (www.classicalarchives.com) to see what's available. (As of this writing, the Shostakovich *Fifth Symphony* is not there, but there are hundreds of other great pieces.) Download a file, open it in your sequencer, and extract the bits that you want to use. With MIDI, you are free to extract, transpose, reverse, and process in a variety of ways.

For example, try the retrograde function on a bunch of MIDI notes. Or take a phrase and copy it numerous times, transposing each copy and overlapping it with the last copy to make a phrase melody. Now mix up the orchestration—how does a string tune sound when played by a timpani or a shakuhachi? You can get additional mileage using customized SoundFonts as your sound source. (See "Experimenting with SoundFonts" in the April 2005 issue of EM, available online at www.emusician.com.)

You can also record and extract with MIDI. Put your sequencer into Record mode, and then flop your hands randomly on your MIDI keyboard so that you record random jumbles of notes. Now bring up a percussion patch and listen to your handiwork. You can cull bits that can be used as rhythmic licks, creating a library of short MIDI sounds. Now cut and paste some of those jumbles into a loop using your sequencer's Song mode. Now you've combined order and chaos, playing excerpts of chaos in rhythmic sprinklings. Web Clip 8 is a passage created by implementing that method; it uses a xylophone patch with samples of wooden boards being whacked together for accents.

Want to create your own personal sound? Use the microphone as a stethoscope, consider the world your patient, and become an audio doctor. It's great fun, and there's no such thing as a misdiagnosis. A host of pleasant surprises await. **EM**



Mark Ballora teaches music technology at Penn State University.

INTRODUCING CME

THE NEXT GENERATION OF KEYBOARD CONTROLLERS

"..In a world of Plastic USB Controllers, this is a different animal...I'm going to buy this..
The UF8 is the right product,
at the right time, for the right price."

-Craig Anderton, Keyboard Magazine

"I could not stop playing it - seriously.
Feels like a real grand piano.
Best action that I have ever seen..."

- Grant Nicholas (T-Bone, Yolanda Adams,
Mya, El De Barge, Toni Braxton)

Everything that you have imagined
Imagine that somehow you were given the power to design the next generation of midi / usb keyboard controllers. You would probably want them in a durable aluminum case so they are roadworthy and appear professional.

You would want to include a full set of sequencer transport controls so you could do all your work from your keyboard without needing a mouse or separate controller. Throw in a breath controller and after-touch for added expressiveness for your virtual synths, and then make sure you can add a 24 bit / 192khz firewire audio expansion option, conveniently giving you extra performance and recording power. Of course, don't forget to put in 8 knobs and 9 sliders. For the 88 note version, you would want to put in the same hammer action assembly that is used on one of the most popular digital grand pianos. For the other models, put in a semi-weighted keyboard that is more robust than anything you would find in its price class.

There, you've done it.... you've created a series of fully professional, all powerful master keyboard controllers.

Actually we've done it and we've done it for a price much lower than you would expect.

THE CME UF LINEUP

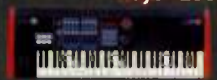
ALL MODELS FEATURE:

- Durable Aluminum Case
- Firewire Audio Expansion Port
- Breath Controller Port
- Aftertouch
- Midi Out Port
- 8 Assignable control knobs, 9 Assignable sliders
- Sustain Pedal and Controller Pedal Jacks
- USB Midi Port, Power Supplied Via USB
- Win 2000/XP, Mac OSX Compatible
- Full Sequencer Transport Controls, LED Data Display.
- Transpose, Octave, Channel Assignment Splitting

UF5 49 weighted keys \$199*



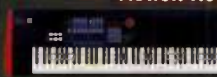
UF6 61 weighted keys \$299*



UF7 76 weighted keys \$399*



UF8 88 Hammer Action Keys \$599*



UF-400e: Firewire Audio Interface Option: 2 Analog Ins/outs, 24 bit 192 Khz, 1 Midi I/O, 1 co-axial digital I/O, 111 db, 1 mic Input, 2 headphone outputs, mLAN Compatible *249

Specifications and appearance subject to change without notice. All trademarks and registered trademarks are property of their respective owners.

*estimated selling price

CME

www.cme-pro.com

Distributed in North America by Kaysound



www.kaysound.com

514-633-8877

Musician's Friend
www.musicianfriend.com

samash.com
www.samash.com

Available At:

Music123.com
www.music123.com

AMERICAN MUSICAL
www.americanmusical.com

Emerging Media for Musicians

By Mike Levine

An expert's take on ringtones, podcasting, and more.

As new forms of media continue to evolve, it's important for musicians to stay current with the latest digital-media technology. By staying up-to-date, musicians can take advantage of work or publicity opportunities that arise, putting themselves on the cutting edge of new media trends. To get an inside take on the most recent happenings in digital media, I spoke with KamranV, the head of marketing for Universal Music Mobile. Before holding his current position, KamranV was involved with new-media production, new formats, and mobile technology at Interscope Records. In this interview, he gives his take on ringtones, podcasting, music for mobile games, and musician Web sites.

What's now the most cutting-edge development at the labels?

Ringtones. [That technology] went from something that nobody was paying attention to, to becoming a major part of the marketing and sales for artists—particularly the bigger artists, like 50 Cent.

Are video ringtones are on the horizon?

Broadband "3G" services, which are DSL or cable-modem speed services that can take advantage of video, are already available. But video hasn't been accepted in the mass market

yet. Later this year, there will be new services that focus on the video/broadband experience. By the beginning of next year, video/broadband will be all over the place; almost every cell-phone carrier will have something going on in that area.

Now that ringtones are moving into audio and video formats, will there be opportunities involving those types of products for non-major-label artists?

At this point, because carriers are in control of the distribution, 90 percent of our sales come through the major carriers, such as Verizon, Sprint, Cingular, Virgin Mobile, and T-Mobile. Currently, mobile-music buyers in the U.S. prefer to make purchases through their carriers. For the most part, it's the major acts within the major labels that are doing it right now. On the other hand, "out-of-garden" sales [sales of ringtones and other digital items independent of the carrier's store] are gaining popularity, such as Jamster [www.jamster.com] and other Web-to-phone delivery methods.

I understand that you can purchase ringtones by text messaging short codes. Can you explain what short codes are?

A short code is similar to a Web URL for a mobile phone. For example, one of our artists, The Game, has the short code 90220. If you text message an instruction to that short code, the site that the code is accessing will send you some form of a response—text, an image, a ringtone, and so on.

Using a short code provides a more direct out-of-garden experience. If there is a sale involved, the sale amount can be charged to the music buyer's cell-phone bill without he or she having to go to the carrier's ringtone store, thus making billing easy. Additionally, the artist doesn't have to compete for space in the carrier's store. If I'm an independent artist, for example, all of the marketing of my short code comes from me: I put the short code on my CD, in my advertising, wherever I want it to go, just like a URL. Since right now it's very costly to lease, host, and manage a ringtone store on your own, there are mobile content aggregators that can help.

What do aggregators do for independent acts?

They provide distribution. It's similar to the early days of downloads when bands were doing deals directly

FIG. 1: Moderati.com is a content aggregator that makes it possible for independent artists to distribute ringtones.

advantage of video, are already available. But video hasn't been accepted in the mass market



“I Got a \$ix-Figure Indie Label Deal Because I Joined TAXI”

Jenna Drey – TAXI Member – www.jennadrey.com

My name is Jenna Drey. That’s me sitting next to TAXI president, Michael Laskow.

For as long as I can remember, I’ve wanted to be a recording artist. I’ve studied music my whole life. I’ve read all the books. I’ve been to the seminars. In short, I’ve done all the same things you’re probably doing.

Who Hears Your Music?

I’ll bet you’ve also noticed that no matter how much preparation you’ve done, it doesn’t mean anything if you can’t get your music heard by people who can sign on the dotted line.

I found out about TAXI a few years ago, and have kept an eye on it ever since. The longer I watched, the more I became convinced it was the vehicle I needed for my music. When my demos were done, I joined. And guess what – it worked!

A Record Deal With Lots of Zeros!

Seven months after joining, TAXI connected me with a great Indie label that’s distributed by Universal. The president of the label heard my song, “Just Like That,” and just *like* that, I was offered a record deal, and that song became my first single.

Madonna, Bowie, Jagger, and me!

The icing on the cake? The label hired legendary producer, Nile Rodgers (Madonna, David Bowie, Mick Jagger, and the B-52s) to produce it! All these amazing things happened to me because I saw an ad like this and joined TAXI.



TAXI®

The World’s Leading Independent A&R Company

1-800-458-2111

1,200 Chances to Pitch Your Music

It seems like all the serious artists and writers are hooking up with TAXI. Where else could you find more than 1,200 high-level opportunities for your music every year?

You’d hire an accountant to do your taxes. Doesn’t it make sense to hire the world’s leading independent A&R company to make all the connections you need? Do you have the time to do all the leg work yourself?

It Worked for Me

TAXI doesn’t take a percentage of anything, and it will probably cost you a lot less than the last guitar or keyboard you bought. Think of TAXI as the most important piece of gear you’ll ever need. It’s the one that can get you signed.

If you’re a songwriter, artist, or composer who wants to succeed in the music business, then do what I did and make the toll-free call to TAXI right now.

with Rhapsody, Napster, the Orchard, and IODA. You'd get distribution, but it didn't necessarily mean you'd get great placement or sales. The bottom line is that your fans can access your music in new and exciting ways.

So if you are an independent act playing a show, you can announce to your fans that if they text message a particular short code, they can download digital files such as ringtones?

Yes. As 3G/broadband networks roll out their services to cell-phone customers, there will be more demand for open-sales channels such as short codes from the carrier's consumers, ultimately opening more sales channels for independent artists.

What are some of the aggregators out there?

Infospace is one [www.infospaceinc.com/mobile]. It's one of the larger ones. There is also Moderati [www.moderati.com], which is fantastic (see Fig. 1). That company works with us and deals with indie labels as well.

Is there a market for originally composed music in the mobile-media field?

Yes. There are several mobile-games manufacturers that create original themes for their games, including big companies such as Jamdat [http://www.jamdat.com], THQ [http://www.thq.com] and Sony Pictures Mobile [http://www.sonypictures.com/mobile].

How is podcasting affecting the music business?

Podcasting is like an audio magazine: it is a media outlet rather than a music-distribution system, allowing you to contextualize music with editorial. Adam Curry, a former MTV VJ, has been podcasting his show—which introduces new bands and discusses current music events—for a long time.

What about independent bands—why can't they podcast their own material?

They could, but the difference is that you've got to have an audience. Podcasting is like a magazine subscription—there has to be a number of people who

want to receive the information that you're distributing on a regular basis.

Let's talk about musician Web sites. What are some of the better Web sites on which independent artists can post their music?

A really powerful one is MySpace [www.myspace.com]. It's been around for about a year and a half, and independent artists immediately gravitated toward it, making MySpace profiles, putting up music, and doing amazing grassroots development of their careers. MySpace has even worked with major artists. Nine Inch Nails, for example, premiered its new record on MySpace.

How does MySpace work?

It's a free service, and what attracts people to it is not necessarily the music—it's the community. It's a tight community of passionate people. If your band is currently on the road, and you have a MySpace community, you can post messages saying "Hey, we're coming through town. Does anyone have a couch that we can crash on?" Or, "We're in town and our tire blew out. Does anyone live around here?" You can let people know what's happening; it's similar to a regular Web site.

Can you think of any other sites that are good for independent artists?

Another good one is Purevolume [www.purevolume.com]. It's a great music-discovery outlet (see Fig. 2). Purevolume is focused on music, whereas MySpace is focused on community—music is just part of the lifestyle.

I know from personal experience that figuring out how to put together a musician site and finding the right host can be confusing.

Making a Web site—I've been doing it for a long time now—is not the easiest thing to do well. That's why sites like MySpace are so effective. You don't need to find a host, get a domain name, design a site, learn flash, and learn HTML to post your work. But an official Web site [as opposed to a site like MySpace or Purevolume] lets fans explore the band on an even deeper level. Official sites have longer bios, more photos, press information, videos, and so on. MySpace is just one page, and if you put too much stuff on that one page, it will be kind of annoying.

Something like MySpace is good as a supplement, but a serious act really needs its own site, as well.

Yes. And if you don't know how to do it, [hiring someone to do it for you] can be very expensive. For independent artists, it's definitely a commitment, but it's also a necessity. **EM**

Mike Levine is an EM senior editor.

FIG. 2: Sites such as Purevolume.com (below) and Myspace.com offer a free, community-based Web presence for musicians.





Mark Isham **M-POWERED**

The movie: "Crash." The monitors: M-Audio.

Mark Isham's soundtrack for "Crash" is a vital element in conveying the unique message and vibe of the critically acclaimed film. Isham did all of his composition and mixing on the monitors he's come to rely on—the M-Audio BX series.

"My M-Audio BX's are accurate and easy on the ears at a variety of volumes and listening positions, even after 12-hour sessions. They let me give the mixing engineer tracks that didn't require much tweaking for integration into the rest of the project—so I know my music remains faithful to my vision."

—Mark Isham, composer, "Crash"



BX8a
130-Watt Bi-Amplified
Studio Reference Monitors



Read the interview online
at m-audio.com

M-Audio, the M-Audio logo, Studiophile, BX8a, and M-Powered are trademarks or registered trademarks of Avid Technology, Inc. All other trademarks are owned by their respective owners.

▶ GET M-POWERED

M-AUDIO

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

www.m-audio.com

REVIEWS



PROPELLERHEAD SOFTWARE

Reason 3.0 (Mac/Win)

A good Reason to celebrate.

By Len Sasso

The Props got it right again. If you have a Reason wish list, and it doesn't include audio tracks, odds are that you will find satisfaction in version 3.0. This time around, Propellerhead emphasized live performance, adding enhancements such as support for a variety of control surfaces; the ability to combine rack modules into a single, reloadable instrument; and a greatly expanded sound library.

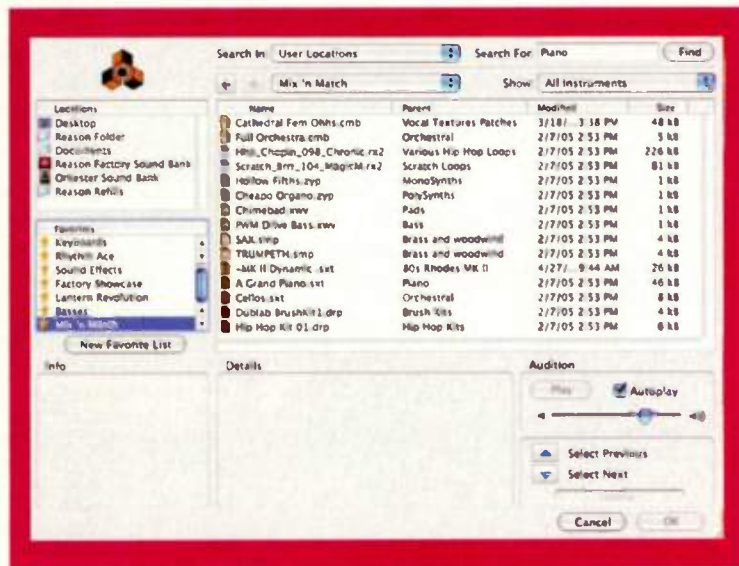
For those people unfamiliar with Reason, it provides you with an endless rack and a collection of virtual-instrument-, effects-, and utility modules that you can insert in the rack and cable together as desired. The program also has pattern changes, an integrated multitrack sequencer for sequencing notes, and controller automation for the modules in the rack. Reason does not sequence or process audio, but several of the virtual-instrument modules will play audio files. EM last reviewed Reason (version 2.0) in the February 2003 issue (available at emusician.com), so I'll focus here on the changes made since that version, starting with the major changes in version 3.0.

One of Reason's claims to fame since its inception is its low CPU drain. That hasn't changed, and I was easily able to run a large demo song that uses 28 instances of the NN-XT sampler on a Mac G4 800 MHz PowerBook, a dual G5 2 GHz Power Mac, and a Pentium 4 3.2 GHz notebook PC. On the slowest machine (the PowerBook), CPU usage averaged 50 percent, peaking at 80 percent. The G5 and Pentium 4 machines handled the load much more easily.

This Browser's No Bowser

Reason's completely redesigned browser (see Fig. 1) is at the heart of the usability enhancements. The browser

FIG. 1: Reason's much-improved browser allows you to audition instruments and effects for different devices and create collections of your favorite patches.



SOMETHING MISSING in your buying experience? Then you should speak to the pros.

The pros at Full Compass offer the best buying experience in the audio industry. Serving our customers for 28 years, we offer knowledge, loyalty and long-term service. Our honest personal consultants reveal

your options and capabilities using the most competitive pricing available. Serving the audio and video industry for 28 years, Full Compass is proud to offer the most extensive selection of products and services in the nation.

