

Mastodon Rocking * New Acoustic Materials * Classic Dolly: 'Here You Come Again' * Trombone Shorty

june 2017 \ \ mixononline.com \ \ \$6.99



MIX

MUSIC PRODUCTION • LIVE SOUND • SOUND FOR PICTURE

REVIEWED

UA APOLLO TWIN MKII QUAD

SLATE DIGITAL REPEATER

HARRISON MIXBUS 4

Class of 2017

Studio Design Behind
17 Hot New Rooms

MIX REGIONAL
★CHICAGO★

NUAGE

Find out why

WE CHOSE NUAGE

Users around the world speak out

<http://4wrd.it/NUAGEMIX5>



YAMAHA



steinberg

Steinberg is a registered trademark of Steinberg Media Technologies GmbH.

Yamaha Corporation of America is the exclusive distributor for Steinberg in the United States. ©2017 Yamaha Corporation of America



PRESSURE ZONES Where we work BEST!

Want to fix your destructive room modes? Don't use fiber or foam, they're velocity-based. Use our membrane bass absorbers – **Curve Diffusors™** & **CornerSorbers™** - they're pressure-based, and work best from 200Hz & down, on walls and in corners. We have proof: go to www.AcousticGeometry.com for our Room Mode White Paper and accurate bass absorber lab-test results.

ACOUSTIC
GEOMETRY™
BY ACOUSTICAL SURFACES

www.AcousticGeometry.com



Dave Smith Instruments Prophet Rev2

The legendary analog synth becomes even more potent, with 16-voice polyphony, an enhanced effects engine, and more.



Rupert Neve Designs Shelford Channel

Experience the evolution of Rupert Neve's 80 Series channel module, in a channel strip that's updated for the modern studio.



MOTU 16A

This versatile interface provides plenty of I/O — plus incredible Thunderbolt connectivity.



iZotope Ozone 7 Mastering Suite

The mastering plug-ins you need to put the final shine on your projects, all in one great package!

BAE 1073D 500 Series

BAE puts the character of a legendary console preamp/EQ into a convenient 500 Series format.



0% INTEREST for 24 MONTHS* on purchases of select manufacturers' products made with your Sweetwater Musician's All Access Platinum Card between now and June 30, 2017 – 24 equal monthly payments required.

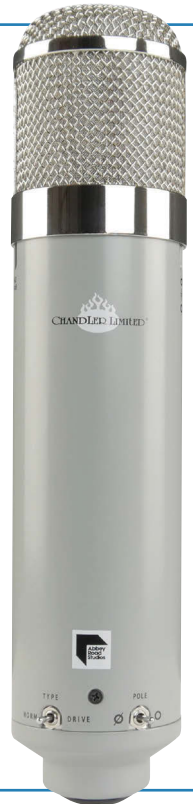
*Offer applies only to single-receipt qualifying purchases. No interest will be charged on promo purchase and equal monthly payments are required equal to initial promo purchase amount divided equally by the number of months in promo period until promo is paid in full. The equal monthly payment will be rounded to the next highest whole dollar and may be higher than the minimum payment that would be required if the purchase was a non-promotional purchase. Regular account terms apply to non-promotional purchases. For new accounts: Purchase APR is 29.99%; Minimum Interest Charge is \$2. Existing cardholders should see their credit card agreement for their applicable terms. Subject to credit approval.

The Pro-audio Authority for Over 35 Years



ATC SCM20ASL Pro mk2

Listen to this handmade reference monitor and experience a new level of accuracy. It's a zero-compromise studio performer.



Chandler Limited REDD

Chandler partnered with Abbey Road Studios to create a vintage-style mic that's anything but old-fashioned. Onboard REDD preamp circuitry lets you use this large-diaphragm mic without an external preamp, and a Drive setting adds harmonic color.



DynaMount X1-R

Precisely position and reposition your mic, without leaving the control room. Remote app control makes operating the X1-R amazingly easy!



Universal Audio Apollo Twin MKII QUAD

A desktop interface with console functionality — plus UAD processing that lets you take advantage of UAD Powered Plug-ins during tracking and mixdown.

Sweetwater®

Music Instruments & Pro Audio

THE SWEETWATER
DIFFERENCE



(800) 222-4700

Sweetwater.com

06.17 Contents

Volume 41, Number 6



Photo: Jimmy Hubbard

FEATURES

20 **Mastodon: The Making of *Emperor of Sand***
BY KEN MICALLEF

24 **The Class of 2017: The Hottest Studio Designs of the Year**
BY BARBARA SCHULTZ

36 **Acoustic Materials: Common Problems, Unique Solutions**
BY STROTHER BULLINS



MUSIC

12 **Trombone Shorty**
BY KEN MICALLEF

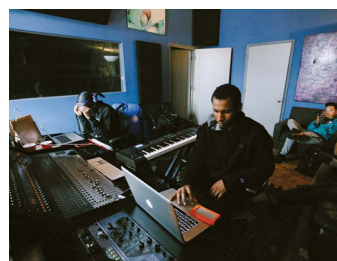


Photo: Mathieu Bitton

16 **Classic Tracks: "Here You Come Again," Dolly Parton**
BY ROBYN FLANS

MIX REGIONAL CHICAGO

40 **Sessions and Studio News from Wilco's The Loft, Gravity, Chicago Recording Company and more**
BY BARBARA SCHULTZ & LILY MOAYERI



DEPARTMENTS

8 from the editor
8 current
53 marketplace
53 classifieds

TECH

42 **New Products**
46 **Review:** Universal Audio Apollo Twin MkII Quad
48 **Review:** Slate Repeater Vintage Modeled Delay
50 **Review:** Harrison Consoles Mixbus 4
56 **Tech Talk:** The Parallel Universe
BY KEVIN BECKA

On the Cover: Designed by Pilchner Schoustal International, Studio Bell - National Music Centre (Calgary, Alberta) is part of a museum dedicated to vintage instruments and audio equipment. Two beautiful studios and the pristine Rolling Stones Mobile facility preserve legacy gear and make it available to future generations of artists through residency programs and educational events.
Photo: Brandon Wallis

Mix, Volume 41, Number 06 (ISSN 0164-9957) is published monthly by NewBay Media LLC, 28 East 28th Street, 12th floor, New York, NY 10016. Periodical Postage Paid at New York, NY, and at additional mailing offices. POSTMASTER: Send address changes to Mix, PO Box 8518, Lowell, MA 01853. One-year (12 issues) subscription is \$35. Canada is \$40. All other international is \$50. Printed in the USA. Canadian Post Publications Mail agreement No. 40612608. Canada return address: BleuChip International, P.O. Box 25542, London, ON N6C 6B2.



Designed to Adapt

Next Steps for Smart Active Monitoring Systems

Genelec's long-standing commitment to providing state-of-the-art monitoring solutions for professional applications continues. The new generation of high resolution Smart Active Monitoring Systems (SAM™) expands further with the 8340 and 8350 Smart monitors, the 7360 and 7370 Smart subwoofers, and the 9301 AES/EBU Multichannel interface.

Acoustically adaptable to every environment, providing outstanding sound reproduction accuracy, flexibility and unlimited configuration possibilities, Genelec SAM Systems allow you to focus completely on your creative work.

GENELEC®
the sonic reference



Smart
Monitors
8340
8350

Smart
Subwoofers
7360
7370

Multichannel
AES/EBU
Digital Interface
9301

Read More



Genelec Inc.
7 Tech Circle
Natick, MA 01760
508 652 0900 (t)
genelec.usa@genelec.com



Masters of the Mastering Universe



PH50 phono stage

for moving magnet

- Ultra low noise - < 0.002% THD
- Variable high-pass filter
- -82dB noise floor and greater than 91dB of dynamic range



PH60 phono stage

for moving coil

- Ultra low noise - up to 70dB gain
- Switchable high-pass filter
- Internal jumpers to match impedance with cartridge



HA75•DAC Tube Head™

DAC/headphone amplifier

- USB input DAC with 12AX7 tube drive
- 100% discrete Class-A analog circuit
- Variable Focus™ control simulates listening in a room through speakers
- Headphone load impedance matching

Hafler®

dynaco®

Hafler and Dynaco are trademarks of Radial Engineering Ltd.
1588 Kebet Way,
Port Coquitlam BC V3C 5M5

©2017 Radial Engineering Ltd., all rights reserved. Specifications and appearance subject to change without notice.

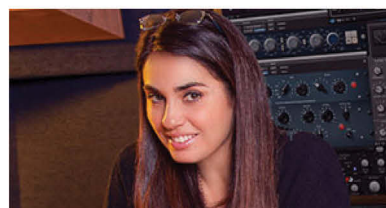


Eric Boulanger

Mastering Engineer - The Bakery (Stax)

(Imagine Dragons, Neil Young, Colbie Caillat, One Republic, Kate Bush)

"I installed the Hafler PH50 to the pickup of my Neumann VMS70 cutting lathe. This phono preamp is such an accurate window on the world for me."



Emily Lazar

Mastering Engineer - The Lodge

(Coldplay, Foo Fighters, Beck, David Bowie, The Killers)

"The PH60 translated so incredibly well in conjunction with not just one, but all of our turntables that have moving coil cartridges!"



Tom Coyne

Mastering Engineer - Sterling Sound

(Adele, Taylor Swift, Beyoncé, Marc Anthony, Maroon 5, Sade)

"The HA-75's extra depth in the soundstage and fullness to the bottom translates nicely to what I'm used to hearing on the big monitors in the mastering studio. A compelling choice."

Mastering engineers...
...they are the trusted few that shape the music you produce into what the world will hear. They are the 'Golden Ears' of our recording industry. They trust their ears and they trust Hafler to deliver music the way it should be.

Visit hafler.com

MIX®

EDITORIAL

EDITOR Tom Kenny tkenny@nbmedia.com
TECHNICAL EDITOR Kevin Becka kbecka@me.com
MANAGING EDITOR Barbara Schultz bschultz@nbmedia.com
DIGITAL EDITOR Kieran McGee kmcgee@nbmedia.com
TECHNOLOGY EDITOR, NEWBAY MEDIA
Strother Bullins sbullins@nbmedia.com
FILM SOUND EDITOR Larry Blake swelltone@aol.com
SOUND REINFORCEMENT EDITOR Steve La Cerra
CONSULTING EDITOR Paul D. Lehrman paul.lehrman@tufts.edu
CONTRIBUTING EDITORS Michael Cooper Eddie Ciletti
Gary Eskow Sarah Jones Barry Rudolph Matt Hurwitz

VP/GROUP PUBLISHER

Ed Hecht ehecht@nbmedia.com

ADVERTISING

Kim Sarni ksarni@nbmedia.com
Joanne Melton jmelton@nbmedia.com

SPECIALTY SALES MANAGER

Zahra Majma zmajma@nbmedia.com

ART & PRODUCTION

ART DIRECTOR Todd Berkowitz tberkowitz@nbmedia.com
PHOTOGRAPHY Steve Jennings, Todd Berkowitz
PRODUCTION MANAGER Beatrice Weir bweir@nbmedia.com

CIRCULATION

GROUP DIRECTOR, AUDIENCE DEVELOPMENT Meg Estevez

NEWBAY MEDIA AUDIO GROUP

EXECUTIVE VICE PRESIDENT/GROUP PUBLISHING DIRECTOR
AV, CONSUMER ELECTRONICS & EDUCATION DIVISIONS
Adam Goldstein
WEB DIRECTOR Ragan Whiteside
ONLINE PRODUCTION MANAGER Robert Granger
WEB PRODUCTION SPECIALIST Ashley Vermillion

NEWBAY MEDIA CORPORATE

PRESIDENT & CEO Steve Palm
CHIEF FINANCIAL OFFICER Paul Mastronardi
CONTROLLER Jack Liedke
VICE PRESIDENT OF DIGITAL MEDIA Robert Ames
VICE PRESIDENT OF AUDIENCE DEVELOPMENT Denise Robbins
VICE PRESIDENT OF CONTENT & MARKETING Anthony Savona
VICE PRESIDENT OF INFORMATION TECHNOLOGY
Anthony Verbanac
VICE PRESIDENT OF HUMAN RESOURCES Ray Vollmer

REPRINTS AND PERMISSIONS For article reprints, please contact our Reprint Coordinator at Wright's Media: 877-652-5295
EDITORIAL OFFICES: 1111 Bayhill Dr., Suite 440,
San Bruno, CA 94066

SUBSCRIBER CUSTOMER SERVICE: To subscribe, change your address or check on your current account status, go to mixonline.com and click on "Customer Service" for fastest service. Or, e-mail newbay@computerfulfillment.com, call 888/266-5828, or write to P.O. Box 8518, Lowell, MA 01853

BACK ISSUES: Back issues are available for \$10 each by visiting www.mixonline.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 ProQuest. For microform availability, contact National Archive Publishing Company at 800/521-0600 or 734/761-4700, or search the Serials in Microform listings at napubco.com.

REPRODUCTION: This publication may not be reproduced or quoted in whole or in part by printed or electronic means without written permission of the publishers

LIST RENTAL: 914-368-1024, jganis@meritdirect.com

NewBay Media

28 East 28th Street, 12th Floor, New York, NY 10016

COPYRIGHT 2016, NewBay Media

ALL RIGHTS RESERVED.

FOUNDED IN 1977

BY DAVID SCHWARTZ, PENNY RIKER AND BILL LASKI

Mix magazine is affiliated with

abm

Boom Box.



Racks

lunchbox 6 Space
lunchbox 8 Space
500VPR 10 Space



Preamps

512v • 505 DI

Equalizers

550A • 550b • 560 • 565

Compressors

527 • 525

Line Amplifier

535-LA

MORE **PUNCH** • MORE **TONE** • MORE **API**

From the Editor

ART, SCIENCE AND THE SEARCH FOR PERFECT IMPERFECTION

Our world is imperfect. Good organizations can't deliver on every promise. The weather doesn't always cooperate. And the roads will never be in full repair. Power will go out at the wrong time, the new car might have a rattle, and at some point in life a friend will let you down. Imperfect doesn't mean "bad," and it doesn't mean "wrong." It's simply the way things are. This is life. The magic of life. Each and every one of us imperfect. Each and every one of us trying our best.

Because we chose to live and work in an industry that is founded in Science and run by Art, the drive for perfection exists right alongside the realities of imperfection. Science, it can be argued, defines and brings order to a perfect world, presumably one without humans around to muck it up. Art, then, becomes the means by which humans strive for some form of perfection, knowing that we live in an imperfect world. This happens across all industries, all generations, all countries and all lives, just on different scales. But it is especially profound in music production.

The drive for perfection in recording often includes the recognition, and celebration, of imperfections—in a vocal, say, or a slightly out-of-time snare. That's the Art. But in studio design, the theme of this month's issue, it's all about taming the imperfections in search of the perfect-sounding room. Which is also the Art.

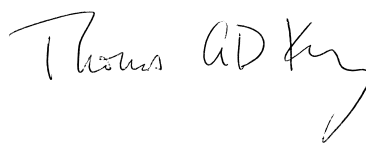
In fact, with all due respect to console designers, preamp manufacturers, speaker makers and the like, nowhere do the art and science of recording come together as they do in studio design. A flat room across all frequencies might be the goal, and it might be achievable in Pure Science, or approachable in an anechoic chamber, but rooms are built by humans, materials come from the earth and the lab, and sound can behave differently depending on simple things like whether the HVAC is working properly. There is Science in the acoustics, electronics, physics and wave calculations. There is Art in taking an empty space and making it sound Perfect.

That's why these 17 rooms featured in our annual Class of 2017 are so special. That's why these featured designers are hired to

build them. They are all striving for something close to perfection, even if that simply means perfect for the client, the artist or the audience. And these are the best of the best, with names like Storyk, Berger, Manzella, Pilchner and Schoustal, Genfan, Lachot, Munro, Grueneisen, Malvicino and more. They understand Science; they are steeped in it, but to each of them, each of the rooms is a work of Art. If you are building a studio or performance space or even a home theater and you have the money, hire one of them. Their talents are worth it.

Still, for those without the money to hire a professional, those starting out in their career or those who prefer to roll their own, there are a number of ways to create your own version of Perfect sound. The expertise among the handful of Acoustic Treatment manufacturers, along with the range of products and solutions they provide for any kind of problem under the sun, means that anyone can apply the basic principles of absorption, reflection and diffusion to their space. And they can be assured that there is Science behind the Art. It might look like a simple lightweight 2x2-foot panel with some fabric tightened around the edges. But it might help to break up an issue you're hearing at 3 kHz or to solve a bass buildup problem in the converted shed behind your house.

Looking back at the opening sentence, it sounds so cynical: We live in an imperfect world. But we do. And I, for one, celebrate that. It keeps life interesting. But I'm also grateful that I work in an industry where we are all seeking some form of Perfect, if even just for our own selves, and our own ears. And that studio designers are leading the charge.



Tom Kenny
Editor



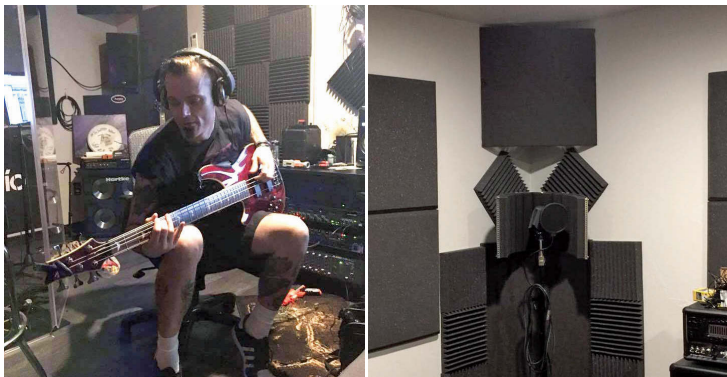
SELLING MADE EASY

On the road. Anywhere you go.



Reverb.com

Download the app. Start selling today.



Eric Lewis and The Vet-Traxx Project

Injuries sustained by veterans can often be invisible. US Retired Navy Petty Officer Eric Lewis was looking for a way to support fellow combat veterans suffering from PTSD, traumatic brain injuries and other disabilities, when in 2016, driving from his home in Galt, Calif., to the Winter NAMM show, thought: What if he could build a place where vets could express emotion and alleviate stress by recording music?

Lewis, a drummer in the band Terra Ferno, went from booth to booth at the show pitching his vision. The response was overwhelming: Companies, including D'Addario, Sabian, Avid, Focusrite, CAD Audio, On-Stage, SKB Cases and Roland agreed to donate gear. And Auralex offered to design and supply an acoustic treatment package.

As his garage filled with gear, Lewis began building on his property. Friends and family pitched in, and construction companies donated materials. "The next thing you know, we had a 14x16-foot structure built," Lewis says. He then contacted veteran-owned Soundproof Cow, which provided Quiet Batt soundproofing insulation. The room was purpose built, designed by Lewis and Ward Engineering, with soundproofing input from Lewis' friend Mikal Cox of the bands Coal Chamber and We Are The Riot.

Lewis sent Auralex his design plot, and to control problem frequencies and reflections, the company created a custom system including Studiofoam Pro, Studiofoam Wedgies, ProPanels and HoverMats, and worked with Lewis to fine-tune placement. "We were able to reduce leakage about 85 percent, so now we can record at 2 a.m.," says Lewis.