Services we offer:

- > Rentals
- > Integration
- > Authorized Service and Parts
- > Online Product Info
- > Leasing



The most comprehensive catalog in the audio industry.



Full Service Consultation



WHERE THE PROS ARE.

800-356-5844

or 608-831-7330 locally
Monday-Friday 9-5:30 CST

¡Expertos que hablan español
disponibles en x1178 y 1342!

Extended hours-Quick answers



800-476-9886

Mon-Fri 9-5:30 CST

REASON

is used to load songs and patches for modules in the rack, and patches can now be auditioned before loading, which saves a lot of time.

The browser gives you access to files in two ways: one is through a standard file-tree format similar to that of your hard drive, and the other is through user-defined collections called Favorites. A Favorites collection can contain patches for different Reason modules, and you can have as many Favorites collections as you like. You can even have virtual-instrument and effects patches in the same Favorites collection; Reason will display only the appropriate type in its

drop-down patch menus. For example, you can mix and match your favorite electric-piano patches with your favorite electric-piano-processing effects. Then, from the same Favorites collection, you can create an instrument device showing only the instrument patches and an effects device showing only the effects patches.

When you load a patch from the browser, Reason automatically installs the module for which the patch was designed. If the patch came from a Favorites collection, the module's drop-down Patch menu shows all the patches in the collection, and selecting another patch automatically changes the module as required. You can also use the browser to add new modules to the rack using a feature called Create Device by Browsing Patches.

The browser has a flexible search function that displays all files that contain the search text in the name of the file or in the name of the parent folder. Taken together, all these new features allow you to organize your browsing by sound rather than by sound module.

Reach for It

Reason's streamlined integration with MIDI hardware controllers is another major performance enhancement. Rather than having to use the MIDI Learn function (which is still available), Reason includes templates to match the default settings for a variety of MIDI devices, and you can simultaneously use as many devices as you want.

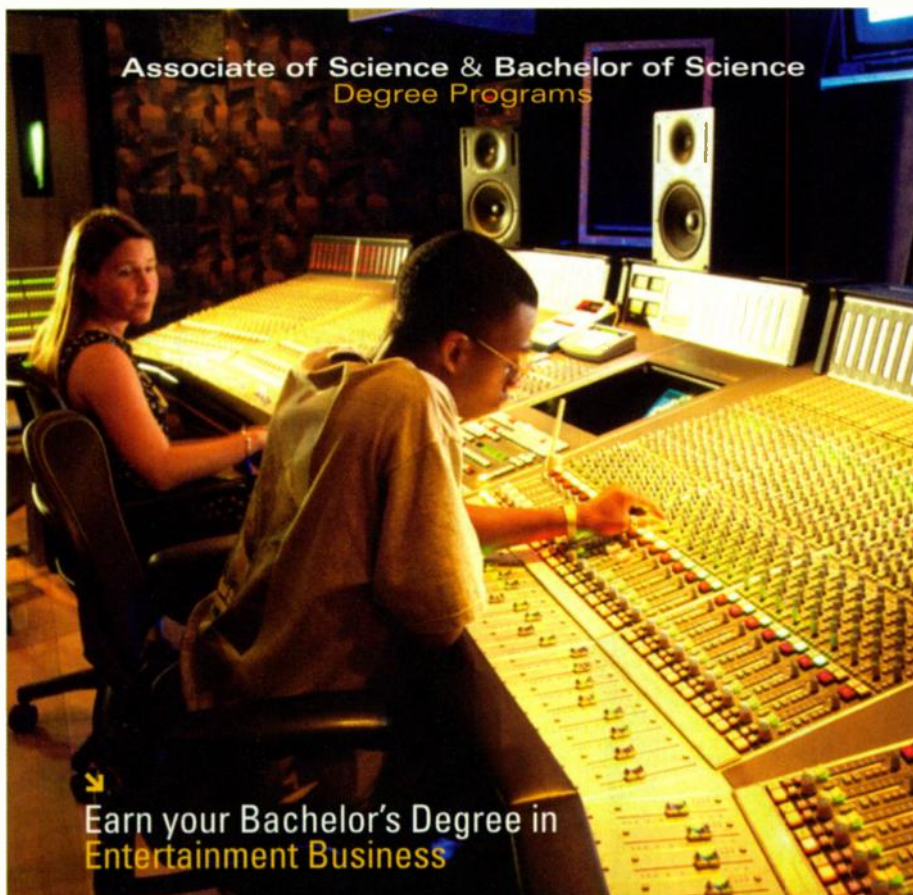
Once you've set up Reason to work with a supported device (which you can do manually or by automatic detection), the device's controllers are mapped to the controls of each type of virtual-instrument and effects module in Reason's arsenal. You can override the default mappings when you want to change the scheme for a specific instance of a particular module.

By default, the remote-control target is the module assigned to the sequencer track that is currently designated for master-keyboard input. You can also lock a hardware controller to a specific Reason module, which is especially handy for editing patches while changing sequencer tracks and working on other parts of a song.

Flyby

With previous versions of Reason, one of the drawbacks to using it in live performance was the program's inability to change

RE



Associate of Science & Bachelor of Science
Degree Programs

Earn your Bachelor's Degree in
Entertainment Business

FULL SAIL
Real World Education

800.226.7625
fullsail.com

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

3300 University Boulevard • Winter Park, FL 32792

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

© 2004 Full Sail, Inc. All rights reserved. The terms "Full Sail," "If you're serious about your dream, we'll take your dream seriously," "Full Sail Real World Education," and the Full Sail logo are either registered service marks or service marks of Full Sail, Inc.

school of

Computer Animation
Digital Media
▶ Entertainment Business
Film
Game Design & Development
▶ Recording Arts
▶ Show Production & Touring

change patches on the fly, a shortcoming that was made even more frustrating by the inclusion of little patch-up and -down buttons on each module's Patch menu. Although those buttons still can't be automated in Reason's sequencer, they can be targets for MIDI remote control. (If you're controlling Reason from another sequencer, you can use MIDI remote to automate patch changes using the buttons.)

You can use the browser's Favorites feature to group and order your favorite patches, and then use remote control to step through the patches during performance. For example, you could have a favorite-keyboards collection that had sampled and synthesized instruments from a variety of Refill libraries. Careful arrangement of the patch order (which you can rearrange at will) gives you quick access to the sounds you need directly from your MIDI keyboard.

Combo Mambo

With multitimbral synths, your favorite presets always include effects, and presets frequently involve splitting and layering several sounds across the MIDI keyboard. Enter Reason's Combinator (see Fig. 2).

The new Combinator module is a rack within the rack; it can hold any configuration of Reason modules.

Combinator patches, called Combis, act exactly like other Reason modules. Although a Combi functions as a single module, you still have complete access to the modules within it for remote control, sequencing, and automation.

The Combinator's control panel has several handy features. There are four knobs and four buttons that can be assigned to any parameter of any device in the Combi, and the same control can be assigned to several parameters simultaneously. Notes can be routed to any combination of modules, with each module having its own key and Velocity range. Finally, a global Run button will start and stop all pattern-based devices in a Combi.

Grab and Go

One of the nicest features of the Combinator is that you don't have to plan in advance. If you have a rack of modules that you like (from an old Reason song, for example), select them and then choose Combine from the Edit menu to create a Combi. The modules don't even need to be contiguous within the rack. You may occasionally have to rework the cabling of the modules in the Combinator, but in most cases, Reason will figure that out for you.

Heat up your tracks with the highly useful, two-channel **DPS II™** (Digital Preamp System) featuring ART's V3™ (Variable Valve Voicing) Technology. V3 serves up a complete range of presets designed to compliment every microphone, instrument and direct signal you process. This preamp comes well equipped with variable input impedance, output protection limiting (OPL™), an A/D converter and all the tube warmth you can handle. In the studio or on stage, the DPS II is an excellent choice for any front end signal processing.

Tube Versatility. TCS™

Unique in it's class, the TCS (Twin Compressor System) is a two-channel dynamic compressor designed specifically for home/pro studio. Also including V3 and OPL, the TCS features an Opto-compressor and VCA compression system. Dial up one of the compression types or "stack" them for that unique flavor — then fine tune your settings with full manual controls. More than just a compressor, the TCS is a feature-packed tone shaping workhorse that will prove to be a lasting addition to any studio.

Useful Audio Tools for your Studio. **ART**

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

A Yorkville Group Company

You can create and edit Combis manually by adding, removing, and rearranging modules at will. You can even break down a Combi into its constituent modules. Because of the browser enhancements, you can think of Combis as flexible split-and-layered, effects-laden presets.

Module Mania

Reason's virtual-instrument modules include two samplers (basic and advanced), a straightforward subtractive synth, a more complex Grainable synth, a sample-based drum machine with a built-in pattern sequencer, and a player for Propellerhead's slice-based REX file format. There's also a note- and controller step-sequencer module that can be used to control the other modules. Those all have been covered in the February 2003 EM review, but their rear-panel connectivity and the flexibility of the sample-based modules deserves reemphasis.

Most of Reason's modules have rear-panel modulation (CV) inputs and outputs. Those allow you to use an LFO or an envelope from one of the synths to control a parameter of another synth or sampler. Two new utility modules in Reason 2.5, called Spiders, enhance CV interconnectivity by allowing you to combine and split CV routings, so that the same LFO can control two parameters, for example. (Similar Spiders exist for audio.)

All the sample-based modules load mono or stereo WAV, AIFF, and SoundFont audio files of any bit

FIG. 2: The new Combinator is really a rack within the rack that allows you to combine several Reason devices into a single patch, called a Combi.



FIG. 3: The MClass mastering suite combines maximizer-style limiting for finalizing your mixes, parametric EQ, stereo enhancement, and a compressor.

depth and sampling rate. They also load the individual slices embedded in REX format audio files. You can take a REXified guitar or drum loop and, without any further processing, load its individual slices into the Redrum drum machine for processing and pattern sequencing in Redrum's special style (see Web Clip 1). Or, you can quickly map the individual slices in a REXified vocal loop as a multisample in one of the samplers.

An Effective Reason

Reason 2.5 added three high-end full-rack effects to its complement of low-CPU-drain, half-rack effects. RV7000 is a full-featured stereo reverb unit offering control of finer details such as room size, diffusion, dispersion, and pre-delay. It also gives you true reverse reverb, echo, and multitap delay. Using the latter two with a bit of diffusion produces an interesting hybrid effect that lies somewhere between delay and reverb.

If you're not into distortion, you may think that *Scream 4*, dubbed a sound-destruction unit, is not for you. Along with some truly ugly effects, however, it has some warm fuzzies such as tube- and analog-tape emulation. Try it on the output of a final mix.

BV512 is a 32-band vocoder with a special 512-band FFT mode that produces highly intelligible speech vocoding. FFT mode uses Fast Fourier Transform analysis of the modulator signal (typically speech) instead of passing it through parallel bandpass filters with level detectors. The BV512 can also be used strictly as a multiband EQ in standard and FFT modes.

Master of the Universe

Reason 3.0 adds a suite of mastering effects to the mix. The MClass effects include a 2-band parametric EQ with high- and low shelving, a stereo-imaging effect, a compressor with sidechain input, and a limiter optimized for maximizing.

You aren't limited to using the MClass effects at the end of the mixing chain; a Combi called MClass Mastering Suite that combines all four effects is available

from the Create menu, and is part of the built-in default song (see Fig. 3). Plug it into some of your old Reason songs, and you'll see what a worthwhile addition the MClass series is.

Rounding out Reason 3.0 is Line Mixer 6:2, which is a 6-channel, single-rackspace module with rotary level controls and a single stereo effects bus. It's ideal for submixes and is especially useful in Combis.

Ah One, Ah Two

Reason's built-in multitrack sequencer for note, automation, and pattern sequencing hasn't changed a great deal since version 2.0. Mute and Solo buttons now grace each track, you can record automation on multiple tracks simultaneously, and automation can be copied and pasted between controller lanes.

Conspicuously absent are patch-change automation, meter- and tempo-change support, and key commands for changing tools. You can, however, use the ReWire master program for tempo changes when Reason is running as a ReWire slave.

Some users will complain that the sequencer still doesn't offer audio tracks, but that is outside the design philosophy of Reason—the program is primarily an audio source, not a digital audio workstation. Nevertheless, audio inputs for effects processing would be nice, and since Propellerhead has opened that door with the ReBirth Input Machine, why not let everyone pass through it?

Plenty of Good Reasons

The 3.0 upgrade adds a lot to Reason for current and potential users. Individually, each new major feature—the redesigned browser, the Combinator, enhanced remote control, the MClass Mastering Suite, and the expanded factory library—justifies the modest upgrade price. If you're a Reason user, version 3.0 will significantly streamline your workflow.

If you've been considering purchasing Reason but have not been

sure why you want it, this version may be the one that swings the deal. Combis and enhanced remote control make Reason a good performance tool. Its expanded library, together with the huge variety of free and commercial content now available, make Reason an excellent addition to your sound palette. It's easy to use, and you don't need a liquid-nitrogen-cooled supercomputer to run it.

PRODUCT SUMMARY

PROPELLERHEAD SOFTWARE

Reason 3.0

soft-synth workstation

\$499

\$129 (upgrade from any previous version)


OVERALL RATING (1 THROUGH 5): 4

PROS: Easy to learn. Contains a wide variety of virtual instruments and effects. Flexible and powerful MIDI remote-control implementation. Large factory library of sounds and patches. Performance-oriented browsing and patch changing.

CONS: Minimal set of keyboard shortcuts; requires lots of mousing around. No audio input for effects processing.

MANUFACTURER

Propellerhead Software
www.propellerheads.se.com

If you know nothing about making music with computers, Reason is an excellent place to start. All the requisite tools are in the same box, and they're fun to use. Plenty of polished music is being made entirely with Reason, and if you go on to use more high-powered audio-sequencing tools, Reason won't be a wasted investment. You can get a free taste with the time-limited demo available from the Propellerhead  Web site.

Len Sasso is an associate editor of EM. He can be contacted through his Web site at www.swiftkick.com.



CONNECTIONS are
EVERYTHING

- > Patented compression spring plugs* for unrivaled connections
- > Premium oxygen-free copper conductors
- > Double-insulated/ double-shielded design
- > Guaranteed for life

> Check out the full line at:
www.planetwaves.com



PLANET WAVES

www.planetwaves.com

J. J. Saldarini & Company, Inc. | PO Box 290 | Farmingdale NY 11735 USA

FIG. 1: Korg's Kontrol49 sports a 4-octave, full-size keyboard and controllers that are similar to the ones on its little brother, MicroKontrol.



KORG Kontrol49

A full-size keyboard controller with pads and more.

By Orren Merton

org's new Kontrol49 MIDI Studio Controller is the full-size sibling to the company's successful MicroKontrol, which became instantly recognizable by the 16 rubberized drum-machine-style pads that accompanied the controller's 37 minikkeys. With the Kontrol49, players who prefer wider keys and a wider range of notes (four octaves) will be satisfied while enjoying MicroKontrol features such as Velocity-sensitive trigger pads, rotary encoders with sliders and individual LCD subdisplays, and other enhancements.

Size Does Matter

As its name implies, the Kontrol49 is a 4-octave (49-key), full-size Velocity-sensitive keyboard (see Fig. 1). The keyboard has an excellent feel, although it doesn't send true Aftertouch messages. Thankfully, the Kontrol49 does feature a poor man's Aftertouch; while the keyboard itself is not sensitive to Aftertouch pressure, you can configure the Pitch Bend or mod wheels to send either Channel Pressure or Polyphonic Key Pressure messages based on your keyboard performance and the Aftertouch mode. If you're used to sending Aftertouch messages using performance pressure, sending the data with the pitch or mod wheels takes some getting used to, but I'm glad Korg didn't omit Aftertouch support completely.

The Kontrol49 has eight sliders, each directly below a rotary encoder and an LCD. There is also a larger rotary encoder in the center of the unit that serves as the main encoder. The knobs have full 360-degree rotation, but they are not endless encoders in that they continue sending MIDI Control Change messages once the minimum value of 0 or the maximum value of 127 is reached. The LCDs can be programmed to display different messages or any function name that you want—even ones you create. They also provide three background colors that determine whether the text or the controller value on the display relates to the slider or the encoder. The newly designed Vector Joystick can be set to have simultaneous control of two separate parameters. Next to the main encoder is a Tempo LED that blinks for every quarter note it receives from the host software through MIDI Clock.

The 16 backlit rubber pads are not limited to sending MIDI notes. Because they are Velocity sensitive, however, they serve that function well. Users can program them to send any MIDI Control Change message, and many of the programmed Scenes use various pads as transport controls. In a nice touch, Kontrol49 allows you to program the pads to send a Note On message when a pad is pressed and a Note Off message when released. You can also send simultaneous Note On and Note Off messages when pressed. The navigation/programming buttons below the main encoder, which

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



ΩMEGA™

DESKTOP RECORDING STUDIO

...NOW YOUR HOME CAN BE ONE OF THEM.