Vet Traxx Project officially began operating in January 2017. Its free services for veterans range from recording to full-service mixing, mastering, duplication and distribution.

The organization is a 501(C)(3) non-profit; Lewis, who funds much of the operation, relies on big-hearted engineers, musicians and songwriters for support. "It's a big band of brotherhood and sisterhood," says Lewis, who also works a day job with the Veterans Administration. And he isn't done: "We were sitting around recording, having a beer, and I said, 'It would be awesome to have a festival to celebrate our accomplishments, like a Woodstock for veterans—Vetstock!'" Just like that, the Norcal Vetstock Festival was born, and this month, Lewis is producing a concert featuring more than 20 bands on two stages.

Lewis is also ramping up remote cloud sessions, with help from Avid; vets need only reach out, tell their story, and send music; "I'll get it mixed mastered and sent back to them," he says

As a PTSD sufferer himself, Lewis finds immense gratification in helping other vets in his situation. "These guys and girls have a story of their own, and basically have no other means of talking about it," he says. "I have it, too, where I don't like talking about how I feel, but get

me behind a drum kit, and you can see how I feel.

"It doesn't matter if they are great musicians, experienced or not. What they're putting out is beautiful in itself. All it takes from them is to have a story." —Sarah Jones

NAB Best Of Show 2017

Mix and Pro Sound News, the Pro Audio Group of NewBay Media, announced its Best of Show Award winners for NAB 2017, selected by a panel of NewBay editors and industry experts from submitted nominations. Criteria include ease of installation and use/maintenance, performance, relevance, value/ROI, network friendliness, versatility and reliability.



Aaton Digital Cantar Mini: CantarMini is a 16-track portable mixer/sound recorder capable of recording 16 tracks at 24-bit, 192 kHz, with channel delays and EQ. Any input can be routed to any of the tracks, and all tracks and inputs can be routed to eight analog auxiliary outputs and /or digital outputs.



Adobe Audition CC: Designed primarily for post, the Adobe Audition CC has a comprehensive tool-set including multitrack mixing, waveform editing, and a spectral display that allows you to visualize and manipulate sound with incredible precision. New features include clip separation, shortcut editing, and more.



Dan Dugan Sound Design Model E-3A Automixer: The Dugan Model E-3A brings the convenience of AES and/or ADAT I/O to automatic microphone mixing. Like other Dugan products, the E-3A is designed to patch in to standard mixing consoles via insert points.



Glensound Dark 1616M: The DARK1616M is a versatile break-in/out box for sending/receiving analog and digital audio to/from a network, utilizing audio over IP protocol. The 16 inputs and outputs of the Dark1616M are paralleled in both analog and AES, with the added benefit of exceptional-quality mic amplifiers and huge 127dB dynamic range A-to-D converters.



iZotope RX 6 Audio Repair: RX is widely recognized as the industry standard in audio repair for post and music production. Version 6 introduces new features and is packed with new technologies like wind and mic rustle removal, voice isolation, composite editing, and much more.



Sennheiser Digital 6000: The Digital 6000 wireless microphone system takes the acclaimed Long Range transmission mode and proprietary audio codec from Sennheiser's flagship Digital 9000 series to applications that demand smaller, more flexible 2-channel systems.



Shure Axient Digital: As the new premier wireless system in Shure's portfolio, Axient Digital builds on the superior benefits of the UHF-R®, ULX-D® and Axient wireless systems to create the most advanced wireless platform to date.



THE REFERENCE

By name, by rights, by feats.

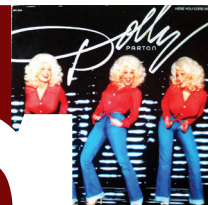
Once in a generation we design and hand build loudspeakers of such stunning quality they set the standard by which all others are measured for years to come. *THE REFERENCE* - for connoisseurs who demand uncompromisingly accurate yet musical sound, capturing the full emotional range, depth and detail of the original performance.

us.kef.com

KEF

OBSESSED WITH HIGH RESOLUTION

Music



TROMBONE SHORTY

By Ken Micallef **12**

CLASSIC TRACK: DOLLY PARTON'S

"HERE YOU COME AGAIN"

By Robyn Flans **16**



Photo: David McClister

Trombone Shorty's newest album, *Parking Lot Symphony*, was recorded in The Esplanade, a converted gothic church equipped with a Rupert Neve Designs Shelford 5088 console.

TROMBONE SHORTY'S PARKING LOT SYMPHONY

Music from the Heart of the City

By Ken Micallef

Troy Andrews, aka Trombone Shorty, has ruled *Billboard's* Contemporary Jazz chart. He performed twice for President Obama at the White House and appeared in the HBO series *Treme*. His music is beloved in New Orleans and beyond for the way he re-imagines the musical heritage of his city, casting influences from Louis Armstrong to Fats Domino to the Meters into a feel-good second-line stew. A masterful singer, and tuba and Wurly player, as well as trombonist, Shorty brings the party to the people.

"It's up to us to make sure the music continues," Andrews says. "The Neville Brothers and the

Meters don't sound anything like Fats Domino. They moved the music forward. I take from the foundation they laid down and I like to think we are moving the music forward too."

Andrews' influences come to bear on *Parking Lot Symphony* (Blue Note). The album was recorded in New Orleans' Treme neighborhood in a renovated 1847 gothic-revival church-turned-studio called The Esplanade. Andrews, producer Chris Seefried, engineer Seth Atkins Horan, and a funky band and gospel choir gathered in the studio's 3,400-square-foot live room.

"The Esplanade really contributed to the sound of *Parking Lot Symphony*," Seefried says. "When

we put up the first two tracks we started feeling this swampy Southern sound. We recorded the basics live to a MCI JH-24 24-track 2-inch tape machine and a Rupert Neve Designs Shelford 5088 48-channel console [in Studio A].

"The room really added to the music, which can happen when you record real musicians in a real room with all the harmonics of the room. The way the harmonics naturally intermingle and the way the reverbs hit within the room, that creates these free musical tones that you can't get if you're stacking tracks. That was a beautiful thing; the basics sounded so full and natural. [Blue Note president] Don Was brought me in on this project,



FADER SERIES



F4



F5



FX8

www.fluidaudio.net

USA www.mixware.net www.facebook.com/mixware

CANADA www.eriksonaudio.com www.facebook.com/EriksonAudio

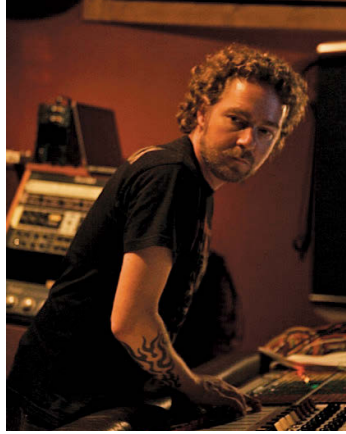
and he thought it sounded so beautiful as well.”

Additional recording and mixing were done at Gnu Gnome, Seefried and Horan's studio in Hollywood, and mastering was by Bernie Grundman. So, *Parking Lot Symphony* is also the sound of new and the old worlds, of germ-free L.A. mixing suites meeting the holy vibrations of one of the oldest cities in America.

After creating demos in Reason, Akai MPC and Native Instruments Maschine—or by humming into his smart-phone—Andrews (on Wurlitzer) and his band tracked basics at The Esplanade, to which he overdubbed Rhodes, trombone, trumpet, vocals, glockenspiel, vibraphone, 1956 Hammond C3 Organ and marching snare drum.

“I really wanted to express the sound of New Orleans,” Seefried says. “Troy’s music and the way he plays is very specific. I wanted to show everything he does, so we had him play all these different instruments. I knew the live setting would enable us to go in different musical directions with a single through-line. I wouldn’t have thought of bringing in a choir had I not been standing in this massive church. And the Esplanade has a huge pipe organ donated by Andrew Carnegie. It’s a spiritual, sacred place.

Outside of selected UAD components, plug-ins played no role on *Parking Lot Symphony*. An original Echoplex and a Tel-Ray AD-N-Echo Electronic Sound Chamber were used to augment the natural reverberant sound of the room. “It’s a reverb-delay from the ’60s that creates a delayed reverb by a spinning oil can inside its box,” Horan explains. “It has a contact pickup and a



Engineer Seth Atkins Horan

mic. It works like a plate reverb. It gives this washy, warbly delayed reverb. It literally has an oil can spinning around. They had to stop making them when they discovered the oil was carcinogenic. An outboard deadly device!”

Andrews overdubbed his vocals last, with only Horan and Seefried present. “I’m not good at punching in vocals,” Andrews says. “I work to get a good performance. I like to get my horn parts down first, then the band leaves and I cut vocals with the engineer

and producer. I work on one verse to get it as good as possible, then I record the hook. I sang ‘Here Come the Girls’ and ‘It Ain’t No Use’ in one take, from start to finish. I’d been performing those out in field.”

Horan is a quadruple Grammy winner, via his long association with Latin pop star Draco Rosa. Speaking from their Hollywood studio Gnu Gnome, Horan revealed the miking details of the *Parking Lot Symphony* sessions.

“There’s a lot of room miking,” he notes. “That was a huge part of it. I used pairs of Neumann M150s and Coles 4038s. The M150s were way up, around 20 feet, and far back, placed initially for the drums. I left them there for overdubs. The drums were in the middle of the room. We baffled off behind the drums to get more presence on the close mics. The room mics were behind the baffles: a pair of Coles 4038s for closer room mics, 15 feet away from the kit. We utilized the room mics for everything. We moved the musicians, including the choir, to match the room mic placement. We recorded stomps and claps and a choir and a marching band.