More than 30 years ago, when Lexicon invented digital reverb, most recording studios were multi-million dollar rooms occupied only by famous rock stars and big record labels. And while Lexicon still lives in that rarified air of stardom with the world's most sought-after reverbs, now you can find us a lot closer to home.

Now Lexicon brings you the Omega Desktop Recording Studio, a completely integrated recording system with everything you need to transform your computer into a full-on professional 24-bit digital studio, all in one box. In addition to Steinberg Cubase LE® recording and production software, you'll get an 8-input, 4-Bus, 2-output USB I/O mixer with inserts, instrument input, MIDI I/O and complete metering and monitoring functions. Record up to 4 tracks at once from 8 audio sources, and mix up to 48 audio and 64 MIDI tracks almost anywhere... with the lush, exquisitely rich reverbs that made Lexicon famous in a VST version of Lexicon's Pantheon® reverb plug-in.

OMEGA DESKTOP RECORDING STUDIO™ INCLUDES:

- Steinberg® Cubase LE® — Multi-Track Recording Software
- Lexicon® Omega — 8 Input x 4 Bus x 2 Output USB I/O Mixer
- Lexicon® Pantheon™ — World Class VST Reverb Plug-In

Pick up an Omega Studio at your Lexicon Pro dealer today, and discover for yourself why that famed "Lexicon Sound" has been on the majority of hit recordings since 1971. Who knows? Maybe the next one will be yours.

Lexicon PRO

COMPLETE RECORDING SOLUTION

CONTAINS ALL THE COMPONENTS NECESSARY TO TRANSFORM YOUR COMPUTER INTO A PROFESSIONAL 24-BIT RECORDING STUDIO.

default to basic editing, navigation, and octave shifting functions, can also be programmed to transmit MIDI Control Change messages.

The unit has input jacks for a damper pedal and a switch, which are also freely assignable to any MIDI Control Change message. In addition to the USB connection to the host computer, the rear of the unit contains one MIDI In and two MIDI Out jacks, a connector for the included 9V DC wall-wart power supply, and a switch to select USB power, DC power, or standby (off) mode. If you choose to power the Kontrol49 from its USB connector, be sure it is connected to a port with enough power. The controller uses a lot of juice, and if your USB port is too taxed, the Kontrol49 won't power up.

Setting the Scene

Each collection of encoder, fader, pad, button, LCD display, and joystick settings can be saved as a Scene. The Kontrol49 can store 12 Scenes internally, which you select by holding the Scene button down while pressing the corresponding numbered trigger pad. The name of the loaded Scene will appear in the main display (assuming it is a user-programmed Scene that you named), making it easy to quickly ascertain which Scene is running.

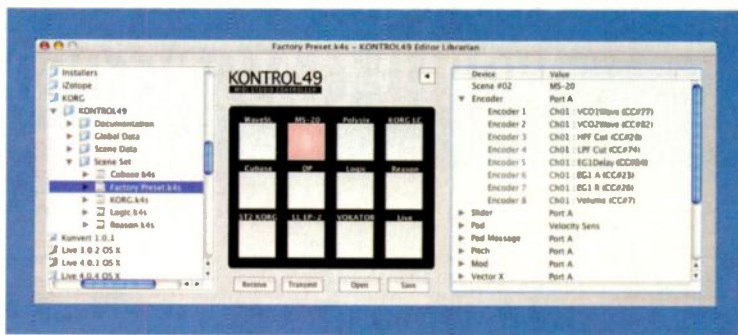


FIG. 2: The Kontrol49 has an Editor Librarian application that allows you to program, save, and load MIDI controller Scenes.

You are not limited, however, to the 12 Scenes that can be stored inside the unit. Kontrol49 comes with Mac OS X and Windows XP versions of its Editor Librarian application (see Fig. 2). The Editor Librarian allows you to store any Scenes that you create, and Korg thoughtfully included preprogrammed Scenes for almost every popular software synthesizer, plug-in, and audio application. The Editor Librarian, unlike the Kontrol49 itself, comes with only a PDF and not a printed manual. Thankfully, the software is generally well engineered and is relatively straightforward, allowing drag-and-drop programming of the Kontrol49.

In addition to Scene mode, the Kontrol49 can also be placed into a native SysEx mode. In Native mode, host applications that have developed controller support for the Kontrol49, such as Apple Logic 7.1,

Propellerhead Reason 3.0, and Korg Legacy Collection, can access all of its controllers and use it as a true control surface, with no user configuration required. Users can drop out of Native mode manually if they wish to go back to using a programmed Scene. Unfortunately, returning to Native mode depends on the host application's ability to redetect the Kontrol49, and it can't be done manually.

In Kontrol

Installation of the Kontrol49 in Mac OS X is truly the ultimate in plug and play: all you have to do is connect the USB cable. Since it uses Mac OS X's built-in USB MIDI Driver, there is nothing to install. I even tried hot plugging and unplugging the Kontrol49 into my PowerMac G5 repeatedly, and there wasn't a single hiccup.

For Windows XP users, the Kontrol49 has a driver that you must install before you can use the

KONTROL49 SPECIFICATIONS

Keys	(49) full-size Velocity-sensitive keys
Pads	(16) Velocity-sensitive trigger pads
Assignable Controllers	pitch wheel; mod wheel; vector joystick; (10) buttons; (9) 360-degree encoders; (8) faders
Octave Shift Buttons	yes
Displays	(1) main LCD display; (8) LCD subdisplays
Connectors	(1) USB; (1) MIDI In; (2) MIDI Out; momentary switch; expression pedal; 9V DC
Power	USB; 9V adapter (included)
Memory	(12) Scenes (complete controller assignments)
Bundled Software	Editor Librarian; SampleTank 2 Korg Edition; demos of Korg Legacy Collection, Applied Acoustics Systems Lounge Lizard; Native Instruments Vokator; Propellerhead Reason 2.5
OS Support	Mac OS X; Windows XP
Dimensions	28.7" (W) × 3.39" (H) × 12.6" (D)
Weight	10.8 lbs.

controller. The USB MIDI EzSetup application makes installation a breeze. One thing to note is that if you change the USB port that the Kontrol49 is connected to, you will need to reinstall the driver.

Having the 16 trigger pads at my disposal improved my drum programming considerably, and I enjoyed using them to trigger clips in Ableton Live and grooves from Spectrasonics Stylus RMX. The keyboard felt excellent and was a joy to play—I much prefer the larger keys of the Kontrol49 to the MicroKontrol. When I switched between Reason and Live, I also switched Scenes on the Kontrol49, and it exhibited no MIDI glitches. The Editor Librarian application was a great convenience and was solid as a rock under Mac OS X and Windows XP.

I don't see the Kontrol49's non-touch-sensitive, nonmotorized faders replacing higher-end dedicated mixing control surface units. Editing, automating, and performing with software syn-

thesizers, however, is an absolute dream with the Kontrol49. Having the name of the soft-synth parameter in the LCD right above the encoder and fader is a great workflow improvement and makes twisting the knobs while performing more fun.

I would have preferred a 3-octave full-size keyboard rather than a 4-octave version, and a 6-octave controller would be a welcome addition to the line. Nonetheless, with its LCD displays, 16 trigger pads, encoders, sliders, and full-size keyboard, the Kontrol49 is an excellent MIDI controller. Considering its ease of use, its versatile Editor Librarian, the CD demos of software instruments, and the included applications from Korg and other developers, the Kontrol49 is a big winner.

Orren Merton is the author of Logic Pro 7 Power! (Muska & Lipman, 2004) and coauthor of Logic 7 Ignite! (Muska & Lipman, 2005).

PRODUCT SUMMARY

KORG Kontrol49

MIDI keyboard controller

\$500

OVERALL RATING (1 THROUGH 5): 4

PROS: Excellent-feeling, full-size keyboard. Velocity-sensitive trigger pads. LCDs for each slider/encoder pair. Easy installation. Fully featured Editor Librarian application included. Wide selection of factory preprogrammed Scenes.

CONS: Aftertouch messages can be sent from wheels, but not from the keyboard. Editor Librarian software does not include a printed manual.

MANUFACTURER

Korg
www.korg.com

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

Hand-Assembled In USA Modular Pre
Introducing the

AP-1

AP-1

EXCLUSIVE FEATURE-SETS:

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

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

ADK MICROPHONES

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



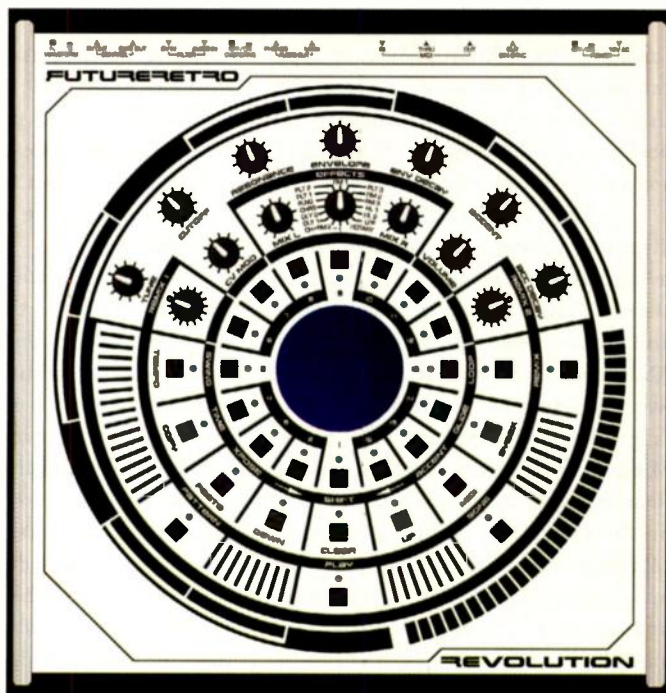


FIG. 1: Revolution, from Future Retro Synthesizers, has a unique circular layout that makes loop programming a snap.

FUTURE RETRO SYNTHESIZERS Revolution

TB-303 fans will be ecstatic.

By Len Sasso

If you've always wanted a Roland TB-303 Bassline, you're going to love Revolution from Future Retro Synthesizers. It has a completely analog emulation of the mono synth that's inside the TB-303 and couples that with a much more sophisticated, if a bit unorthodox, step sequencer. If you don't care about the TB-303 sound but want a slick hardware step sequencer for controlling either MIDI or analog devices, Revolution is worth looking at.

The revolutionary aspect of Revolution is its control-panel layout (see Fig. 1). The controls are arranged in concentric circles, with a circular LCD display in the center, sequencer step select buttons and position LEDs on the innermost ring, step parameter buttons and synthesizer effects knobs on the middle ring, and synthesizer parameter knobs and sequencer mode controls on the outermost ring.

The rationale for a circular rather than linear layout is step sequencer ergonomics—a circular array of buttons and LEDs is a much more natural representation of a looping sequence. Once you've arranged the sequence steps in a circle, you might as well do everything else that way, too.

Basic Bass

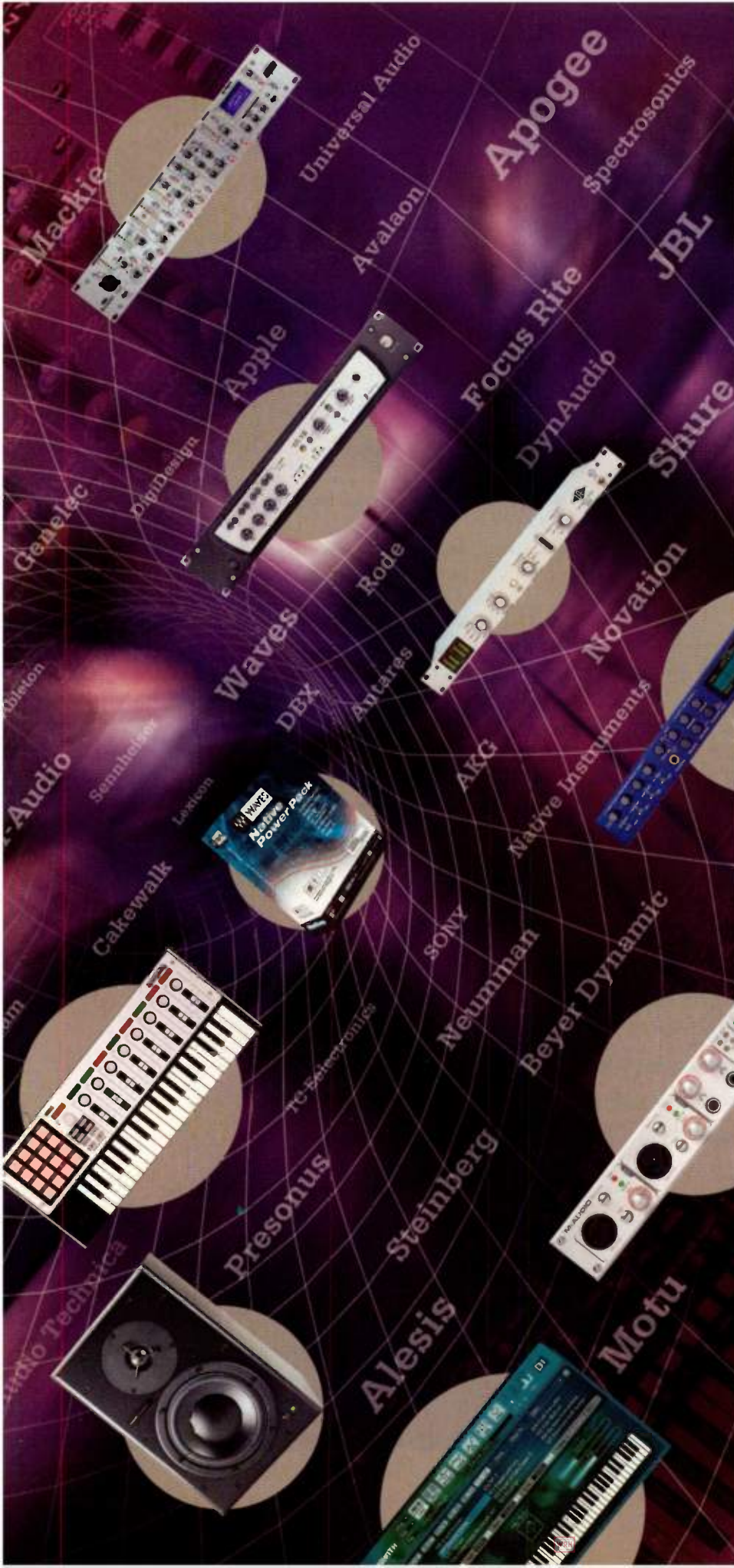
The Revolution synth controls are almost an exact replica of the TB-303's controls (see Fig. 2). There are knobs for filter cutoff and resonance, envelope amount and decay, and accent amount, and a waveform switch to alternate between sawtooth and square waveforms.

Revolution also features an Accent Decay knob, which works with the filter envelope's Decay knob (for accented notes). The original TB-303 owes much of its unique sound to its Accent knob, which affected envelope amount and decay for the filter. Revolution's scheme offers the same functionality with greater flexibility.

More Is Better

Future Retro Synthesizers has added an overdrive stage, filter-cutoff pitch tracking, and a stereo-effects processor to Revolution's synth. Overdrive produces a gritty, hard-edged clipping distortion. The amount of clipping is coupled with the filter's resonance setting.

The filter-cutoff pitch-tracking amount is controlled by the CV Mod knob, and is disabled when an external control voltage signal is plugged into the CV In jack. In that case, the CV Mod knob controls the external modulation amount.



DESKTOP AUDIO

- Stand-Alone Software
- Audio Interfaces
- Plug-ins
- Virtual Instruments
- Computers
- Computer Peripherals
- USB/MIDI Controllers
- Sampling Libraries

PRO RECORDING

- Microphones
- Preamps
- Mixers
- Processors
- Studio Monitors
- Digital Recorders
- Duplicators
- AD/DA Converters

800-947-5509
212-444-6679

420 Ninth Avenue
New York, NY 10001
visit B&H Online at
www.bhproaudio.com

The Professional's Source



The stereo-effects processor has 16 modes, including auto-wah, chorus, flange, delay, lowpass filter, a rotary speaker effect, and ten flavors of reverb. Although the effects stage's input is mono, separate wet/dry controls for the left and right output channels allow stereo-image enhancement (see Web Clip 1).

Finally, an external audio input allows you to process external audio with Revolution's filter, amp, overdrive, and effects. If you use Revolution to play an external MIDI device, routing its audio output back through the unit greatly expands its sound palette. You can, for example, produce a variety of interesting gating effects using its sequencer as the gate trigger.

Fast Steppin'

Revolution's step sequencer is flexible and full featured. It holds 256 patterns spread across 16 banks. A cleverly



FIG. 2: Roland's TB-303 Bassline sequencer and synth combo was the inspiration for Revolution.

designed Remix function provides 256 variations for each pattern, expanding the number of patterns to 65,536.

Patterns always consist of one measure of 16th notes in the pattern's time signature, which can be 3/4 or 4/4. In other words, 3/4 patterns have 12 steps, and 4/4 patterns have 16. Patterns always start at step 1,

Announcing Something COOL...



JAZZ & BIG BAND



A Complete Jazz & Big Band Sample Library

Trumpets, Trombones, Saxophones, Rhythm Section and more

Includes Extended Ranges, Variety of Mutes and a Comprehensive Collection of Saxophones

Create Realistic-Sounding Jazz & Big Band Arrangements Quickly and Easily

Great Sounding Instruments, Advanced Programming for Expressive Control

Control Dynamics, Tongue/Slur Articulations, Intonation, Vibrato & More.

An entire Big Band can be loaded on a single computer or laptop

Mac or PC, Standalone, VST, DX, AU & RTAS Plugin

For Instrument List, Demos & Information: www.garritan.com



GARRITAN LIBRARIES

T: (360) 376-5766 E: gary@garritan.com W: www.garritan.com



located at the 6 o'clock position, with 3/4 patterns ending at step 12, and 4/4 patterns ending at step 16.

Unlike time signature, pattern tempo is a global parameter except in Song mode. Tempo is set in beats per minute, but in keeping with the TB-303 design, it is automatically adjusted for 3/4 patterns so that all patterns take the same time to play. For example, with the tempo set to 120 bpm, 3/4 patterns play at 90 bpm. You can, however, create equal-tempo patterns at 3/4 and other time signatures by choosing the appropriate loop points for 4/4 patterns.

The Setup

Entering pattern data is easy and intuitive, and a number of ergonomic features make pattern editing simple. When in Pattern Edit mode, the individual step LEDs indicate whether a step triggers a note (bright), holds the previous note (dim), or is a rest (off). Pressing a step button automatically makes it a trigger step and selects it for editing, which is indicated by its flashing LED.

The LCD display in the center shows the selected note's pitch. Accent, Loop, and Glide buttons and LEDs in the middle ring control whether the selected note is an accent, whether its pitch glides to the next note, and whether it is the loop point of the pattern.

You convert trigger notes to rests by selecting them and pressing the Clear button. Although a note must be turned on to set it as the pattern's loop point, it can then be converted to a rest, so that patterns can end (and begin) with a rest.

Hold That Thought

Programming ties (notes held for multiple steps) is done by pressing and holding down the button for the trigger note, and then pressing a higher-numbered button to indicate the last step of the tie. For example, holding down the step 1 button and then pressing the step 4 button creates a quarter note at the beginning of the pattern. (Although you can't create a tie across step 1, you can accomplish the same thing by using equal pitches and turning on Glide.)

In a nice touch, clearing a note (or all notes in the pattern, which can be done in a single step) resets only the note's trigger status to rest. It does not affect its pitch, accent, glide, or loop status. Because patterns can be freely copied and pasted, it's easy to create noteless pattern templates, and then set up groups of patterns that differ only by which notes are triggered.

Other handy pattern manipulations include transposing the pattern by as much as 36 semitones up or

TRANZPORT™
Wireless DAW Controller

"You are now free to move about the studio."

Mix Certified Hit

- 2-way RF for wireless, through-the-wall communication with your DAW
- Presets for Pro Tools®, Digital Performer®, Sonar®, Cubase® and other DAW apps
- Easy setup, fast access to your most often-used functions
- Remote control of transport, mutes, solos, punches, markers, loops and more
- Onboard metering, time display, track info, footswitch jack
- Compatible with Mac® OS X and Windows® 2000/XP

Mac OS X Windows XP Windows 2K

Frontier Design Group

FRONTIER
DESIGN GROUP

www.frontierdesign.com



down, shifting the pattern one or more steps clockwise or counterclockwise, and adding swing to delay even-numbered steps. Unfortunately, there is no way to create eighth-note swing without halving the tempo.

Golden Globals

Three global operations—reversing, chaining, and remixing—add creative flexibility to real-time pattern playback. You can reverse the playback direction for all patterns. Reversing is intelligent: playback doesn't reverse until the end of the current pattern, and the pattern begins at step 1 in either direction.

You can instantly chain the playback of consecutive patterns in the same bank by holding down the button that selects the first pattern in the chain while pressing another button for the last. The only limitation is that the last pattern must have a higher number than the first.

In Remix mode, two 16-position knobs allow you to select among 256 variations of the playing pattern. A Remix button turns remixing on and off, and it takes effect immediately. That allows you, for example, to remix the last four steps of a pattern to create a fill.

The Song Is You

Although chaining, remixing, reversing, and transposing all add variety, you will eventually want to organize diverse patterns into songs. Revolution stores 16 songs with as many as 3,580 measures each. The limit of 16 songs is a bit severe, but songs are flexible, easy to set up, and editable on the fly.

Creating a song amounts to selecting a pattern and transposing for each song step, and designating which step is the loop point for the song. Each song also has its own tempo.

Once a song is playing, you can switch to Pattern Edit mode at any time to edit the currently playing pattern. The current pattern loops until you return to Song mode, at which time the song resumes playing where it left off.

analog preamp
digitally controlled

Frank G.

carvin.com/TN100
frankgambale.com

TN100 Tone Navigator Features include:

- Analog Distortion and Crunch
- Bass, Mid, Treble, and Presence controls
- Two Mid-sweeps as found on high-end studio consoles
- One button access for each control, MIDI interface
- Dual 24-Bit Effects (Chorus, Reverb, Echo, Flange)
- 2nd effects loop with stereo return
- Cabinet voiced 1/4" & XLR outputs

CARVIN.com
800.854.2235
Proudly Made in San Diego, CA
Get your FREE Carvin Pro sound, Amp & Instrument catalog

PRODUCT SUMMARY

FUTURE RETRO SYNTHESIZERS Revolution

hardware synthesizer and sequencer \$699

OVERALL RATING (1 THROUGH 5): 4

PROS: Faithful TB-303 synthesis emulation. Unique, easy-to-use step-sequencer layout. Remix function greatly enhances pattern flexibility. Has analog synth control-voltage outputs in addition to MIDI.

CONS: Memory limited to 16 songs.

MANUFACTURER
Future Retro Synthesizers
www.future-retro.com

Beyond the Box

Revolution is designed for playing the built-in TB-303 synth, but it's an excellent, hands-on step sequencer in its own right. It features MIDI and CV outputs, so if you're lucky enough to have some pre-MIDI vintage analog synths or a modern remake of one, you can use Revolution with it.

In the case of MIDI, Revolution sends and receives MIDI Clock and can thus act as either master or slave to other MIDI devices. When slaved to another MIDI device, it also responds to MIDI Program Change messages to change patterns. That greatly expands Revolution's song capacity, allowing you to create songs on your computer. (Revolution also supports SysEx for dumping its own patterns and songs to your computer.)

Take Note

Revolution transmits MIDI note messages with two Velocities: 63 for unaccented notes and 127 for accented notes. (If Revolution isn't slaved to another MIDI Clock, it will send MIDI Program Change messages when patterns are changed.) Because you can control the affect of Velocity on most synths and manipulate MIDI note messages in most MIDI sequencers, you can do a lot with Revolution's output.

For example, you can direct Revolution's MIDI output to several MIDI devices and use pitch remapping and automatic chord generation (if provided by your software) to simultaneously generate drum, bass, and chord parts. You can then use Revolution's real-time manipulation of patterns to produce complex tracks. If you have a multisample player that can play sliced audio files (in REX format, for example), you can use Revolution to rearrange the slices. All those techniques were used in **Web Clip 2**, which was generated in one pass from one Revolution pattern using only transpose, remix, and reverse.

Revolution is well suited to a number of tasks: it's a great TB-303 emulation, its sequencer can play MIDI and analog external sound modules, and it seamlessly interfaces with MIDI sequencing software as either master or slave. Pattern editing is easy and well-thought-out, and there's lots of room for real-time manipulation, which makes Revolution a viable performance tool. And the circular interface design lives up to Future Retro's claims for ease of use.



Len Sasso is an associate editor of EM. He can be contacted through his Web site at www.swiftkick.com.

four words that change everything

PROGRAMMABLE MULTI-TOUCH CONTROL SURFACE

THE LEMUR

Design an interface visually on your computer, then experience it come to life as you control it with all your fingers. The JazzMutant Lemur turns this fantasy into reality. Visit cycling74.com/lemur to learn more about this amazing new LCD touchscreen controller for advanced software applications.



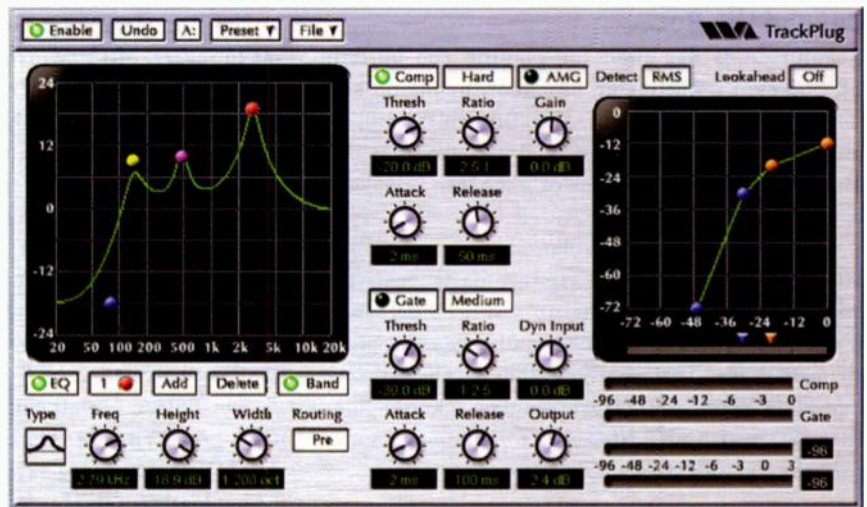
JazzMutant
+33 (0)556 46 03 44
info@jazzmutant.com

distributed in the U.S. by



Cycling '74
415-974-1818
info@cycling74.com

FIG. 1: This custom TrackPlug preset was designed by the author and is used on the steel-drums patch in Web Clip 1. Note the three parametric EQ peaks to enhance the steel-drum resonance, and the low-shelf attenuation to reduce rumble and noise.



WAVE ARTS Power Suite 4 (Mac/Win)

A reasonably priced set of mixing and mastering tools.

By rachMiel

Wave Arts Power Suite 4 is a set of five essential digital signal-processing plug-ins. The bundle includes TrackPlug, a channel-strip plug-in with EQ, compressor, and gate; MultiDynamics, a multiband dynamics processor; and WaveSurround, a 3-D spatial enhancer. Also on hand are MasterVerb, a stereo reverb, and FinalPlug, a peak limiter and volume maximizer.

I installed Power Suite as DX plug-ins on a Pentium 4/2.3 GHz PC with 512 MB of RAM running Windows XP. I tested the plug-ins and did all my MIDI and audio editing in Cakewalk Sonar. I had no trouble installing the Suite or loading any of the DX plug-ins. (The Suite supports DirectX, VST, MAS, Audio Units, and RTAS formats.) Generally speaking, Power Suite is reliable, user-friendly, and a pleasure to work with.

I'll discuss each plug-in in the order you would probably use them in your mixes: TrackPlug, MultiDynamics, WaveSurround, MasterVerb, and FinalPlug.

Get on Track

TrackPlug offers an equalizer, a compressor, and a gate in series (see Fig. 1). The EQ provides one to ten bands, each with seven 64-bit filter types (bandpass, notch, highpass, lowpass, high shelf, low shelf, and parametric) and independent frequency, height (boost and attenua-

tion), and width (bandwidth) controls. A Pre/Post switch lets you place the EQ before or after the compressor and gate components.

The compressor has a standard set of controls (threshold, ratio, gain, attack, release), along with soft-, medium-, and hard-knee settings. It also has optional auto makeup gain (to keep the output level fixed when changing the threshold and ratio), peak or RMS detection, and optional look-ahead (1, 2, or 5 ms).

The gate is used to reduce track background noise. It has standard controls (threshold, ratio, dynamic input, attack, release) and variable-knee settings.

You can use TrackPlug globally for mixing and mastering, or locally in single tracks. Because it demands so little of your CPU, it's possible to insert it on every track of a mix. On my PC, ten TrackPlugs (one on each of ten tracks) consumed a mere 2 to 3 percent CPU. Using TrackPlug in this configuration enables you to fine-tune each layer of a piece for a premaster mix, and ensures that all layers are nicely compressed, are relatively noise-free, and are equalized so that they can all be heard distinctly (see Web Clip 1).

MultiDynamics

The MultiDynamics plug-in is a multiband dynamics processor designed for mastering, de-essing, volume maximization, noise reduction, and custom effects.

Along with standard compression controls (low gain, threshold, high gain, ratio, attack, and release), MultiDynamics has up to six contiguous frequency bands—each with its own compression or expansion/gating, a proprietary crossover algorithm that reduces interband distortion, variable knees, and an optional look-ahead.

MultiDynamics works by using bandpass filters to separate the input audio into a set of one to six separate frequency bands with widths of your choosing (see Fig 2). These bands are always contiguous, so that the entire spectrum (20- to 20 kHz) is covered. Each band is processed independently, enabling you to exert precise control over key frequency regions of your mix's spectrum. That, in turn, lets you emphasize the kick drum while toning down the cymbal edge, while warming the vocal line, and so on.

MultiDynamics is surprisingly easy to use, considering its power and complexity. Though it has relatively few presets (13, not counting the templates), I was able to find 2 presets right away that significantly enhanced the presence of my mix: Medium Enhance and Bass Punch. The former sharpened the flute and accordion lines, and the latter punched up the steel drums. I created a hybrid of the two, grafting the lowest band of

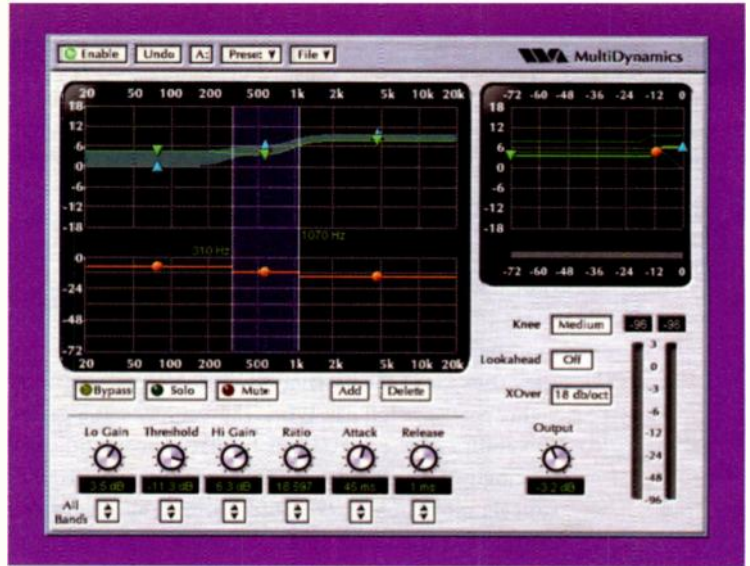


FIG. 2: The custom MultiDynamics preset shown in this figure was used for Web Clip 2. Note the three frequency bands (low, middle, and high) and the low and high gains (green and blue lines) for each band to accentuate select low and high components of the mix.

the Bass Punch preset into the Medium Enhance preset (see Web Clip 2).

Surround and About

WaveSurround is a spatial enhancer that consists of 3-D sound and reverb components in series. It uses HRTF



EL34

MULLARD

AND

TUNG-SOL

ARE

BACK



6V6GT
12AX7
12AX7/ECC803S (GOLD PIN)
5881
6550
EF806S
KT66

Electro-Harmonix has acquired the trademarks of two legendary vacuum tube brands—benchmarks of ultimate performance and listening quality for serious musicians and audiophiles. Our vacuum tube engineers spared no detail in ensuring perfect replication and performance. Expect creamy, smooth resonance and well-defined character that will fully enhance everything about your sound.

electro-harmonix

NOW AVAILABLE AT LEADING MUSIC STORES AND SERVICE SHOPS

tel: 718 937 8300

fax: 718 937 9111

info@ehx.com

www.newsensor.com

POWER SUITE 4

REVIEW

processing and crosstalk canceling to create the illusion that the sound coming out of two stereo speakers (or headphones) surrounds you.