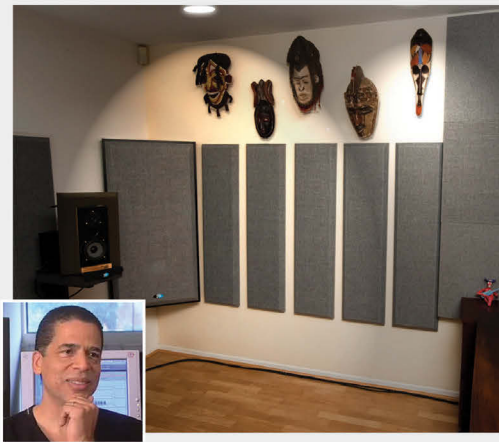
Primacoustic... better design, better



"The ease of install really allowed us to experiment with placement and with the quality of the treatments, we achieved the sonic balance we were looking for!"

~ **Tommy Lee**

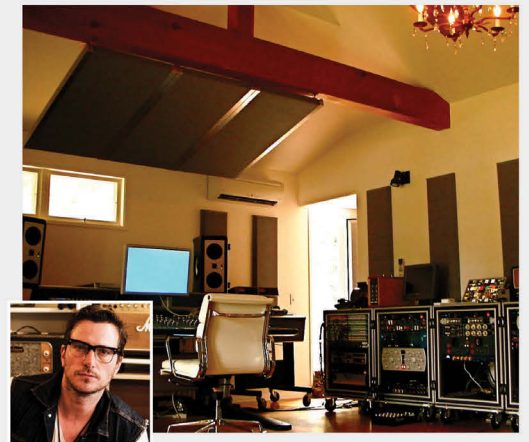
Founding member - Mötley Crüe.



"Being able to fine-tune a room on site makes all the difference. The Impaler mounting system make the panels easy to install and let you make adjustments without trashing the surface. It works!"

~ **David Rideau**

Engineer/producer - Janet Jackson, Sting, TLC, George Duke and Jennifer Lopez.



"The Primacoustic is up and kicking butt at my new studio in Santa Monica. I love the way the control and tracking rooms sound now... and so does everyone that records here!"

~ **Butch Walker**

Engineer/Producer - Avril Lavigne, Fall Out Boy, Pink, Sevendust, Hot Hot Heat, Simple Plan, The Donnas.

"I love the way the control and tracking rooms sound now... and so does everyone that records here!" ~ Butch Walker

"We recorded 80 percent straight to tape," Horan continues. "The Neve 5088 console is really quiet; we usually used its internal preamps too. It sounded warm and fat. It has buttons that let you choose from three different levels of harmonic saturation. You could get a saturated, older Neve sound or a cleaner sound just by pushing these buttons. It pushed the harmonic distortion in an interesting way. The studio was loaded with good compressors and the EQs and internal mic preamps on the Neve board are great. I used the studio's Neve 1073 and API 512s too."

Trombone Shorty's band recorded in The Esplanade's huge live room, with guitar, bass and keyboard amps isolated separately. Horns were also tracked in the live room, as well as in an iso booth, with bleed encouraged. Horan maximized the ambience by employing room mics for all instruments with baffling, but close-miking "smaller sounding stuff."

Andrews' vocal chain comprised a Telefunken ELAM 251, Neve 1073 mic preamp and UREI 1176 compressor. A spaced pair of Coles 4038s were placed in front of the five-voice choir, along with a pair of Neumann M150s to capture the room sound, placed 40 feet back and 20 feet high.

"I used an RCA 44 and a Neumann U67 to close-mic Shorty, placed pretty close, within a few feet of his instrument," Horan explains. "For overdubs, including section overdubs, I used a stereo pair of Coles 4038s and two M150s placed way back. We ended up using that setup on most of the recording. It's fun to balance all the elements in a giant room. I try not to rely on plug-ins after the fact. We used reverbs and effects here and there, but we wanted to get an interesting sound from the room, not something from the box."

For Rhodes and Wurly, Horan miked a Fender Champ using a Royer 121, doubling that setup for horn overdubs. "Royers are really well-built," he says. "You can put them on a Marshall and they don't blow up. They're really full and warm-sounding, and great on horns or guitars. They remove the shrillness. They can handle huge SPLs."

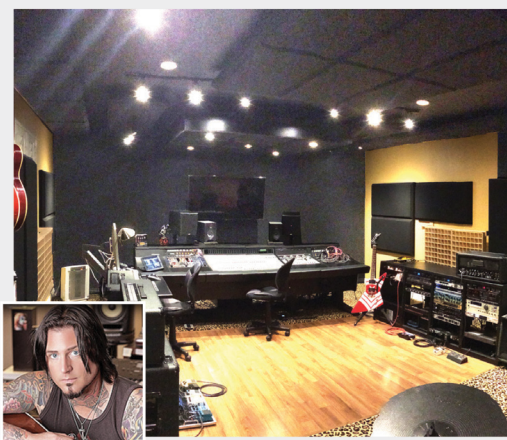
The studio's 1956 Hammond C2 organ was captured using two AKG C414s on top with an AKG D12 on the bottom speaker. Shure SM57 and Royer 121s covered guitar amps, the 57 positioned on-axis to get "a pretty present signal" and the Royer on the grille but off-axis. "That gives you a full ribbon mic sound with more low end; then I blend the two together rather than rely on EQ," Horan says. On bass, the engineer used an Electro-Voice RE20 and a DI.

On drums, Horan used Coles 4038s and M150s as room mics, a pair of AKG C12As in XY fashion as overheads. A Shure SM57 covered the top snare head, followed by a Neumann KM84 on the strainer side. AKG C414s covered toms; an AKG D12 was placed inside the bass drum, a Neumann FET 47 was placed one foot outside the bass drum. A Yamaha Subkick was also used. Another KM84 picked up hi-hat, while an RCA44 was used as a mono mic, placed four feet in front of the kit off to the side, about rack tom height.

"It was a lot of fun to have this unique acoustic environment," Horan says. "A big space really helped the energy of the whole record."

"I try to let the spirit come alive wherever I need it to be," Andrews says. "I'm working hard in every musical situation. Playing 100 percent from the heart and the soul is what the city of New Orleans is all about." ■

performance, amazing results!



"When building The Leopards Nest studio, we tested a number of different acoustic treatments and chose Primacoustic. It was easy... Primacoustic did the best job and my studio sounds amazing!"
~ Jason Hook - Five Finger Death Punch.



"We've got a mixture of bass traps, diffusion and clouds and the result was phenomenal. It ended up costing less than 25% of the custom solution and it turned out very cool."
~ Keb' Mo' - Grammy winner, roots-legend.



"Not only does my room sound amazing, it's also really beautiful!!!" ~ John Rzeznik - Goo Goo Dolls.

"Not only does my room sound amazing, it's also really beautiful!!!"

~ John Rzeznik

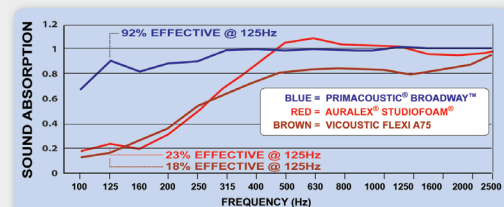
www.primacoustic.com

Primacoustic Broadway™
high-density glass wool acoustic panels perform well where the others fail, in the critical low frequencies.



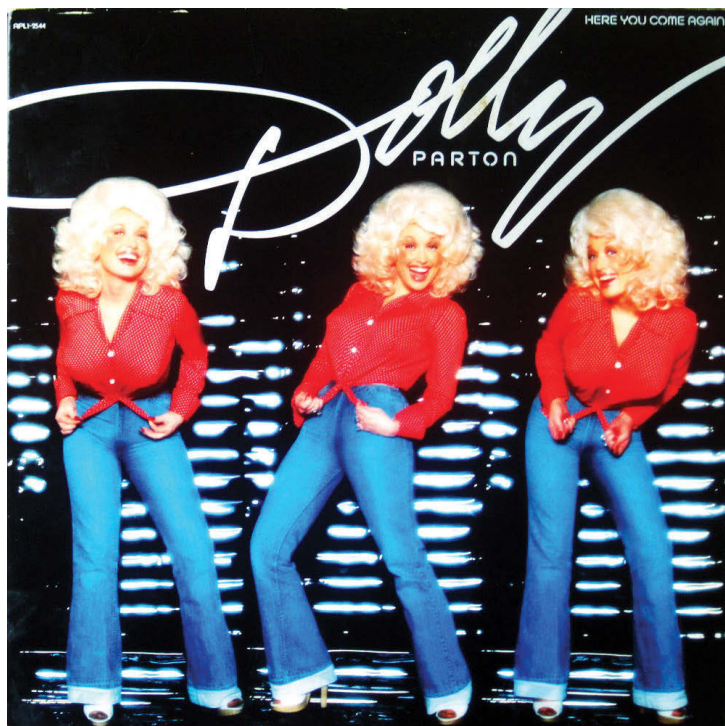
PRIMACOUSTIC®

A division of Radial Engineering Ltd. - 1588 Kebel Way, Port Coquitlam BC V3C 5M5
Copyright © 2017 - Radial Engineering Ltd. All rights reserved. Specifications and appearance subject to change without notice



Classic Tracks

By Robyn Flans



"HERE YOU COME AGAIN"

Dolly Parton

Armin Steiner can't say enough good things about Dolly Parton. He had never worked with her before she came to L.A. to record this month's Classic Track, "Here You Come Again," but Steiner had certainly already worked with his share of stars, such as Neil Diamond and Barbra Streisand, while he was working for The Entertainment Company, and producers Charles Koppelman and Don Rubin. Yet, Parton made an indelible impression.