HRTF, which stands for Head-Related Transfer Function, is a technology that measures how sound is transformed when it travels from an arbitrary point in space to a pair of human ears. Crosstalk occurs when one speaker of a stereo pair sends audible signals to the other ear of the listener—left speaker to right ear, right speaker to left ear. When that happens, it impairs the ability of the spatializer to place the sound convincingly at an exact location in space. WaveSurround cancels most of this crosstalk for listeners who are centered at the sweet spot (halfway between the two speakers).

The reverb in WaveSurround is a simplified version of MasterVerb. With reverb on, WaveSurround did a decent job of bringing a sense of spaciousness to the mix; although it wasn't dramatic, it was usable. With reverb off and only 3-D sound enhancement on, however, WaveSurround did very little to the mix. The trick when using WaveSurround is to keep its onboard reverb on, but to make sure that the reverb does not interfere with reverb from another source, such as the MasterVerb plug-in.

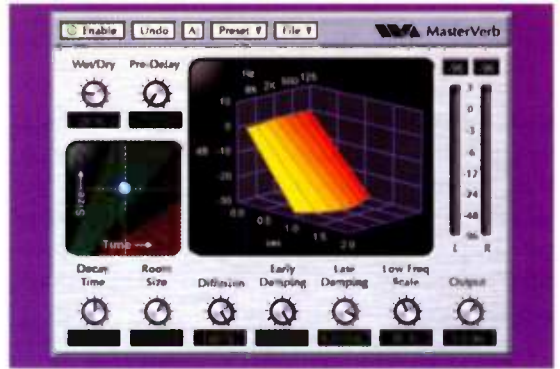


FIG. 3: In this custom MasterVerb preset (used for Web Clip 3), note the blue ball firmly inside the green (recommended) zone of the Time Size pad, and the relative steepness of the decay times as displayed in the 3-D graph.

Yes, Master

MasterVerb is a stereo reverb unit with a standard set of controls (decay time, room size, diffusion, early damping, late damping, predelay, and wet/dry), as well as low-frequency scaling, which enables frequencies below 250 Hz to decay at a different rate than those at 500 Hz. Visually oriented users will appreciate MasterVerb's two displays: an x-y pad that enables you to use your mouse to set the decay time and room-size values, and a 3-D graph that shows how steeply different frequency bands decay over time (see Fig. 3).

More than any other effect except filters, reverb's

Turn Your Mic Locker into a "Meek Locker"



All the quality you'd expect in a condenser microphone from the company you've come to know and trust for making your music sound right!

Joemeek Meekrophones.

Hear them for yourself at your local Joemeek dealer.



JM 472 Combo



JM 27 Pac

JOEMEERK[®]
If it sounds right, it IS right!


beauty of is in the ear of the beholder. Some swear by a certain reverb unit, while others despise it just as passionately. In scouring online electronica forums, I found that MasterVerb has admirers and detractors. Though I'm not bowled over by its sound, I am one of its admirers. I like its inviting user interface, its flexibility, and its overall quality of sound. The things I miss are internal motion control, a shimmering high-frequency edge, and more presets (see Web Clip 3).

That's Final!

FinalPlug is a peak limiter that can be used as a limiter or as a volume maximizer. Its operation is seamless from the point of view of the user: you set standard limiter threshold, ceiling, and release values, and FinalPlug does the rest. The look-ahead and attack times are fixed at 1.5 ms to prevent distortion resulting from sudden attenuation at the onset of an amplitude peak (gain ducking).

FinalPlug also contains a Truncation/Dithering component that minimizes the noise that can occur when you reduce a 24- or 32-bit mix to the 16-bit depth required by CDs. FinalPlug is easy to use and effective. I used the CD Mastering preset without any fine-tuning, and it upped the presence of the final mix noticeably.

The digital audio marketplace is filled with mastering software. Adobe, Cakewalk, Digidesign, IK Multimedia, Izotope, Sony, Steinberg, Wave Arts, and Waves (among others) all make high-quality DSP products. Some

masters prefer hand-picking components, assembling a personal set of plug-ins from various manufacturers. Others prefer the convenience and stability of having one company and one mastering suite. If you fall in the latter group, consider purchasing the Power Suite for its pro-quality audio processing, its low CPU drain, its one-stop solution flexibility, and its reasonable price. Download the free 30-day trial version from the Wave Arts  Web site, and give it a spin!

rachMiel composes experimental electronic and acoustic music. Contact him at www.rachmiel.com.

PRODUCT SUMMARY

WAVE ARTS Power Suite 4

DSP software
\$499.95

OVERALL RATING (1 THROUGH 5): 3.5

PROS: Good sound quality. Intuitive user interfaces. Easy on your CPU and your wallet. Meets most mixing and mastering needs. Clear and informative user manual.

CONS: Plug-ins need more (compelling) presets. WaveSurround fairly dull. MasterVerb a bit lackluster. Help pop-ups for controls would be nice.

MANUFACTURER

Wave Arts
www.wavearts.com



MUSICIANS INSTITUTE

CAREERS IN:

- GUITAR
- BASS
- KEYBOARD
- PERCUSSION
- VOCAL
- GUITAR MAKING
- AUDIO ENGINEERING
- MUSIC BUSINESS
- MUSIC VIDEO AND COMMERCIAL PRODUCTION

WEBSITE: WWW.MI.EDU
E-MAIL: admissions@mi.edu
TEL: 323.462.1384
ADDRESS:
1655 McCadden Place
Hollywood, CA 90028

MUSICIANS INSTITUTE
THE WORLD'S MOST INNOVATIVE CONTEMPORARY MUSIC SCHOOL
Hands On! Experience - Saturday, August 27th 10:45AM
For Reservation Call 1-800-255-7529 ext. 151

FIG. 1: With nine polar patterns to choose from, the Carvin CTM100 can be used in a variety of recording situations.



CARVIN CTM100

A low-cost tube mic with nine polar patterns.

By Rich Wells

It should come as no surprise that Carvin, like other manufacturers that have a wide range of products, has a line of low-cost microphones. What sets Carvin apart, however, is that it sells directly to the consumer; without a middleman, the company can offer its products at even lower prices than you would expect. As a result, Carvin is able to sell the Chinese-made CTM100—a large-diaphragm, multipattern tube mic—for less than \$300. The CTM100 is remarkably versatile, and its Class-A

dating the tube. The CTM100 comes with a power supply that has a 9-position polar-pattern switch, a 30-foot 7-pin mic cable, a spider-type elastic shockmount, a foam windscreen, and a molded ABS-plastic travel case.

The shockmount is handy and works well if left alone. I noticed, however, that when I handled and repositioned the mic, the elastic band tended to disconnect from its mounting. In addition, the metal arms that hold the elastic are pointed toward the mic, and their edges could scratch the CTM100's surface if not handled carefully. On one of the two review units, a piece of the shockmount swivel nut was missing.

The CTM100 has a clear and pleasing response on male and female vocals.

circuitry, ability to handle sound-pressure levels up to 125 dB, and nine polar patterns make it a multipurpose workhorse (see Fig. 1).

The CTM100 has a gold-sputtered 1-inch diaphragm that is 5 microns thick. The mic has a 12AX7 tube in its body, which is about as trim as it can be after accommo-

Building Blocks

I tested the mic on male and female vocals, acoustic and electric guitar, acoustic bass, and percussion. In an attempt to replicate what a user might do with a one-mic/one-preamp setup, I recorded several acoustic instruments, one by one, to build up a song over several passes, using a solid-state Drawmer 1969 preamp to better discern the mic's frequency response.

CTM100 SPECIFICATIONS

Capsule Type	condenser, center mount
Frequency Response	20 Hz–20 kHz
Polar Patterns	cardioid, hypercardioid, omni, figure-8
Dynamic Range	133 dB
Maximum SPL	125 dB
Low-Frequency Rolloff	no
Attenuation Pad	no
Operating Voltage	48V
Dimensions	9.75" (L) × 2.75" (W)
Weight	1.8 lbs.

In a side-by-side comparison on vocals with a couple of other large-diaphragm, multipattern tube mics—a Neumann UM57 and an SE Electronics Z5600A—the CTM100 was in the middle in terms of output level. Its gain range is welcome, because the hotter output of the Z5600A quickly overloads my mic preamps when recording high-volume sources.

On most of the vocal comparisons, the response of the CTM100 in the cardioid setting was very good. It wasn't always my favorite choice once it was blended into a mix, but it was always usable. Overall, the mic is a bit on the bright side, but without harshness. It produces very little self-noise and has a clear and pleasing response on male and female vocals.

Sound Design

Although vocal recording may be the primary application of this mic for most users, the real strength of the CTM100 is in its sound-sculpting abilities, thanks to its multiple polar patterns. The mic's versatility was especially useful when recording a drum kit. To be able to check for consistency, I had two of the mics for the review. I used one as an overhead mic 7 feet above the kit, and the other as a distance mic, about 15 feet away from the drums and 5½ feet from the floor. The high-mid boost of the mic enhanced the crack of the snare drum

"No matter where I am, with Project5, I always have the inspired feel of making music, rather than using software. Project5 blurs the boundary between studio and stage."

DJ Johnny Juice
Public Enemy

VERSION 2

project5

MUSIC.INSPIRED

www.project5.com

cakewalk

Photo: ©2005, Alysia Schreiner

Skeptical about MIDI guitar?

GHOST®

MODULAR PICKUP SYSTEM

You'll believe in GHOST.



The GHOST® Modular Pickup System from Graph Tech Guitar Labs sets the industry standard in ease of installation, expandability and tracking performance. MIDI guitar that *really works*.

To receive a **FREE INFORMATION BUNDLE** on the GHOST Pickup System, visit www.graphtech.com/requests and enter promo code 3G5.



Graph Tech Guitar Labs
Phone: (604) 940-5353
eMail: sales@graphtech.com
www.ghostinside.com

Floridamusicco.com
1-800-378-7599

New Black Box

Amps | Effects | Drums | Interface
microphone preamp (XLR input)

built-in USB audio interface (24-bit)

99 patterns 99 presets, 99 user presets

effects processing guitar, mic or drums



M-AUDIO

Where do you want to take your music?

and the zing of the cymbals in the overhead position. If you prefer a less direct sound, using it as a room mic would give you a more cohesive sound of a full kit. The multipattern aspect of the mic lets you dial in the desired boom, with the omni position providing the most lows.

I recorded the drum tracks with the mics set to cardioid, omni, and figure-8. The omni pattern has significantly more bass response than does the cardioid pattern. When I set the overhead CTM100 to bidirectional, the upper half of the frequency range had a noticeably different quality than did the cardioid setting. It was a nice surprise to hear that much tonal variety in a microphone in this price range.

overdub, and in that context, the CTM100 would be handy as either a close or distance mic, largely due to the number of pickup patterns.

Piano was next on the list, and it was easy to get a nice sound. The CTM100 in the cardioid setting produced a pleasantly hazy, perfect background sound when placed about seven feet from the open top of an upright, and about six feet above and pointing down at middle C. The highs were rolled off substantially, but there was still a tiny bit of the zing coming off the strings. For more definition and high-frequency response, it was simply a matter of bringing the mic closer.

Jack of all Trades

Inexpensive condenser mics often have an unnatural (or at least a more noticeable) upper-mid boost compared with top-shelf mics of a similar design. Consequently, you tend to notice the less desirable elements of a mic as the tracks pile up. As I added acoustic instruments to my song, the CTM100 began to reveal its overpronounced upper midrange.

If I were to go back and carefully optimize mic placement and polar pattern on every instrument, I could probably build a mix that sounded a bit more natural. As it was, I applied gentle boosts and dips of equalization where needed, and with a little compression and expansion, I was able to get quite usable and musical results.

The CTM100's components aren't audiophile quality, but the mic sounds good with voices and on a variety of instruments. To make this mic do what you want may take some work, and you might end up fiddling with the recorded sound more than if you had a cabinet full of high-end, single-purpose mics. If, however, you're looking for a quality multipattern tube mic for less than \$300, you should check out the CTM100.

Rich Wells oversees the Supreme Reality, a recording studio and a band in Portland, Oregon.

PRODUCT SUMMARY

CARVIN CTM100

tube microphone
\$299.99

OVERALL RATING (1 THROUGH 5): 3.5

PROS: Pronounced difference in response among various polar patterns provides versatility. Low price.

CONS: Can overemphasize high mids in an unpleasing way. Shockmount elastic comes undone easily.

MANUFACTURER

Carvin
www.carvin.com

To hear how a number of tracks that had been recorded with the CTM100 blend together in a mix, I overdubbed several acoustic instruments on top of the drums. As you would expect, choosing the right mic placement and polar pattern are the keys to success. The CTM100 in cardioid mode gave a somewhat bright and prickly response on acoustic bass and guitar, and I had to work to find the best positions for the mic and performer. I usually use two or three mics for an acoustic-guitar



The Professional Musician's Legal Companion
\$24.95 ■ 1-932929-01-0



The S.M.A.R.T. Guide to Recording Great Audio Tracks in a Small Studio
\$39.99 ■ 1-59200-695-7



The S.M.A.R.T. Guide to Mixers, Signal Processors, Microphones, and More
\$39.99 ■ 1-59200-694-9



The S.M.A.R.T. Guide to Digital Recording, Software, and Plug-Ins
\$39.99 ■ 1-59200-696-5



The S.M.A.R.T. Guide to Producing Music with Samples, Loops, and MIDI
\$39.99 ■ 1-59200-697-3



Laptop Music Power!
The Comprehensive Guide
\$34.99 ■ 1-59200-822-4



Roland VS Recorder Power!
The Comprehensive Guide
\$39.99 ■ 1-59200-836-4



Reason 3 CSI Master
\$49.99 ■ 1-59200-813-5



Reason 3 Power!
\$34.99 ■ 1-59200-664-7



Cubase SX 3 CSI Master
\$49.99 ■ 1-59200-233-1



Sound Forge 8 Power!
The Official Guide
\$34.99 ■ 1-59200-539-X



Traktor DJ Studio Ignite!
The Visual Guide for New Users
\$21.99 ■ 1-59200-677-9



Networking Strategies for the New Music Business
\$24.99 ■ 1-59200-753-8



The Truth About the Music Business
A Grassroots Business and Legal Guide
\$29.99 ■ 1-59200-763-5



The Art of Mixing
A Visual Guide to Recording, Engineering, and Production, Second Edition
\$49.99 ■ 1-931140-45-6

Learning rocks.

Power-up with these new books and CD-ROMs.

www.courseptr.com



Reason 3 CSI Starter
\$29.99 ■ 1-59200-812-7



Reason 3 Ignite!
\$21.99 ■ 1-59200-666-3



Reason 3 Overdrive!
Expert Quick Tips
\$39.99 ■ 1-59200-659-0



Pro Tools Overdrive!
\$39.99 ■ 1-59200-625-6



Logic Pro 7 Power!
\$34.99 ■ 1-59200-541-1

to anyone seeking to flavor their music with exciting and unusual **EMWEB** percussion tracks. **CLIPS**

Overall Rating (1 through 5): 4

Wizoo Sound Design GmbH
www.wizoo.com

SAMPLETEKK

Black Grand

By Rob Shrock

SampleTekk *Black Grand* (\$199.95) is a sample library that features a Steinway Model D grand piano recorded from three perspectives: Close, Ambient, and Medium Ambient. Packaged on six DVDs, the whole library is dedicated to providing detailed multisamples of a single Steinway piano in a concert hall setting. Each perspective has ten instrument variations.

Black Grand is available in four versions. You can buy a 16-bit edition for GigaStudio 2; a 24-bit edition for GigaStudio 3; or 16- or 24-bit editions for Apple EXS24, Steinberg HALion 2 or 3, and Native Instruments Kontakt. The 16-bit versions are 12 GB in size, and the 24-bit versions are more



If your computer can handle it, SampleTekk's *Black Grand* will give you a 16- or 24-bit sampled Steinway D that plays quite well and sounds exceptionally good.

than 18 GB. For this review, I used EXS24mkII on a dual-processor Mac G5/1.8 GHz system and GigaStudio 2 on a Pentium 4/1.6 GHz machine, both with MOTU audio interfaces.

Forty-Eight Strikes

Whereas most sampled pianos are created with 6 to 8 samples per note, *Black Grand* has 16 samples mapped across each note's entire Velocity range. And that's just with the pedal up—depressing the damper pedal engages 16 different samples. Sixteen release samples (four in the GigaStudio 2 version) add additional life to the sound by providing that bit of ring created by the piano soundboard resonating after a note has been released. That gives you a total of 48 samples per note (36 for GigaStudio 2).

For the programmers, the challenge in assigning so many samples to each note is maintaining consistency and playability. The creator of *Black Grand* has succeeded; it's a lot of fun to play! If you tweak your controller's Velocity curve, you will likely find a sweet spot where the expressive control of the samples will feel right to you. Once I found the right Velocity scaling, I fell into hours of just playing and playing, which doesn't happen often when I play sampled pianos.

I particularly liked the Ambient perspective, because it contains some space and air that makes it sit nicely in a mix and sound good through headphones and speakers. The Ambient version is great for accompanying a solo violin, which is how I used it on a couple of sessions. The miking technique is appropriate for a concert setting when you're listening from the audience perspective, and it sounds rich and detailed.

In the studio, my least favorite variant was the Medium Ambient perspective. Oddly, it sounds the most ambient and feels small and thin compared with the other perspectives. The Close perspective is great for live settings when you need a sound to cut through; it didn't, however, sit in a mix as well as the Ambient perspective did. Overall, though, *Black Grand* was much easier to fit in a mix than most of the sampled pianos that I own.

Supersize

Because *Black Grand* contains many samples, it can be taxing on your computer. I had no problems using on the program with my PC running GigaStudio 2, but I did experience some trouble loading all the

samples in EXS24 on my Mac, resulting in pops and clicks when I played certain notes. Although *Black Grand's* packaging states only the minimum requirements for a Windows-based PC, my Mac G5 with 2.25 MB of RAM should be more than comparable to the 1 GHz Pentium 4 with 1.5 GB of RAM specified for the 24-bit version. According to Big Fish Audio, lots of people run the EXS version with no problems. If you plan to use *Black Grand* solely in EXS24mkII, you may want to try it on your system before you make a commitment.

Once I successfully loaded *Black Grand*, I enjoyed playing it and using it in productions. I used it to record a couple of piano-and-vocal demos, and they sounded great. *Black Grand* didn't have any sour notes or bad samples, and the consistency up and down the keyboard was excellent. In fact, I prefer *Black Grand* to several high-end piano libraries costing twice the price. SampleTekk knows its stuff, and I can't wait to hear the sister library, *White Grand II*.

Overall Rating (1 through 5): 4

SampleTekk/Big Fish Audio (distributor)
www.bigfishaudio.com

SONY PICTURES DIGITAL

Steve Ferrone and Greg Ladanyi: Drums from the Big Room (Acidized WAV)

By Mike Levine

When you bring together world-class talent and a great-sounding studio for a project, chances are good that you'll get a successful result. Such is the case with *Steve Ferrone and Greg Ladanyi: Drums from the Big Room* (\$249), a new drum-loop collection from Sony Pictures Digital Media. It features drummer Steve Ferrone (Average White Band, Tom Petty, Eric Clapton, and Chaka Kahn, to name a few), producer Greg Ladanyi (Jackson Brown, Toto, Fleetwood Mac, and Don Henley, among others), and the ambient sound of the live room at O'Henry's Sound in Burbank, California.

The end product is a high-quality,

five-disc collection, featuring 24-bit Acidized WAV files. Although it's optimized for use in Sony's Acid software, it can also be used with any sequencer or other audio application that supports such files. I auditioned the collection using Apple's Logic Pro 7.1 and MOTU Digital Performer 4.52. Both applications correctly read the embedded tempo information in the loops.

Five to Go

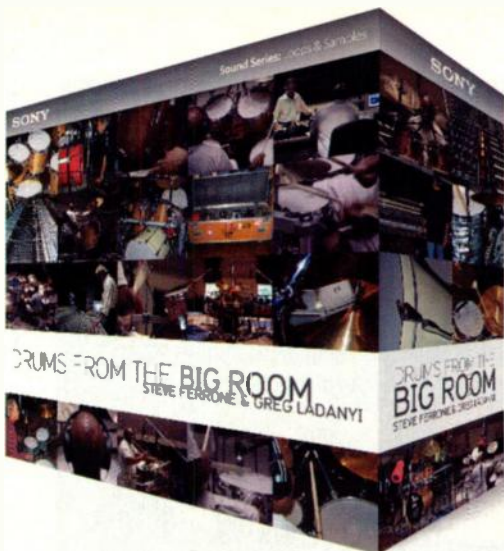
Each of the five discs in *Drums in the Big Room* is dedicated to one of five musical styles: rock, pop, R&B, jazz, and reggae. Each disc has anywhere from two to four songs on it, and the songs all have multiple verses, choruses, fills, and breakdowns. Each song section typically has seven audio files associated with it: stereo full mix, mono kick, mono snare, stereo overhead, stereo toms, stereo room, and mono room.

The full mixes sound great, the recording quality of the entire disk is excellent, and the room lives up to the

"big" in its name. You could do just fine using the stereo mixes exclusively, but if you want more control and the ability to manipulate the amount of room sound that gets into your drum mix, you'll opt for the multitrack files (see [Web Clip 1](#)). Naturally, having six files instead of one for every loop makes editing more complicated and requires more file importation and organization (as well as disk space),

but the results are definitely worth it.

In addition to the songs, each disc has a One-Shots folder that contains individual hits (in-room- and close-miked variations) of the various drums used in the songs. For the snares, you also get flams and rolls. The room that this library was recorded in has such a live quality to it that even the close-miked hits have plenty of ambience.



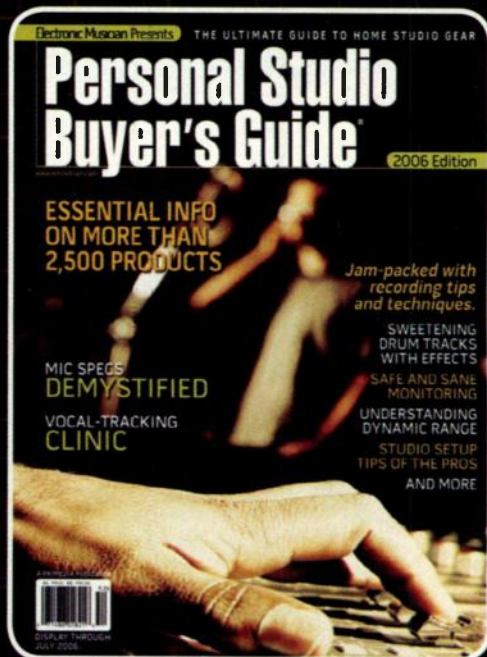
Steve Ferrone and Greg Ladanyi: Drums from the Big Room offers nicely recorded multitrack drum loops featuring the playing of Steve Ferrone.

GET YOUR COPY OF THE ULTIMATE GUIDE TO HOME STUDIO GEAR

The equipment resource for musicians building and supplying their personal studios.

Find the *Personal Studio Buyer's Guide* on newsstands wherever *Electronic Musician* is sold, or call 800-245-2737.

www.emusician.com



ON SALE NOW!

WE WILL BEAT ANY DEAL!

EVERY MAJOR BRAND IN STOCK!

Guitars • Amps • Drums • Keyboards • Synthesizers • Samplers
Sound Systems • Recording Equipment • Software • Accessories



The legendary Ray Charles with West L.A. Music's Don Griffin | West L.A. Music's Glenn Noyes with rocker Sammy Hagar | Legendary DJ Sir Jinx with Damon Gladden and Ryan Mason | Country star Randy Travis with West L.A. Music staff member



Commodores keyboardist Thomas Dawson with Daron Randolph | West L.A. Music's Bob Gsellman with R&B singer Mya | Legendary keyboardist Patrick Moraz with West L.A. Music staff member | Beatle George Harrison with West L.A. Music's Derek Snyder

Shop Where the Pros Shop • Call Us Today!



West L.A. Music

We will beat any price from any authorized stocking dealer anywhere in the United States
call now: 310-477-1945 • sales@westlamusic.com

broadjam Web Hosting



FREE OFFER from Broadjam and Electronic Musician

"I love the new templates and features! We now have more time to work on the music." - Mary Cole, Broadjam Member & Songwriter



WEBSITES FOR MUSICIANS

- Your own website and email
- No graphic or web experience needed
- Promote your songs, gigs and more
- Communicate with fans and pros
- Extraordinary templates
- Control your content 24/7



IT DOESN'T GET ANY EASIER THAN THIS.

Electronic Musician

Sign up for Broadjam Web Hosting and receive free one-year subscriptions to Electronic Musician, Mix and/or Remix magazines!

Only at www.emusician.com/broadjam

Broadjam Inc. • 313 W. Bettine Hwy, Suite 147 // Madison, WI 53713
P. 608-271-3633 // E. customerservice@broadjam.com

www.broadjam.com/hosting

Steve Meets the Room

There are a total of 15 songs in this collection, but because they're split up among the different genres, you get only two or three songs in each style. (The rock and pop disks are stylistically similar; consider them to be one category, pop/rock.) Assuming that one of the songs has a groove that matches your needs, then you've got the tools to put together a great-sounding drum track.

If you're familiar with Ferrone, you won't be surprised that the playing throughout is powerful, smooth, and full of subtle flourishes and ornaments. He's played many musical styles in his career, and his experience is evident as he deftly handles everything from heavy rock and funky R&B to authentic reggae grooves. ("Natty One-Drop" is particularly cool.)

The jazz disc might have been better named "jazz-rock," as two of its three songs fall into that category as opposed to straightforward jazz. One of the songs, called "My Sweet Thirteen," is in 13/8, which seems somewhat specialized for a loop collection with a limited number of songs.

One of the real strong points of this library, as compared with others I've used, is the amount of variety offered within each song. For instance, the song "Boogaloo" offers 9 intros, 8 outros, 5 verses, 7 choruses, and 11 fills. That's a lot of choices. Not every song has that many variations, but all offer quite a few.

Also included is a glossy booklet featuring interviews with Ferrone and Ladanyi and descriptions of the various tracks.

Drum It Up

Overall, *Steve Ferrone and Greg Ladanyi: Drums from the Big Room* is a solid and useful tool that offers great performances and sounds. The collection isn't comprehensive, but the grooves that it has are first-class all the way. If you like Steve Ferrone's playing style and the control that you get from multitrack loops, you're going to love this **EMWEB CLIPS** product. **EM**

Overall Rating (1 through 5): 4

Sony Pictures Digital Media
www.mediasoftware.sonypictures.com

WWW.EMUSICIAN.COM

Look and sound like a million bucks. Pay only \$990.

DISC MAKERS®

CD AND DVD MANUFACTURING MADE EASY



Now get 1,000 CDs in full-color jackets for the remarkable price of

\$990

This complete package includes our award-winning, three-color on-disc printing, and full-color jackets with high-gloss UV coating.

1,000 CDs in jackets for only \$990.

You'll be thrilled with how incredible your CDs look and sound when you choose Disc Makers. You get 1,000 CDs in full-color jackets for the remarkable price of only \$990. And you get them super quick. Complete your package by adding our affordable award-winning graphic design, mastering services, and promotional resources such as posters and postcards.



MUSIC



FILM



BUSINESS



DO-IT-YOURSELF



GET OUR FREE FACTORY-DIRECT CATALOG
1-866-294-9013 • www.discmakers.com/em

EM Marketplace

CD • DVD • CD-ROM • SHAPED CD • CASSETTE • PACKAGING

NEED CDs?
the choice is

CRYSTAL CLEAR
DISC & TAPE

Trusted experience for over 30 years.

SPECIALS:

1000 CDs • \$999! (Complete! Retail Ready)
1000 Promo CD Pack • \$599!
1000 DVDs • \$1899! (Complete! Retail Ready)

BANDS GET 20% OFF ONLY!

1-800-880-0073
www.crystalclearcds.com

CASCADE MICROPHONES



WWW.CASCADEMICROPHONES.COM

ELS PRODUCTIONS

CD & DVD Duplication - Lowest prices, shipped in 2 days!

100 Full Color RETAIL READY CDs just \$240.00

Free Bar Code with purchase! Mention this ad.



1-800-927-3472

visit us on the web
www.elsproductions.com

(((8thstreet.com)))

Get 10% OFF Your Next Purchase!
Enter Promo Code P605

WWW.8THSTREET.COM
1-800-878-8882

"The Original Online Music Superstore"

Software

Hardware

Microphones

Keyboards




OMNIRAX SUPPORTING CREATIVITY WITH INNOVATION AND STYLE

Synergy XL Series professional console furniture


Synergy S6DXB XL

The Synergy XL series is designed to provide beautiful and ergonomic console housings for all the popular mixers, providing you with optimum functionality to accommodate these mixers and associated peripherals. Synergy's surprising affordability gives you the opportunity to add "WOW FACTOR!" to your studio right now.



pictured with optional solid mahogany "cheeks"

Custom Omnix Sonix C24



Palmiro Studios, Madison, Wisconsin

P.O. Box 1792 • Sanalita, CA 94966 • 800.332.3393 • 415.332.3392 • FAX 415.332.2607
www.omnix.com info@omnix.com

INDUSTRY READY 2003 ALL RIGHTS RESERVED

ARE YOU READY?
SEE HOW YOU CAN BE THE NEXT STAR!

Musicians - Singers - Songwriters

ARE YOU A TALENTED ARTIST WITHOUT A RECORD CONTRACT?
INDUSTRY READY WILL GET YOU ON THE ROAD TO SUCCESS!
OUR MUSIC PROFESSIONALS WILL REVIEW YOUR SONGS AND
INTRODUCE YOU TO TOP RECORD LABELS! IT'S TIME TO SHINE!
INDUSTRY READY WILL GET YOUR CAREER ON THE MOVE!

CONTACT US TODAY!
WWW.INDUSTRYREADY.COM

Industry
Ready.com
We got songs Ready!

CD & DVD MANUFACTURING

INDIE ARTIST ONE STOP!

New Lower Prices! Same Great Quality!

1000 Retail Ready CDs \$995

Glass Mastering, up to 3 color silk screen on CD, full color insert, jewelbox with choice of black or clear tray, assembly, shrinkwrap, 4 Panel folder add \$100

FREE barcode, FREE CoolDisc™ Upgrade, FREE CD Baby.

1000 Retail Ready DVDs - \$1499

emulationmedia 1-800-791-0063

www.emulationmedia.com

FREE Barcode, FREE CoolDisc™ Upgrade, FREE CD Baby
Graphic & Website Design • Web Stores • Marketing & Promotion
Short & Long Runs • Quick Turn Times • Merchandise • Mastering

\$1099⁰⁰
1000 pcs

**Complete
Minijacket
Package**



**INCLUDES
COLOR
PRINTING**



TOLL FREE: 1-800-815-3444 or 212-695-6530
WWW.PLAY-ITPRODUCTIONS.NET

**PLAY-IT
PRODUCTIONS**

YOUR FIRST IMPRESSION IS THE MOST IMPORTANT.

You already sound professional... now look professional!



\$1190

1,000 RETAIL READY CDs

Package includes 3 color on disk print, 4 panel print with assembly, wrap and upc.

We at Media Services look forward to providing you with outstanding service and quality. You can trust us to take your CD/DVD project to the next level. Call us today on pricing for all standard and custom packages. We also offer great deals on promotional products such as posters and postcards.



CD AND DVD MANUFACTURING

(888) 891-9091

www.mediaservices.com



**SOUND DESIGN
FOR VISUAL MEDIA**

Reveal The Power

VFS. A proven education for everything you see, hear, and experience in the entertainment industry.

For detailed information and everything you need to know call 1.800.661.4101 or visit vfs.com.

VFS

VANCOUVER FILM SCHOOL
WHERE RESULTS MATTER.

BAYVIEW PRO AUDIO

"America's #1 Online Professional Audio Dealer"
www.bayviewproaudio.com

888.718.0300

Lonely
RECORDS

Get a **FREE** Catalog
1.800.409.8513
www.lonelyrecords.com

National Price Guarantee

GRAPHIC DESIGN, MASTERING, POSTERS,
DVD, CARDBOARD, BARCODES AND MORE.

500 PRESSED

Retail Ready CDs

\$799



RIBBONMICS.COM PRESENTS:

IT CAME FROM AEA...



Scientists agree that Object R92 poses
no threat to Earth... OR DOES IT???

LANDING SOON AT A DEALER NEAR YOU!

Chill out. Connect and Create.

Helix Board 18 FireWire

18-Input 2-Subgroup Mixer with DFX & FireWire Interface

- ✔ 96 kHz FireWire interface for streaming 16 independent channels of audio to computer
- ✔ 10-band graphic EQ assignable to Main or AUX 1
- ✔ Steinberg Cubase workstation software included
- ✔ 16 high-definition digital effects
- ✔ S/PDIF digital output
- ✔ 8 Mic Preamps

\$459⁹⁹
MAP



Not Convinced? Visit www.phonic.com for a comparison chart, or Call 1-800-430-7222

PHONIC

ELECTRONIC MUSICIAN CLASSIFIED ADS are the easiest and most economical means of reaching a buyer for your product or service. The classified pages of EM 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. EM shall not be liable for the contents of advertisements. For complete information on prices and deadlines, call (800) 544-5530.

ACOUSTIC PRODUCTS

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

VocalBooth.com

MODULAR SOUND REDUCTION SYSTEMS



Listen to your dreams.
Follow your heart.
Don't ever stop.