"As a human being—forget about her great gifts as an entertainer—this is the one of the most delightful people we've ever had in the entertainment industry," Steiner says. "As a human being, she's extraordinary. And she has such a beautiful voice, an incredibly identifiable sound, identifiable diction; she's a fine writer and a great interpreter of lyrics. You believed what she sang. It's all part of the talent and part of the human being. That's part of the God-given talent you're born with. It's not something you can teach."

Parton had been a country music star since her first full-length album, *Hello, I'm Dolly* reached Number 11 on Billboard's Country Albums chart in 1967, but her management had been trying to break her into the pop charts for a year before they turned to Gary Klein to produce the album *Here You Come Again*, named for the title track written by Barry Mann and Cynthia Weil.

Steiner says the project had all the right ingredients: "A great song, a terrific lyric, a singer who just nailed the vocal because it was right in her best vocal range. The character fit her personality so perfectly."

In a 1993 interview for *Modern Drummer*, Parton recalled that during her early recording days in Nashville, she had encountered a lot of male chauvinists in the music business, which made it difficult for her to speak up creatively. According to Steiner, by the time she came into Sound Lab Studios to record "Here You Come Again," she had become quite comfortable asserting herself.

For example, Parton urged producer Gary Klein to add steel guitar, but to avoid making the song sound too country. Musician Al Perkins was hired to play some subtle steel on the track. The idea was to interest pop listeners without losing her country base.

The rhythm section on the track included Dean Parks (guitar), David Foster (keyboards), David Hungate (bass) and Jim Keltner (drums). The track opens with Foster's Fender Rhodes. He recalls the session as fairly groundbreaking:

"I played the Fender Rhodes on the basic track," Foster says. "Then I came up with the idea of duplicating exactly the same part on the acoustic piano, something I—or to my knowledge, no one—had ever done before. It became an interesting sound that years later became a stock 'push of a button' sound on many synthesizers, which some even called 'Fosterized.'"

"Also, I remember that while waiting to overdub the acoustic piano, no music was playing in my headphones and the tape op [second engineer] suddenly realized that he still had every track in Record and he ended up erasing about the first 20 seconds of the master," Foster continues. "They had to go to an earlier take, splice them together and then I did my overdub acoustic piano part."

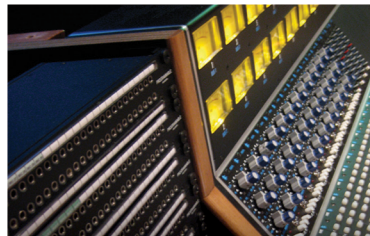
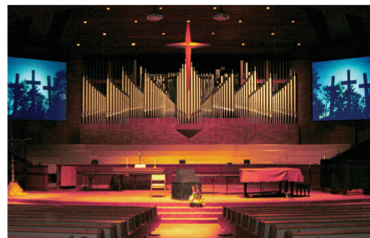
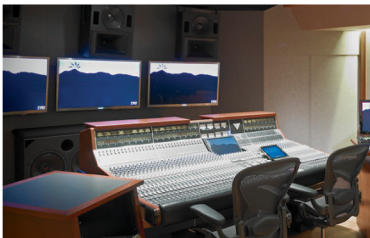
Steiner captured the track via the custom Quad Eight console he built and designed. "It was a marvelous sounding machine," he says. He says he originally had Stephens tape recorders, and when they became somewhat unreliable he changed to Studer 800's. However, he can't recall which he had during the cutting of this song.

Steiner does remember that the band recorded live with Parton, and while her vocal may have been intended as a scratch, at least parts were kept for the final. He says the "Here You Come Again" intervals were difficult to sing, but they were perfectly geared for her voice.

Keltner agrees; he recalls hearing a pretty great scratch vocal go down at that session and wonders if that may have been the one that ended up being the keeper.

There was "nothing to recording Parton's voice," Steiner says. "It was perfectly chiseled." He says he probably used a Neumann M49 microphone. "A real singer doesn't require all the B.S. we use today," Steiner says. "We didn't have Pro Tools to tune and all the gyrations we have today that we use to record."

"I very seldom even use limiting for voices," Steiner continues. "For



Media System Design & Integration for Studios,
Screening Rooms, Editorial Suites, and Broadcast Facilities.

[in](#) [f](#) www.bugid.com | (415) 331-3115

© 2013 BugID, Inc.

BugID

Pronounced [bug-eyed] — Established 1997

someone like Dolly or Barbra Streisand, someone who can sing, that's the singer who is doing the work, not the engineer."

Steiner says he also recorded the drums simply. "I probably had a couple of mics over the drums, one on the kick drum and one on the snare. It's up to the drummer, especially someone like Keltner who is totally balanced as a musician. His drums always sounded good. I never made my career out of miking things."

Steiner says the drums were critical to the sound of this the song. "Especially the kick drum," he says "It supplied the motion and the groove for that entire record, right from the get-go after the piano introduction," Steiner says. "That has a lot to do with Keltner."

Keltner says he recalls that Dean Parks wrote the charts that day and it was always a pleasure to play his charts. He says the drum mics were most

likely Sony C 800s, C-12s and Sennheiser 421s, or an AKG D12 and a Shure 57.

"There was magic between Dolly and Keltner," Steiner says. "She had such respect for him and she also liked him a lot. They had such a great rapport."

Keltner laughs when he recalls a story from those days. He says he always wore jeans with holes in them back then. "She would see the holes in them, and then one day she showed up with holes in her designer jeans with the holes encrusted with rhinestones around them. Just something you would think Dolly would do."

"She was a pretty amazing person," Keltner continues. "She wasn't a pop star yet, but she was a huge star and she loved to act like it, but she did it in a cute way. She was very down-to-earth."

Backing vocals were overdubbed by Parton, Nick DeCaro and possibly Gary Klein, Steiner says. A small string section was also overdubbed after the track was cut, arranged by Nick DeCaro, brother of Frank DeCaro, the guitarist. Steiner said there were probably just a couple of overhead mics.

"We didn't have large sections in those days," Steiner says. "It didn't need much, just a little color." Steiner says what he remembers most about the track was how easy it was to record.

"In my career, the best and most significant records were the ones that were made with the least amount of trouble and the least amount of aggravation," Steiner says. "You knew within the first three or four bars you had something special. That was especially true of the R&B stuff I did with Motown for years and years, when Holland-Dozier-Holland came in or Smokey Robinson or any of the great writers and groups. You knew in the first few bars it was a hit record. You could tell from the feel and the hook of the song that it was a hit record. Just the opening in the keyboard of 'Here You Come Again' is enough of an attraction to the ear to know this is something special."

Steiner laughs recalling when Parton came to 20th Century Fox 1984 where he has been working since 1980. She was there filming the movie Rhinestone with Sylvester Stallone and his crew was teasing him, saying, "You don't know Dolly Parton."

"I said, 'Ok, that's fine,'" he says. "She came out on-stage after she finished the date and gave me a big hug and everybody was standing there with their mouths open because they didn't believe me."

As Steiner looks back on the making of "Here You Come Again," he says the pop break-through song was a great accomplishment for Parton. The single, recorded in June, 1977 and released the following September, rose to Number 3 on the Billboard 100 chart, and it helped win Parton the Best Female Country Vocal award at the 1979 Grammy Awards.

"And I'm just glad I was somehow a small part of it," Steiner says. "It was just one of those things that makes you think, 'Those were the best days of the record business. I was very privileged to be in the right place at the right time.'" ■

InfoComm Booth 6355

SETTING STANDARDS



UHD 4K8K

opticalCON® MTP® 24

SMPTE standard ST2091

Neutrik's brand new **opticalCON® MTP® 24 ADVANCED** and **opticalCON® MTP® 24 LITE** are the ideal solutions for multi-fiber point-to-point applications. The unique rugged and long-lasting housing is perfectly suitable in demanding environments.

www.neutrik.com

NEUTRIK®



JBL 7-Series 705P 5" Powered Master Reference Monitor
JB705P | \$999.00



Arturia MatrixBrute Analog Monophonic Synthesizer
ARMBAMS | \$1,999.00



Elektron Analog Drive Multi-Circuit Distortion Pedal
ELPFX1 | \$359.00



Universal Audio Apollo Twin MKII DUO Desktop Interface
UNAPT2DP | \$899.00



Positive Grid Amp Matching Guitar/Bass Amplifier
POPGBIASHEAD | \$1,299.00



Softube Console 1 MKII Hardware and Software Mixer
SOCNSOLE1MK2 | \$499.00



Auray Stylus Music/Microphone Stands
AUIA300/440/500 | Set - \$597.00



Pittsburgh Lifeforms SV-1 Blackbox Desktop Analog Modular Synthesizer - Eurorack
PIPMS1008 | \$699.00



Warm Audio WA-87 Multi-Pattern Condenser Microphone
WA87 | \$599.00

TIPS & TECHNIQUES

From the Pros

1 Bypass for Clarity

If your mix is starting to sound muddy, bypass all plug-ins on the stereo buss, or on auxiliary tracks receiving multiple instruments. You might discover you've overcooked these busses.

2 Bring Down the Reference

When comparing your mix to a professional mastered reference, bring down its level so that it reads as loud as your mix in the meters. You'll have a more accurate point of comparison.

3 Sidechain for Groove

With a compressor, try sidechaining your hi-hat to your snare, or the bass part to a kick drum. This can add bounce or groove to a track lacking either.