- Calvin Mann

541-330-6045

www.vocalbooth.com

Silent Source

58 Nonotuck St., Northampton, MA 01062
Info: (413) 584-7944 Fax: (413) 584-2377
ORDER: 800-583-7174

Acousticcore Fabric Panels •
Sound Barrier • Isolation Hangers
Tube Traps • Silence Wallcovering •
WhisperWedge • PreFoam • Clearsonic
• Hushfoam • R.P.G. Diffusers •
Sonex • Sound Quilt • More
www.silentsource.com
info@silentsource.com
QUALITY • PRICED RIGHT • INTEGRITY

SUBSCRIBE TO SVC
www.svconline.com

Over 10,000 Studios Served

Total Sound Control

Auralex
ACOUSTICS
www.auralex.com

What About Your Room?

RPG DIFFUSOR SYSTEMS, INC.

**Absorption,
Diffusion and
Total Room
Solutions.**

www.rpginc.com

Subscription Questions??

Call (800) 245-2737

VIBRANT TECHNOLOGIES

DIFFUSER PANELS
WAVE-FORMS™ ACOUSTIC PANELS
800-449-0845
www.vibrantech.com

WhisperRoom INC

SOUND ISOLATION ENCLOSURES

*Celebrating over 14 years of
reducing sound to a Whisper!*

Recording, Broadcasting, Practicing



MDL 102126S
(8'5" X 10'5")
19 Sizes and 2 Levels of Isolation Available
New! SoundWave Deflection System
(Change parallel walls to non-parallel)
Immediate Shipping!
www.whisperroom.com
PH: 423-585-5827 FX: 423-585-5831

REALTRAPS®

MINI TRAPS — Affordable Acoustic Treatment
Rave Reviews From Top Pros



"Our control room at Le Crib Studios needed serious help. After installing MiniTraps the room sounds better than we believed possible, with clear, round bottom and vastly improved imaging. Fantastic product, great company."

—Nile Rodgers



"MiniTraps really made a difference in my studio. I previously had foam corner bass traps, but they really seemed to have no affect. It wasn't until I added the MiniTraps that my low end evened out."

—Charles Dye

(Ricky Martin, Jon Bon Jovi, Shakira, Lauryn Hill, Gloria Estefan)

Toll-Free: 866-732-5872

www.REALTRAPS.com

www.SoundSuckers.com
Be Professional, Buy the Best!
Soundproofing Products
Sound Isolation Booths
Custom Projects & Free Advice
TOLL FREE 1-888-833-1554 (OR) 541-947-2602

AcousticsFirst™
Toll Free: 888-765-2900

Full product line for sound control and noise elimination.
Web: <http://www.acousticsfirst.com>

ANALOG SYNTHS

MODULARSYNTH.COM
REAL ANALOG MODULAR
OVER 350 MODULES
15 COMPANIES
www.modularsynth.com

BLACET METASONIX OAKLEY
 CYNDUSTRIES MODCAN WIARD
 DOEPFER MOTM SYNTHESIZERS.COM

Synthesizers....
made of TUBES??
(...WHY NOT?)
METASONIX
www.METASONIX.COM
PMB 109, 881 11th St
Lakeport CA 95453 USA

BUSINESS OPPORTUNITIES/ CONSULTING

Studio For Sale—\$1.2 Million

Kearneysville—WV
Studio offered includes 3 Bed, 2 Bath residence with in-ground pool & home-theatre—Live where you work & play.

Call for a equipment list & brochure on CD.

Listed By: Sue & Ian Brownsmith
Contact us directly at: 800-792-6909
www.movetowv.com

BATTERIES & CABLES

AccuSound
PRO AUDIO

Silver Studio Pro Microphone, Patch & Instrument Cables
World Class Cables at a Real World Price
Fast & Free Shipping • Secure Online Shopping
www.ACCUSOUNDPROAUDIO.COM

CASES

Case Specialists
discount-distributors.com
We Will Beat
ANY Price!
800-346-4638

EMPLOYMENT

"This Job Rocks!"

— Mark Magdich, Sweetwater Sales Engineer



- Do you know professional audio, MIDI, guitars, keyboards, studio and live sound?
- Are you a music technology expert?
- Do you love talking about gear, technology, and music with other audio pros?
- Do you believe in providing stellar customer service?
- Do you want a job you can be proud of, working for a company you can believe in?

If you are a highly motivated music technology expert, Sweetwater wants to speak with you! We are growing fast, so we're seeking several Sales Engineers to fill new positions for our award-winning Sales Team.

Visit www.sweetwater.com/careers now for full details and online application. Contact Kristine Haas, Director of Human Resources, at 1-800-222-4700, ext. 1050.



EQUIPMENT FOR SALE

Bad Ass Music Stands
800/228-4668
bamstands.com

MUSIC EDUCATION TECHNOLOGY

The definitive technology resource for music educators.

To place a classified ad in MET's quarterly publication, please call our sales associates at (800) 544-5530 or email at metclass@primemediabusiness.com

www.metmagazine.com

NEW!

STEDMAN
888-629-5960
www.stedmancorp.com

ADVANCED DESIGN
EXTENDED CLAMP
6" DIA SCREEN

PROSCREEN XL

Made in USA

FURNITURE

THE ORIGINAL
RACKMOUNT YOUR G5 - WWW.ISO-BOX.COM



ORDER TOLL-FREE: 888.580.9188

Sound Construction & Supply Inc.

Entertainment Technology eClassifieds

Reach more than 1.1 million web visitors! The Entertainment eClassifieds are the user friendly, affordable way to connect buyers, sellers, job seeker and employers.

www.emusician.com/eMarketplace
Buy/Sell Gear • Find/Post Jobs

www.ArgosyConsole.com
studio furniture
800.315.0878



OMNIRAX
STUDIO FURNITURE



OMNIRAX 800.352.3393 416.332.3392
FAX 416.332.2807
www.omnirax.com

INSTRUCTION & SCHOOLS

Earn Income with your Home Studio!

<http://em.homestudioprofits.com> <<http://em.homestudioprofits.com/>>

BE A RECORDING ENGINEER
★ **TRAIN AT HOME**
Easy Home-Study practical training in Multi-track Recording. Join our successful working graduates or build your own studio. Career guidance / Diploma / Registered School.

FREE INFORMATION:
Audio Institute of America
314 45th Ave. Suite F, San Francisco, CA 94121
Or visit us at www.audioinstitute.com

MASTERING & PRODUCTION

MASTERING
Guaranteed to give you that "Big Label" sound.

\$475 Complete Album Analog & Digital Mastering!

New York's Premiere Mastering Studio

Check Out Our Website... www.musicousemastering.com

1-800-692-1210
Located in NY, Serving the US ... Since 1989

CUSTOM PRO TOOLS HD EDITING SUITE

LOW-COST MASTERING

AMAZING RESULTS

stephensongs.com
212.712.2237

Crazy Daisy Productions

Complete, full-service CD Mastering

Professional, high-quality CD mastering for less than \$250

Email us an mp3 to get a FREE mastered sample clip

Short-run duplication packages available

crazymastering.com
Phone: 541 517 1458
Fax: 425 790 0630
Email: info@crazymastering.com



ELS PRODUCTIONS

100 Full Color Retail Ready CDs \$249.00!

1-800-927-3472
www.elsproductions.com

For the best price in CD Replication . . . there is only one number you'll need!

1.888.891.9091

MEDIA WWW.MEDIAOMAHA.COM

You should care who makes your CD. WE DO.

- the best customer service in the business*
- instant online quote
- inhouse mastering, design & multimedia
- quality finished CDs, DVDs & vinyl



MUSIC MANUFACTURING SERVICES

www.musicmanufacturing.com

US: 1-800-293-2075
Canada: 1-800-667-4237

New York • Toronto • Montreal • St. Johns
*Read our client survey results to find out more.

Lions Den inc



Various Mastering
Analog-Digital
waves plugins
platinum diamond
Master - Massive Passive
Focus Rite plugin
ISA430M2
Mackie D88
Final Mix
Roland MS2480
Nuendo 2.2
High Quality Low Cost
708-848-6105
Lionsdeninc.com

PARTS & ACCESSORIES

HOTWIRED!

Your Custom Cable House
Founded BY a recording professional, FOR recording professionals.

MOGAMI AND NEUTRIK
Custom Cable Assemblies
info@hotwiredcables.com
1-877-67WIRED!

RECORDING SERVICES

LITTLE HOLLYWOOD STUDIO Nashville

Sweeten your tracks with world class studio musicians. Any instrument, all styles, average \$100 per song. Details: 615-871-4419, littlehollywoodstudio.com.

RECORDS, TAPES, CDS



KLARITY MULTIMEDIA INC
888-387-8273

CDs, CDROM, Cassettes, Vinyl, Mini Discs, VHS

Our Customers have trusted us with their projects for over 15 Years! We care and work with you to create your project the way you want it.

Total Fulfillment, Graphic Design, Illustration
Digital Mastering, Complete Packaging, Mailing Services
Warehousing, Package Pricing, Custom Pricing
Online Music Store, Free Barcode
Quality Service • Personal Attention • Quality Products

www.Klarity.com www.KlarityMusic.com

1000 Store Ready CDs \$899

INCLUDES 100 FULL COLOR POSTERS

1000 Bulk CDs \$490 **www.TrackmasterAV.com**
Toll Free: 888-374-8877

Your 1-stop shop for CD, AUDIO & VIDEO cassette projects!

Odds On

CD & DVD MANUFACTURING

Order On Same Day!

100 CDS	250 CDS	500 CDS
\$299	\$499	\$699
1,000 CDS	2,500 CDS	5,000 CDS
\$1,299	\$4,999	\$8,799

Order Today!
877-ODDS ON!
www.OddsOnRecording.com

1,000 CDs

In full-color jackets for just **\$990!**

Call for a FREE catalog and jacket sample at 1-800-468-9353
Or visit our website at **www.discmakers.com/remix**

DISC MAKERS

www.yourmusiconcd.com

100 BULK CDRS \$59	300 FULL COLOR PACKAGE \$549
100 BASIC CDR \$99	
100 FULL COLOR CDR PACKAGE \$199	
1000 FULL COLOR PACKAGE \$999	
500 FULL COLOR PACKAGE \$824	

SNS DIGITAL INC ATLANTA 678-442-0933
TOLL FREE 1-877-442-0933

all under one roof!

deal direct & SAVE

FREE CATALOG or
CUSTOM QUOTE

C&C
MUSIC

Compact Disc Replication • Cassette
Duplication • Complete Packages
• Digital Mastering • Graphics
and Printing

You'll Hear
& Feel the
Difference

www.CandCmusic.com
OUTSIDE THE U.S. CALL: 631-244-0800

Toll free: 800★289★9155

CD • DVD • CD-ROM • SHAPED CD • CASSETTE • PACKAGING

CRYSTAL CLEAR

DISC & TAPE
Trusted experience for over 30 years.

1-800-880-0073

www.crystalclearcds.com

PRICE Quality **SERVICE**

PRICE: It's important, but go too low and you may REALLY pay!

QUALITY: Compromise quality...kiss your future good-bye!

SERVICE: You want it?? We've got it! **20 YEARS** proves it!

CD-CD ROM • DVD • DESIGN • PRINT • PACKAGING • & LOTS MORE

EASTCO MULTI MEDIA
www.eastcomulti-media.com

1-800-365-8273

**Lowest Price
Period!**

CD Audio / CD Rom / DVD Replication
Video Duplication / Graphic Design
Printing / Packaging / Pre-Press

M
BALL
MEDIA

888.256.3472
www.ballmedia.com

WE BEAT ANY PRICE!

- Highest Quality
- Reliable Service
- CD's
- Cassettes
- Video
- Posters, etc.



NO BULL

TOTAL TAPE SERVICES

(888) 567-6835
www.totaltapeservices.com

**CD, CASSETTE, CDR and CD-ROM
Complete Packages!**

DDAI
DIGITAL DYNAMICS AUDIO INC.

1-800-444-DDAI
www.4ddai.com

CD/CASS MASTERING
CD/CASS REPLICATION
CEDAR RESTORATION
GRAPHIC DESIGN
FILMS AND PRINTING
CD-ROM AUTHORITY

HEY LOOK! WE'RE ON THE WEB!

Toll Free:
800-538-2336

NRS
National Recording Supplies Inc.

All Formats!
Best Prices!

www.tapes.com

Lonely
RECORDS

Get a FREE Catalog
1.800.409.8513
www.lonelyrecords.com

Retail Ready CD Packages **99¢**

Whitewater Studios
MASTERING • CDs • TAPES

Complete CD Mastering \$375.00
FREE 500 Bulk CDs \$349
FREE 1000 CDs complete \$999
Short-Run CD packages • Real-Time cassettes

We give you the best in service & price!
9 Busbee Hwy Rd.
Asheville, NC 28803
828-274-0956
www.whitewaterrecording.com

SOFTWARE, MIDI FILES, SOUND

REASON SAMPLERTANK HALION KON'AKT EXS24 GARAGE BAND ACID MACH

Downloadable Sounds!

esoundz.com

Save \$10 off your order
use coupon code: EMAUG2005

Live MIDI Drum Sequences

BEATBOY

DRUM SEQUENCES

www.beatboy.com

Nigel Olsson (Elton John) • Ray Yslas (C. Aguilera)
Richie Garcia (Collins / Sting) • Eddie Bayers (Country)
Rod Morgenstein (Dregs)
dynamic • exciting • creative

The Patch King

QUALITY SOUNDS for SYNTHS
and SAMPLERS SINCE 1984
(246) 420-4504
WWW.KIDNEPRO.COM

BEGINNERS WELCOME!
Name-brand Software and
Hardware to set up your
computer for music
recording and printing.
Free articles and
online catalog!
www.musicmall.com/cmp

Tired of not finding the right
groove? Unlimited patterns are
yours to create with
DRUM MOSAICS. No Library is
complete without it! 2 Disk Wav.
CD Rom, only \$89.00! Available
only at loop-d-loops.com.

The Beat Is All In Your Imagination!

WORLD CLASS MIDI FILES
the WORKS Music Productions
For Free Catalog & Demo Disk
call (800) 531-5868 or visit
our Web site:

www.worksmidi.com

Popular styles, General MIDI-
compatible, e-mail delivery avail.
Box 22681, Milwaukie, OR 97269

www.remixmag.com

Music Tools Blowout!

10 Years of Great Deals
Digital Audio Hardware, Interfaces,
Samples, Software, Cables, MIDI's
Over 1300 Classic Guitar MIDI's
Shop for 20,000+ products at
www.midi-classics.com
Call 800-787-6434 NOW!

MIDI Classics Dept E, Box 311, Westgate, CT 06089

BAND IN A BOX IMPROVEMENT PRODUCTS***

You can put a Better-Band-In-Your-Box.

Norton Music (since 1990)

www.nortonmusic.com

TALENT

**Industry
Ready**

Managers • Singers • Songwriters

IT'S TIME TO GET SIGNED!

See how Industry Ready
can make you a music star!

The MOTU Power-on-Demand Studio

Digital Performer, the Traveler and a host of development partner products deliver on-demand processing and world-class sound.

The look.

Whether you've got a G4 PowerBook, G5 Power Mac or both, the Apple 30-inch Cinema Display gives your MOTU power-on-demand studio the world class look your eyes want — and the look your clients respect. A 77% increase in screen real estate gives you the space you need to visualize your entire DP project. An eye-popping 2560x1600 pixel resolution lets you view 64 faders at one time in the Mixing Board!



The effects.

Cycling 74 **Pluggo™ 3.5** is an extraordinary, must-have collection of more than one hundred audio plug-ins that offer real-time interactive audio processing, modulation, and synthesis right inside DP. Delays, filters, pitch effects, distortion, granulation, spectral effects, modulators, multi-channel processing, synthesizers, audio routing, reverb, dynamics, visual display — the list is huge, and you'll have a blast exploring Pluggo's vast array of sounds and effects.



The piano.

Three incredible grand pianos, Bösendorfer®, Steinway®, and Yamaha®, in one Virtual Instrument for Digital Performer. **Synthogy Ivory™** has been knocking the critics flat with its stunning realism and unsurpassed playing experience! It features more than 32 GB of premium piano samples and a custom engine built exclusively for the exacting demands of recreating the piano. Produced by piano sound design pioneer Joe Ierardi and DSP wiz George Taylor, you have to play it to believe it. Trust us, you will!



The help.

Of course, the tech support wizards at Sweetwater can help you with any operational issues you might encounter with your MOTU power-on-demand studio, but if you want complete peace of mind, the **AppleCare Protection Plan** is the perfect insurance policy. No matter what perils await your portable rig on the road or your studio setup at home, with AppleCare, your investment in your Apple gear is totally protected.