Shop B&H, where you will find all the latest gear at your fingertips and on display in our SuperStore.



www.BandH.com

Where you will find information on over 400,000 items



Visit Our SuperStore

420 Ninth Avenue, NYC
800-947-5508



Free
Expedited
Shipping

on orders over \$49*

Cash in or Trade up
Used Equipment
We Buy, Sell, and Trade



*Applies to In-Stock Items. Some restrictions may apply. See website for details.
NYC DCA Electronics Store Lic. #0906712; NYC DCA Electronics & Home Appliance
Service Dealer Lic. #0907905; NYC DCA Secondhand Dealer - General Lic. #0907906
© 2017 B & H Photo & Electronics Corp.

MASTODON'S 'EMPEROR OF SAND'

ROCKERS MINE SATURATED, PSYCHEDELIC SOUNDS IN THE STUDIO // BY KEN MICALLEF



From left, Mastodon members Troy Sanders, Brent Hinds, Brann Dailor and Bill Kelliher

Over the course of six albums, psychedelic metal-masters Mastodon have crafted a mighty oeuvre of mind-expanding rock that is practically unparalleled in modern times. The band's seventh, and latest, release, *Emperor of Sand* (Warner Bros.), is arguably the quartet's most high-rez and visionary recording to date: a magical melding of grandiose melody, soul-stunning instrumental journeys, doom-laden vocals rendering drummer Brann Dailor's surreal lyrics, and some of the greatest guitar production this side of *Electric Ladyland*.

"Any opportunity to introduce more psychedelia into the music is fun for us," Dailor says by phone from his Atlanta home. "If we can meld the worlds of super catchy songs that have meaning with our technical prowess as musicians, that's great. We walk the fine line of overindulgence and accessibility."

Dedicated "In loving memory of Catherine W.," *Emperor of Sand* was recorded while three of the four bandmembers' mothers endured che-

motherapy for cancer. That the related fears of dealing with disease made Mastodon's music more visceral, more immediate, and ultimately satisfying is strictly conjecture. But there's no denying the wrap-around-your-brain vision of *Emperor of Sand*.

Produced by frequent Mastodon collaborator and multi-instrumentalist Brendan O'Brien, primary tracking for *Emperor of Sand* occurred at the recently closed Quarry Studios in Kennesaw, Ga., with Tom Tapley engineering. Studio owners beware: Mastodon may bring you down.

"We're pretty good at closing down studios," jokes Dailor. "Our last record comprised the final sessions at Southern Tracks (Atlanta, Ga.). We were the last band to record at Sound City in Los Angeles, and with this album we were the last band at The Quarry. It's a symptom of the new society, obviously: these classic big studios becoming dinosaurs."

"There's something to be said for the musical ghosts that hang around those infamous studios. It's not the

same when it's Pro Tools in someone's bedroom."

Before starting sessions at The Quarry, guitarist Bill Kelliher created the *Sand* demos in his home studio with Dailor playing live drums. Kelliher laid down bass scratch tracks for bassist/vocalist Troy Sanders to re-create later. Then, Dailor, Kelliher, Sanders and lead guitarist/vocalist Brent Hinds hit The Quarry along with O'Brien and Tapley, and the party began.

"[Mastodon] never enters the studio with any preconceived notions," Dailor says. "We play whatever magically appears. We knew if we got into the room with Brendan O'Brien the production would come with all the bells and whistles. That's when we got all prog nerdy and brought out the Mellotrons and sound effects. We wanted the record to be super-saturated and super-wet and super-drenched in delay. We wanted the music to sound like you're on drugs without actually being on drugs."

Engineer Tom Tapley also worked on Mastodon's *Crack the Skye* al-



bum and is a frequent working partner for the band. Speaking from his Projector Room studios (Decatur, Ga.), which he shares with Sugarland's Kristian Bush, Tapley marveled at Mastodon's recording zeal during *Emperor of Sand*.

"Recording Mastodon, you make sure it sounds awesome and it's heavy and you stay out of the way," he notes. "They're on fire."

Tapley was familiar with The Quarry Studios' API 2488 24-channel recording console (four vintage 560B graphic EQs, two 550B parametric EQs, two 553 3-band fixed EQs, two JDK 4-band parametric EQs). The desk has seen heavy action in Atlanta-area studios. The Quarry Studios offered the API as well as a Toft ATB 32-channel mixing console for real-time mixing.

"The API's EQs, routing and preamps were smoking!" Tapley exclaims. "The computer is my friend, but for mixing I use a real analog desk, thus the Toft. That API had lived in so many different spaces over the years in Atlanta, the monitoring section was unreliable. It survived a fire—a crazy history. We needed an analog monitoring section, and the Toft was a very good choice."

"The more analog gear we can run signal through the better," Tapley continues. "I have an API 1608 and I love it. And I have zero problems recording into a computer (The Quarry Studios' Mac G5 8-core with 8GB RAM; Pro Tools HD2 with UAD solo card; 32 in/16 out). But I like the sound that comes back from running signal through analog gear at all times."

The band gathered in The Quarry Studios' warehouse-sized live room to track, with amplifiers isolated and cabinets in their own containers. Hinds, Kelliher and Dailor tracked first, while Sanders added parts later.

"You could send each of these guys a click track and they could make a record that way," Tapley laughs.

Of course, it also helped to have the blueprint that O'Brien created for the studio sessions, based on the band demos. "Brendan is a master arranger," Tapley notes. "The guys had these cool templates for

songs. We sent them to Brendan, and began tracking. We'd pull up a demo and Brendan would rearrange the song. The structures were there; then Brendan focused on specific parts. He'd changed the arrangements in the studio and the band performed everything live.

"The awesome thing with Brendan is if you get an awesome live guitar and drum track it will stay in the track," Tapley adds. "There's a sense of urgency about this record; sometimes that's the sound of a tracking guitar that Brendan liked. If they killed it, we used it. We flew in some effects from the demos but Brendan did all the crazy sound effects and keyboard bass."

Mastodon recorded a slew of hardware effects, including TC Electronic effect pedals; Fractal Axe FX Systems; and Chase Bliss, Wren & Cuff, MXR, and Way Huge pedals. But as with many renowned musicians, the sound is in their fingers—not their gear.

"So much comes from how they play their instruments—that is the sound," Tapley says. "I did talk Bill into playing a fuzz guitar during the breakdown in 'Steambreather.' If an effect sounded cool in-line, we would commit. If we were doing Leslie guitars and the guitar pedal sounded great inline that is how we tracked it. Basically, if it was a sound that was inspiring we went with it."

Tapley brought outboard gear including his custom Leslie cabinet, which allows him to insert any guitar amplifier head inline. Tapley's ADR Audio Design Vocal Stressor includes "an awesome compressor and EQ that I use on drums," the engineer explains. An Empirical Labs Fatso touched on Coles 4038 room mics for drums. An SPL Transient Designer 4 hit the drums on the monitor path; EL Distressors sat on the guitar buses.

"If I have three microphones on a guitar cabinet," Tapley explains, "they all get summed through bussing on the console so I can compress and EQ them overall using the API EQs, an EL Distressor, and a Teletronix LA-2A Leveling Amplifier."

Tapley captured the band's guitar rigs—Kelliher's ESP Ltd. Sparrowhawk, custom and Silverbust Les Paul guitars, Friedman Butterslax Signature Series amplifiers, and Fractal Axe FX; and Hinds' Gibson Les Pauls and Flying V guitars, Marshall amplifiers, and Electro-Harmonix Holy Grail reverb pedal—with a straightforward approach.

"Brent can play and make it sound like he's playing backwards," Tapley notes. "I used three microphones per cabinet," Tapley says. "A Shure SM57, Sennheiser MD421 and a Coles 4038 ribbon, the last of which I EQ'd up real weird so we could experiment with different guitar sounds. The 57 went over the dustcap; the 421 off-axis; the ribbon straight on the dustcap."

Troy Sanders played a Signature Fender Jaguar Bass, Warwick Custom Basses, and Zon Basses, through Ampeg, Mesa Boogie Bass Amps, and Orange Bass Amps and Cabinets, to which Tapley ran AKG D12 and



Sennheiser MD421 microphones, with DI.

Tapley captured each vocalist via a Neumann U67 or Shure SM7 microphone. “I go to a Neve preamp, a Tube-Tech compressor to a Tube-Tech EQ, then a dbx 160 VU compressor/limiter. Brendan is very hands-on with vocals, so sometimes we would open up an API mic pre-amp really hard so we could grit-it-up a little bit.”

Throughout the *Emperor of Sand* sessions, O’Brien eschewed plug-ins entirely in favor of plate reverbs and hardware delays. On Brann Dailor’s drums, he used the API’s coveted 560B Graphic EQs and a rack of eight Neves.

“Drum-wise,” Brann Dailor, “I cited the first couple Heart albums, the songs ‘Barracuda’ and ‘Magic Man’ mainly, for my go-to sound this time. That drum sound is pristine. That drummer [Michael Derosier] is rarely talked about; what a tasty player. That was your basic rock drummer at the time, so good. These days you’re hard pressed to hear anybody getting adventurous behind the kit on a regular rock record.”

“Thick, heavy cymbals and lower tuned drums” were the order of the day, Tapley says. “We achieved it at the source via drum tunings. Same for guitars—adjust the amp settings before touching an EQ.”

Tapley positioned an Audix microphone near the snare drum head. “The Audix is basically a Shure SM57 but it doesn’t have that 4k peak that drills your ears.” An SM57 covered the bottom snare drum head. Sennheiser MD421s picked up toms; overheads were a Neumann U67 pair.

Tapley says that Coles 4038s were placed “closer to the kit, but up high, with a Fatso compressor,” to capture the room sound. “Sometimes

I’d place the Coles down low near the bottom of the kit to get the room sound of the kick drum. After the first couple of takes I moved them up high.” An MD421 was located inside the bass drum while an old AKG D30 was used outside the shell. “They get bussed down to one track and I use the ADR EQ there,” Tapley notes.

Following the tracking sessions at The Quarry, overdubs took place at Henson Recording Studios, Hollywood, with engineer Tom Syrowski. The record was mixed by O’Brien and Syrowski at Henson as well, and finally mastered by Billy Joe Bowers at Casa de Amor, Atlanta.

Seven albums on, a band of mystery and muscle exorcising demons through musical bloodletting, Mastodon fearlessly continue on their soaring arc.

“It’s always positive working with Mastodon because they always get better at what they do,” Tapley says. “And I like that the music was heavier this time. They brought elements of psychedelia and prog rock into this record and really let it rip.”

“I’m so close to all of our albums, but I’m in love with this record now,” Dailor says. “It’s a beautiful piece of work that we can add to the 90-something songs we’ve written together as a band. I feel like we still have it after eight albums. The same four guys for 17 years. No matter how we get it done, we seem to be able to always get it done. Time will tell where *Emperor of Sand* fits in with our catalog, and it’s up to the judge and jury of the people of the world whether it’s garbage or whether they love it as much as we do.” ■

Achieve Perfect Clarity



One thing is perfectly clear—Eckel’s studio rooms offer the ideal environment for voice recording and other recording studio applications. Since 1952, Eckel has been a leader in designing and building controlled acoustic environments.

 **USA** www.eckelusa.com | email: sales@eckelusa.com | tel: 617.491.3221
 **CANADA** www.eckel.ca | email: eckel@eckel.ca | tel: 613.543.2967

ECKEL
NOISE CONTROL TECHNOLOGIES

Sam Ash®

WE ARE TECHNOLOGY



PRESONUS STUDIO LIVE 32 DIGITAL MIXER



KORG KRONOS 288LS LIGHT TOUCH KEYBOARD



UNIVERSAL AUDIO APOLLO TWIN MKII
QUAD THUNDERBOLT AUDIO INTERFACE



NATIVE INSTRUMENTS MASCHINE JAM



YAMAHA MX88 88-KEY SYNTHESIZER



YAMAHA HS8
TWO-WAY
8" ACTIVE
STUDIO
MONITOR



ARTURIA DRUMBRUTE ANALOG DRUM MACHINE



FOCUSRITE CLARETT 8PREX
THUNDERBOLT AUDIO INTERFACE



KORG 25-KEY
MONOLOGUE
ANALOG
SYNTHESIZER



MOTU ULTRALITE-MK4 18X22 USB AUDIO INTERFACE



AKAI
MPC LIVE



ROLAND
RD-2000
STAGE PIANO

BEST
SELECTION
ONLINE

LOWEST
PRICE
GUARANTEE

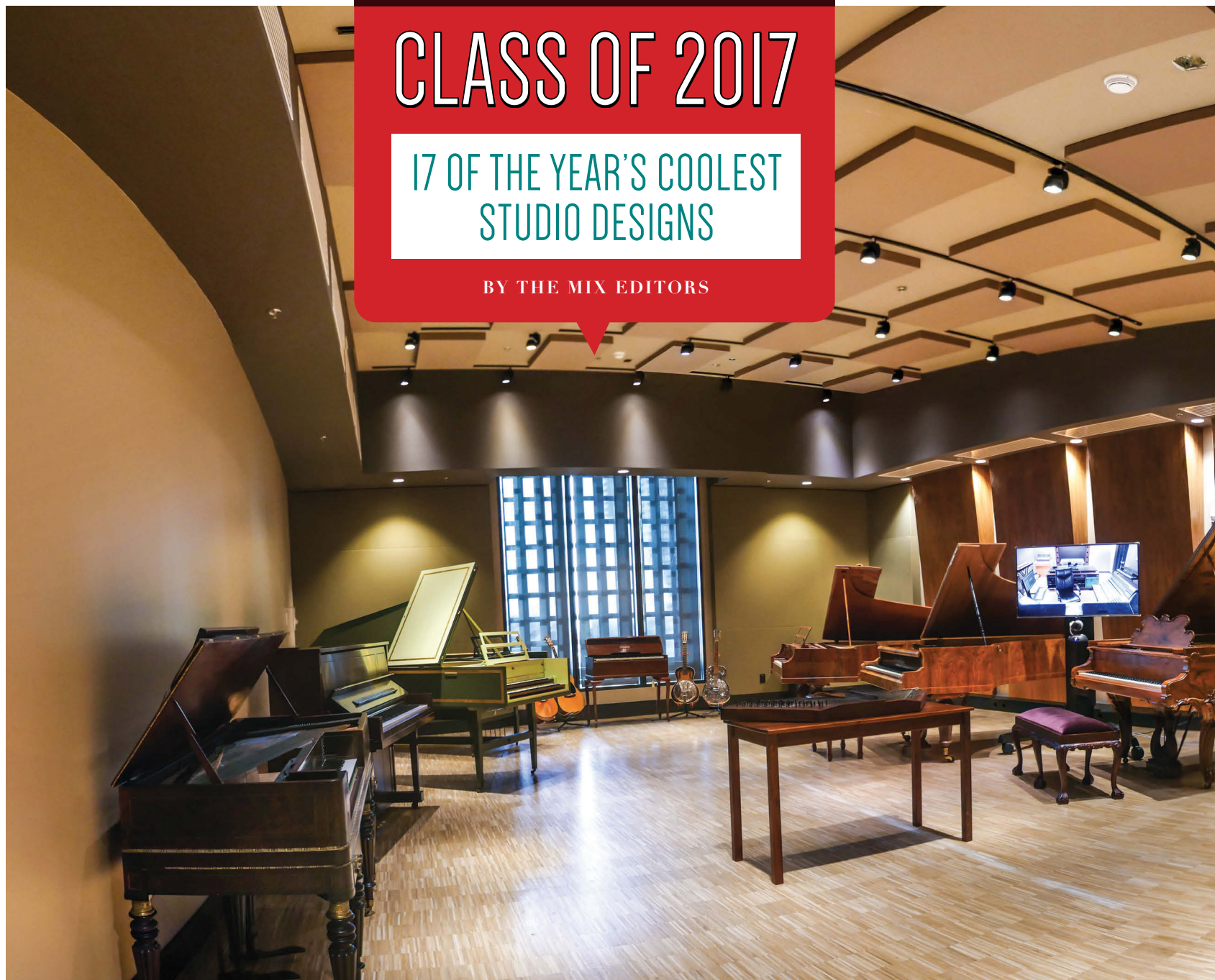
SPECIAL
FINANCING
AVAILABLE

VISIT SAMASH.COM
OR CALL 1-800-472-6274
SPEAK TO AN EXPERT TODAY

CLASS OF 2017

17 OF THE YEAR'S COOLEST STUDIO DESIGNS

BY THE MIX EDITORS



Photos: Brandon Wallis



Studio Bell – National Music Centre, Calgary, Alberta

The National Music Centre, known as Studio Bell, comprises a large museum housing an extensive collection of musical instruments, a performance center, workshop, exhibits and recording facilities designed by Pilchner Schoustal International of Toronto. “The studio and museum were built at the same time from ground up, always with the intention of creating and celebrating music,” says PSI’s Martin Pilchner. “The studio’s stated mission is to be a national catalyst for discovery, innovation and renewal through music.”

Artists may apply to use the studio and instruments through NMC’s Artists in Residence program. If they are selected, they have access to keyboards, synths and other instruments

from the museum’s collection, as well as all of the audio gear amassed by the NMC.

The studio design incorporates two control rooms: one housing the original Olympic Studios (London, UK) recording console, and the other fitted with an original Trident A Range. This facility also incorporates a large main tracking room, a black box event space known as King Eddy, plus the fully restored Rolling Stones Mobile studio, an Electronic Lab offering an extensive synth collection, and an Acoustic Lab with vintage pianos and keyboards. All of the spaces are tied together to be shared within the space.

“As the Rolling Stones Mobile is an artifact in itself, the key was to design the technical integration to the building infra-



Control Room

structure in a completely non-invasive manner,” says Pilchner.

“We worked very closely with Jesse Moffat, John Leimseider and Jason Tawkin [from the NMC] to develop flexible recording spaces that were capable of working in a number of configurations, depending upon session requirements and collection items in use,” Pilchner continues.

“We developed the idea of creating, firstly, a permanent home for both the Trident and Olympic consoles, and secondly, a number of record spaces each with its own acoustic signature.”

Los Olivos Recording Studios, San Fernando Valley, Calif.

Beto Hale's Los Olivos Recording Studios is a new ground-up, 2,000-square-foot studio designed by Kaufman & Associates of Los Angeles. The live room features a 20-foot ceiling and two adjacent iso rooms. The control room is equipped with a Pro Tools HDX system and Avid S6, as well as a 5.1 monitoring system using three PMC IB1S-AIII reference monitors across the front, a wide array of mic pre's and vintage mics, guitars, amps and drums, and a Steinway Model A piano. Kaufman designed the entire facility to exceed NC15 noise specs, and he says that the live room, with a 725ms RT60, produces a warm yet detailed sound field.



Photo courtesy Imar Trading

7
SERIES

INTRODUCING
**MASTER
REFERENCE
MONITORS**

((POWERED))



708P

705P



DIVE IN

JBL charted new sonic territory with the flagship M2 Master Reference studio monitors, featuring JBL Image Control Waveguides and next-generation driver technologies. Now modern music, post and broadcast facilities can benefit from this same technology—and become fully immersed in the mix—with the new JBL 7 Series Powered Master Reference Monitors. Riding the crest of JBL's advanced acoustic engineering, you'll experience dramatic dynamic range, detailed imaging, and an expansive soundstage. Low-frequency performance into the 30 Hz range enables you to explore new depths, while JBL's annular-diaphragm compression driver delivers refined high frequency response beyond 36 kHz with very low distortion. Integrated equalization allows fine tuning for room acoustics and behind-the-screen applications. Delivering two to three times the output of other studio monitors, 7 Series empowers you to get the best results, while enjoying the creative process.