Waves on-demand processing.

The Waves **APA-44M** delivers on-demand Waves processing to your MOTU native desktop studio via standard Ethernet. Open your existing Waves plug-ins as usual in Digital Performer via the new Waves Netshell™. But now you can run up to 6 Waves IR-1 Convolution reverbs at 44.1kHz at once, and save your CPU power. Need more Waves processing? Just add another APA-44M with the snap of an RJ45 Ethernet cable. It's that simple. For extreme processing needs, connect up to 8 units to your network. The APA-44M is equally at home connected to a laptop, desktop or both. Just transfer your Waves authorized iLok. You can even share a stack of APA-44M's among several computers across the Waves Netshell network. The APA-44M ushers in a new era of state-of-the-art, distributed-network Waves processing for your MOTU power-on-demand studio.



The mix.

The new Grace Design **m902 Reference Headphone Amplifier** is the final word in high fidelity headphone amplification and is the new must-have tool for audio playback in your MOTU power-on-demand studio. Combining a full compliment of analog and 24-bit/192kHz digital inputs with dual headphone and unbalanced line outputs, the m902 is an ideal solution for critical editing, mastering and monitor control for a MOTU studio of any scope.



Mastering & restoration.

Your DP mastering and processing lab awaits you: **BIAS Peak Pro 5** delivers award winning editing and sound design tools, plus the world's very best native mastering solution for Mac OS X. With advanced playlisting. Superb final-stage processing. Disc burning. Plus PQ subcodes, DDP export (optional add on), and other 100%. Redbook-compliant features. Need even more power? Check out our Peak Pro XT 5 bundle with over \$1,000 worth of additional tools, including our acclaimed SoundSoap Pro, SoundSoap 2 (noise reduction and restoration), Sqweez-3 & 5 (linear phase multiband-compression/limiter/upward expander), Reveal (precision analysis suite), PitchCraft (super natural pitch correction/transformation), Repli-Q (linear phase EQ matching), SuperFreq (4,6,8, & 10 band parametric EQ) and GateEx (advanced noise gate with downward expander) — all at an amazing price. So, when you're ready to master, Peak Pro 5 has everything you need. It's the perfect complement to DP. Or, perhaps we should say, it's the perfect finishing touch.



The feel.

Looking for the ultimate compact keyboard controller for your MOTU studio? The Alesis **Photon™ X25** delivers the revolutionary Alesis XYZ controller dome and ten 360-degree rotary knobs, giving you powerful hands-on MIDI control of your Digital Performer studio and software plug-ins. Advanced features include 24-bit/44.1/48 kHz USB audio I/O with balanced stereo audio inputs and outputs, 25 key, velocity sensitive keyboard, full-size pitch and modulation wheels, and an LCD screen with dedicated encoder for fast and easy set-up.



(800) 222-4700
www.sweetwater.com



The MOTU Power-on-Demand Studio

Audio Ease **Altiverb V5™** Your first choice in convolution reverb

Altiverb broke new ground as the first ever convolution reverb plug-in, delivering stunningly realistic acoustic spaces to your MOTU desktop studio. Altiverb V5 continues to lead the way with cutting edge features. Altiverb V5's ever growing Impulse Response library provides the most diverse and highest quality acoustic samples on the market. Recent additions are shown below from the Altiverb Fall 2004 East Coast Tour. Version 5 delivers more seconds of reverb, more instances, and less CPU overhead than any other convolution reverb. And its new adjustable parameters are a snap to use! Altiverb takes full advantage of the Altivec™ processor in your PowerBook G4 or desktop Power Mac G4 or G5. THE must-have reverb for every MOTU studio.

- Highest quality samples on the market.
- Legendary concert halls and studios.
- Versatile damping and hires-EQ section.
- Click-and-drag 3D sound placement.
- 'Size' parameter shifts resonances and room modes.
- Gains and delays for direct early-reflection and tail
- Waterfall diagram shows time-frequency behavior in 3D.
- Surround up to 192 kHz.
- Snapshot automation for mixing and post-production.



Shift resonances and room modes while adjusting reverb times.

See a 15 minute demo movie at www.audioease.com

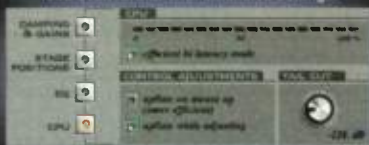


The new multi-channel waveform overview reveals crucial detail about gain levels and timing during the first tenth of a second of a reverb tail. The rotatable and zoomable 3D time/frequency plot reveals even more about damping, EQ and resonances.

A rotating Virtual Reality movie helps you feel the presence of each space.

Snapshots let you automate complete preset changes.

Altiverb is the most efficient convolution reverb. Reduce CPU load even further with extensive settings.



Place the violins stage left, cellos stage right, and percussion in the back, all in stereo.



Use up to four bands of EQ, tailored for reverb tail adjustment, to fine-tune the sound.



Allaire studios — Stonan, NY

Haydn Hall — Eisenstadt

Mechanics Hall — Worcester, MA

Forest Austerlitz — Netherlands



www.allairstudios.com

Schubert Hall — Vienna

www.mechanicshall.org — Photo by Steve Rosenthal

Sound on Sound Studios — NYC
www.soundonsoundstudios.com

The control room.

The PreSonus **Central Station™** is the missing link between your MOTU recording interface, studio monitors, input sources and the artist. Featuring 5 sets of stereo inputs (3 analog and 2 digital with 192kHz D/A conversion), the Central Station allows you to switch between 3 different sets of studio monitor outputs while maintaining a purely passive signal path. The main audio path uses no amplifier stages including op amps, active IC's or chips. This eliminates coloration, noise and distortion, enabling you to hear your mixes more clearly and minimize ear fatigue. In addition, the Central Station features a

complete studio communication solution with built-in condenser talkback microphone, MUTE, DIM, two separate headphone outputs plus a cue output to enhance the creative process. A fast-acting 30 segment LED is also supplied for flawless visual metering of levels both in dBu and dBfs mode. Communicate with the artist via talkback. Send a headphone mix to the artist while listening to the main mix. In the control room and more. The Central Station brings all of your inputs and outputs together to work in harmony to enhance the creative process and ease mixing and music production.



The faders.

Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pol™ 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 Universal** brings large-console, Studio A prowess to your Digital Performer desktop studio, with a wide range of customized control features that go well beyond mixing. It's like putting your hands on DP itself.

The desk.

When you're on the road and looking to record a full band, the Mackie **Onyx™** series of mixers from Mackie is the perfect complement to your MOTU Traveler. Whisper quiet and built like a tank, Onyx mixers feature an all-new mic preamp design capable of handling virtually any microphone. With the optional Firewire card, you can connect an Onyx mixer to your laptop with a single Firewire cable and have all the extra mic preamps and line inputs you need to capture every drum mic, vocal mic, individual synth output and DI the band throws at you. Since Digital Performer works seamlessly with multiple Core Audio devices, configuring a Traveler/Onyx system is a snap.



The monitors.

The Mackie **HR-Series Active Studio Monitors** are considered some of the most loved and trusted nearfield studio monitors of all time, and with good reason. These award-winning bi-amplified monitors offer a performance that rivals monitors costing two or three times their price. Namely, a stereo field that's wide, deep and incredibly detailed. Low frequencies that are no more or less than what you've recorded. High and mid-range frequencies that are clean and articulated. Plus the sweetest of sweet spots. Whether it's the 6-inch HR-624, 8-inch HR-824 or dual 6-inch 626, there's an HR Series monitor that will tell you the truth, the whole truth, and nothing but the truth.



(800) 222-4700
www.sweetwater.com

Authorized Reseller

FREE SHIPPING
SPRINKLE FRODO DELIVERY
MOST ORDERS SHIP SAME DAY



My Mind Is a Blank

By Larry the O

We've all had the experience of needing to create something and having absolutely no idea where to start. It is often known as "writer's block" or "blank-page syndrome" because of its notoriety with authors, but it happens to all creative types. It may come from the feeling of being overwhelmed by the task at hand or from distractions that preclude focusing clearly. Sometimes there's no identifiable reason; it's just that nothing comes to mind.

There are many ways people have found to deal with writer's block. Procrastinating until the situation is critical is a popular tactic, especially among those that do their best work under pressure. But sometimes pressure can have the opposite effect, causing the block or exacerbating it.

Another technique some use to break through is to start doing something (rather than sitting paralyzed), with the idea that the inspiration will come as a result of engaging in the process of generation. That method has worked for me when I had a general idea and was searching for a definite one, but the sensation of being

another piece of music that totally epitomizes what I'm attempting to do, and pondering why it is so successful. In other words, I turn from creative right brain to analytical left brain—not to compose, but to examine the framework. That lets the right brain get out of the hot seat and into the peanut gallery. With pressure removed, an idea will usually pop up at some point in my analysis.

My other method is to let go of it altogether for the moment and do something else. I am a big believer in the brain's ability to do background processing on a problem, and I frequently find that a new idea or the solution to a problem comes to me when I'm doing something entirely unrelated. It may seem contradictory, especially when under deadline, to put off cranking out the product. It can prove faster, however, to let it go than to keep pounding my head against the wall. Too many unsuccessful direct assaults on the problem can compound the blockage with frustration. Leaving it alone, like slugging it out, takes the pressure off and lets my mind work on the problem in its own mysterious way. The key to that is trusting that there is enough interest in or urgency to the situation to drive the "back burner" process, rather than forgetting the whole affair. If "out of mind" means *fully* "out of mind," this tactic will fail.

For music composition, specifically, I can often use a third method: listen to music, especially live music. Hearing a good live performer frequently seems to start music flowing in my head. On more than one occasion, I have furiously scribbled notes during a performance.

Although substances have been known to sometimes foster inspiration, I can't recommend obliterating oneself every time the creative process is stalled! Even if creative blockage is rare, you'll get yourself in trouble with that method.

Finding effective methods for breaking through blank-page syndrome is an individual process. The amusing irony is that the best avenue to determining those methods is to be creative and experiment with different ideas. I hope you don't come up empty on that one. **EM**

I frequently find that a new idea or the solution to a problem comes to me when I'm doing something entirely unrelated.

entirely clueless was more daunting. When I'm blocked, as opposed to being open but with nothing specific to work from, it doesn't help me to sit down and start putting around.

One of two techniques usually works for me: to either slug it out or back off. In a sense, both tactics amount to taking one or more steps back from the problem to take some heat off of my creative mechanism.

Slugging it out means taking time to think about what I'm trying to accomplish. That shifts the focus from content to context. If I need to compose a piece of music and have nowhere from which to start, I think about how it will be used and what the priorities are for that situation. If an idea doesn't come to me, then I'll try to jump-start the idea machine by thinking about

YES! AUDIO PC BLISS CAN BE YOURS!



AC-1 from only **\$1159**

Upgrade RTM1 transport controller to any non for only **\$99** or an RTM1 transport control for only **\$65**

FREE! WITH EVERY MACHINE \$0!



FIX
We dial into your machine & fix problems before your very eyes! This system in use daily for over 3 years now and really does work.



RESTORE
Every machine we supply has a hidden partition which can automatically restore your machine to its former glory should the worst happen.



HELP
A custom-written on-screen multi-page manual for your system stuffed full of hints and tips. Solutions buyers get even more bang for their buck!



SOUNDS
\$569 worth of SampleLab sounds, including Luscious Grooves, Drum Fundamentals, Discography, Analogue Archive & Spatial Awareness.



KEYCAPS
A full set of custom keycaps are supplied for your primary software of choice. Colour coded and featuring all the time saving key combinations.



SUPPORT
No premium rates, no long hold times, just the best support in the business bar none (check us out on the forums), plus free access to our dedicated support website.

PICK ANY CORE PC SYSTEM...

AC-1 LE

- Intel P4 3.2GHz
- 120Gb SATA HD

New improved spec!

- 512Mb DDR RAM
- DVDR/RW

only **\$1159**

AC-1 LE+

- Intel P4 3.4GHz
- 120Gb SATA HD

- 1Gb DDR RAM
- DVDR/RW

only **\$1399**

Core 1

- Intel P4 3.0GHz
- 120Gb HD

- 1Gb DDR RAM
- DVDR/RW

only **\$1399**

Core 2

- Intel P4 3.2GHz
- 80Gb & 200Gb SATA HD

- 1Gb DDR2 RAM
- DVDR/RW

only **\$1899**

Core 3

- Intel P4 3.4GHz
- 80Gb HD & 400Gb SATA Raid

- 1Gb DDR RAM
- DVDR/RW

only **\$2299**

Core 4

- Intel P4 3.6GHz
- 200Gb HD & 800Gb SATA Raid

- 2Gb DDR RAM
- DVDR/RW

only **\$3299**

Dual Xeon Core 1

- Intel Xeon 3.0GHz x2
- 80Gb HD & 200Gb SATA Raid

- 1Gb DDR RAM
- DVDR/RW

only **\$3299**

Dual Xeon Core 2

- Intel Xeon 3.4GHz x2
- 200Gb HD & 800Gb SATA Raid

- 2Gb DDR RAM
- DVDR/RW Drive

only **\$5279**

Tower Core 1

- Intel P4 3.2GHz
- 120Gb Hard Drive

New improved spec!

- 512Mb DDR RAM
- DVDR/RW

only **\$1069**

Tower Core 2

- Intel P4 3.4GHz
- 80Gb & 120Gb SATA HD's

- 1Gb DDR2 RAM
- DVDR/RW

only **\$1449**

Cube Core 1

- Intel P4 3.2GHz
- 120Gb HD

New improved spec!

- 512Mb DDR RAM
- DVDR/RW

only **\$1149**

Cube Core 2

- Intel P4 3.4GHz
- 200Gb SATA HD

- 1Gb DDR2 RAM
- DVDR/RW

only **\$1449**

Centrino 1 14.1"

- Intel Pentium M 1.8GHz
- 60Gb 7200rpm HD

- 512Mb DDR RAM
- CDRW/DVD

only **\$1899**

Centrino 2 14.1"

- Intel Pentium M 2.1GHz
- 60Gb 7200rpm HD

- 1Gb DDR RAM
- DVDR/RW

only **\$2399**

Desktop Replacement 1 15"

- Intel P4 3.0GHz
- 60Gb 7200rpm HD

- 512Mb DDR RAM
- CDRW/DVD

only **\$1979**

Desktop Replacement 2 15"

- Intel P4 3.4GHz
- 60Gb 7200rpm HD

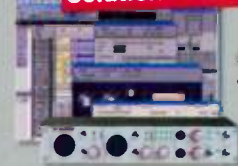
- 1Gb DDR RAM
- DVDR/RW

only **\$2479**

ADD ANY SOLUTION...

In an unprecedented move Digidesign and M-Audio have got together to produce 'Pro Tools M-Powered', a version of Pro Tools LE designed to work with a selection of M-Audio's popular interfaces. We have years of expertise with both, so it is completely natural for us to be able to recommend an M-Powered Pro Tools solution. The Firewire 410 is a superb and powerful box featuring twin mic preamps for input and 8 outputs. Combine that with ACS capable SPDIF and MIDI input and you have a complete recording device. Pro Tools M-Powered gives you 32 audio tracks, 256 MIDI tracks, virtual instruments, plug-ins, effects mixing and editing in one intuitive interface. All sessions are compatible with Digidesign LE and HD systems.

Solution of the month!



M-Audio FW410 & Pro Tools LE

RRP \$999

only **\$799**

Huge range of other Solutions available:

Ableton Live 4 and E-MU 1212m	\$699
Cubase SE and E-MU 040i	\$199
Cubase SX3 and E-MU 1820	\$899
Cubase SX3 and Presonus Firepod	\$1329
Cubase SX3 and MOTU Traveller	\$1829
Cubase SX3, Groove Agent 2, Guitar Rig, Presonus Firepod	\$1999
Cubase SX3 and Yamaha 01X	\$2099
Cubase SX3 and RME Fireface	\$2149
Digi002 Rack	\$1399
Digi002 and Pro Tools LE	\$2699
GigaStudio 3 Orchestra and RME HDSP9652	\$1119
Nuendo 3 and RME HDSP9652	\$2949
Sonar 4 Producer and E-MU Emulator X Studio	\$999
Sonar 4 Studio and Behringer BCA2000	\$530

Solution packages only available at these prices when you purchase a Carillon PC. All prices include VAT.

Due to the ever-changing nature of the personal computer industry, prices and specifications are subject to change without notice.

Please visit **www.carillonusa.com** or call **866-4CARILL** for up-to-the-minute pricing and component info.

email: info@carillonusa.com Carillon Audio Systems 1141C Greenwood Lk Tpke Ringwood, NJ 07456

Record anywhere.

MOTU
motu.com



TRAVELER™

BUS-POWERED HIGH-DEFINITION FIREWIRE AUDIO INTERFACE