Hear the truth.



EVERYTHING YOU NEED TO DO MORE — WITH LESS

Soundcraft®
by HARMAN



From the stage to the studio, Soundcraft Ui24R is the ultimate system for anyone who needs to save space and deliver superior sound.

- Control Ui24R from iOS, Android, Windows, Mac OS and Linux browsers without installing apps.
- Onboard dual-band WiFi ensures you (and up to 9 members of the band) always have creative control.
- Dial in your sound with the warmth of Studer-designed preamps, lush Lexicon reverbs, dbx feedback suppression, cutting-edge DigiTech amp modeling, and more.
- Enjoy peace of mind with dual-path, multi-track recording of all 22 inputs and your stereo mix, directly to a USB storage drive AND a connected computer.
- Experience enhanced integration with the HARMAN Connected PA app and compatible products like JBL PRX800W loudspeakers, dbx DI1 direct box and AKG P5i microphones.

24-CHANNEL
Digital Mixer
Multi-Track USB Recorder
With Wireless Control



Ui24R

lexicon
by HARMAN

DigiTech
by HARMAN

dbx
by HARMAN

STUDER
by HARMAN

Oktaven Audio, Mt. Vernon, N.Y. ➔

Opened this past summer, Oktaven Audio's new studios were designed by Francis Manzella of FM Design, New York City, to serve classical and jazz recording artists. A 1,200-square-foot live room offering two 9-foot Steinway D concert grands is augmented by a smaller acoustic isolation booth and a comfortable control room. The studios were built with a modest budget inside a converted warehouse/manufacturing building. Control Room A features a Studer 903 analog mixing console that was formerly used as the Metropolitan Opera's main broadcast board.



Photo: Will Ellis



Photo: Eric Meyer

➔ 416 Wabash, Indianapolis, Ind.

416 Wabash is a hybrid recording studio/event space in downtown Indianapolis. Designed by Gavin Haverstick of local firm Haverstick Designs, the studio control room features custom wood-slat wall treatments, and rear-wall diffusers provided by Overtone Acoustics. An iso booth is treated with various stone surfaces and absorption/bass trapping via stretch-fabric systems and clouds. The 7,500-square-foot event space accommodates live music and other events, but also ties into the studio to allow recording from the stage. Audio gear includes an SSL XL console, Focal Twin6 B3 monitors and Pro Tools HD2 Accel.

Levels Audio, Hollywood, Calif. ➔

Two new rooms went online at this busy sound-for-picture complex this past December, bringing the total to nine suites, all designed by Peter Grueneisen's nonzero\architecture – studio bau:ton. In both of the new rooms, vertical-grain Douglas fir paneling and acoustical diffusers complement fabric walls and a polished concrete floor. The new Mix Room 9, Brian Riordan's flagship studio, includes a Dolby Atmos system; Alcons monitors are soffited in a speaker baffle situated behind the perforated screen. There is also an Avid S6 m40 console, Pro Tools HDX3 system, and BSS Blu806/180 room EQ control with Blu10 controller. Mix Room 8 offers a Pro Tools HDX2 system, ADAM 5.1 monitoring system, and an Avid D-Command console.

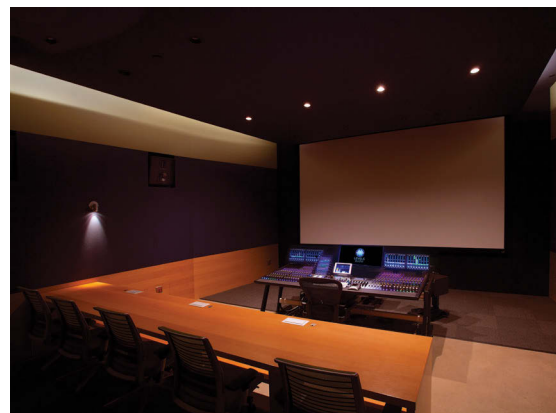


Photo: Gary Krueger

1st name bassists...

... are on a first name basis with Radial!



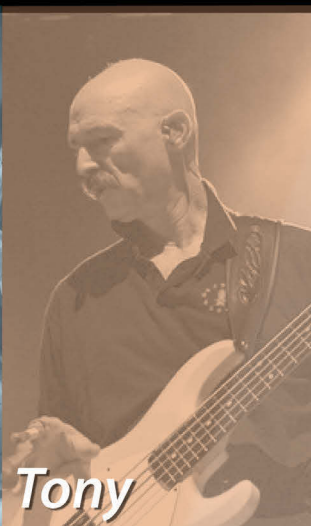
Bootsy

"The Firefly is the real funk!"
~ Bootsy Collins



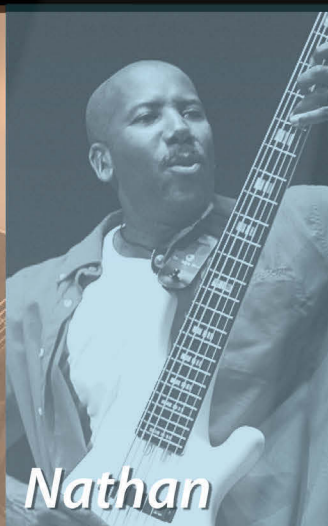
Marcus

"I never play without it!" (JDV)
~ Marcus Miller



Tony

"I use my JDI for everything!"
~ Tony Levin



Nathan

"The most valuable DI I have ever used!" (Firefly)
~ Nathan East



Billy

"I love it and use it every day!" (JDV)
~ Billy Sheehan



Chuck

"My Bassbone gives me the sound I want!"
~ Chuck Rainey



John

"The Bassbone sounds consistently great!"
~ John Patitucci



Mark

"The Bassbone is fantastic!"
~ Mark King



Rex

"The Bassbone OD kicks ass!"
~ Rex Brown



Victor

"The Bassbone OD is my choice"
~ Victor Wooten

Try a JDI™, JDV™, Firefly™ or Tonebone® Bassbone™ and find out what these premier bassists are all raving about!

radialeng.com

Copyright©2017 Radial Engineering Ltd. all rights reserved.
Specifications and appearance subject to change without notice.



Radial
engineering

...PowerTools for power players™

1588 Kebet Way, Port Coquitlam BC V3C 5M5
tel: 604-942-1001 email: info@radialeng.com

Afterhours Studio, Los Angeles



Grammy-winning producer/engineer Rafa Sardina has been working primarily in his Afterhours Studio since 2003. The facility was recently redesigned by Delta H Design of Los Angeles, and went back online in March. Afterhours now features Delta H's patent-pending ZR Acoustics devices (ZR SR8 and ZR8+, ZR SR24 and ZR 24+). Fortunately, Sardina had ordered extra acoustical cloth when the original studio was built, so he was able to cover all of the new ZR gear with the same material for a seamless look. Sardina's equipment includes two consoles: an SSL Duality D48 SE and a vintage EMI Abbey Road Studios TG-12410. He also uses a Pro Tools HDX3 system; Augspurger Duo 8, Quedstedt H108, and JBL LSR28 series monitors; and an extensive array of vintage and modern outboard gear.



Photo: Shawn Frederick/GA-Prod.com

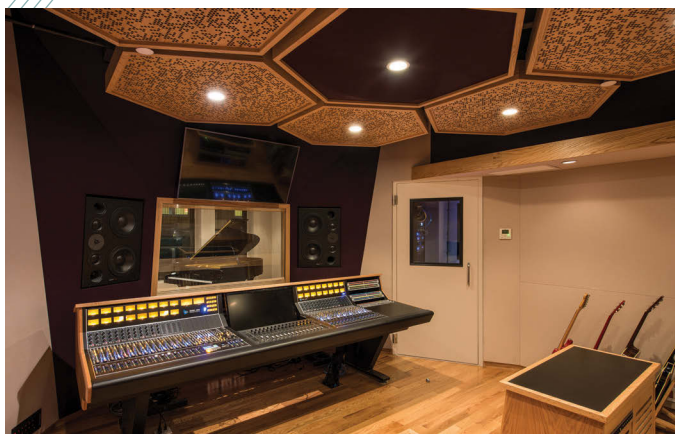


Photo: Wes Lachot



Pulse Music, New York City

This six-studio facility, designed by Wes Lachot Design Group out of Chapel Hill, N.C., houses a main music studio, two film composing suites, and three post-production rooms. Studio A features a reflection-free zone control room with extensive diffusion and bass-trapping, and adjustable acoustic panels in the tracking room. Custom ceiling clouds were built by Brett Acoustics, which also provided acoustical installation, and technical wiring was done by Canova Audio. Major equipment includes a 32-channel API 1608 console with automation, Dynaudio M3A active bi-amped main monitors with Bryston 4BSST amps, ATC SCM 25A mid-fields, Pro Tools, and outboard gear from Neve, Avalon, Wunder, Chandler, UA, Lexicon and more.

Top Hat Recording Studio, Knoxville, Tenn.



John Harvey and Mary Podio's Top Hat studios was originally located in their home in Austin, Texas. Steven Durr Designs, Nashville, helped the owners rebuild in their new home in Knoxville, Tenn. The new facility, Durr says, is "a secluded, fun professional studio boasting a warm comfortable place to create music and relax with two of the nicest, most talented people in the business." Durr spec'd custom SDD monitors to complement the 28x17-foot, 10-inch control room. Other featured gear includes Trident 80B and Neve Melbourne consoles, as well as RADAR, Pro Tools HD, and a Studer A827 2-inch 24-track machine.

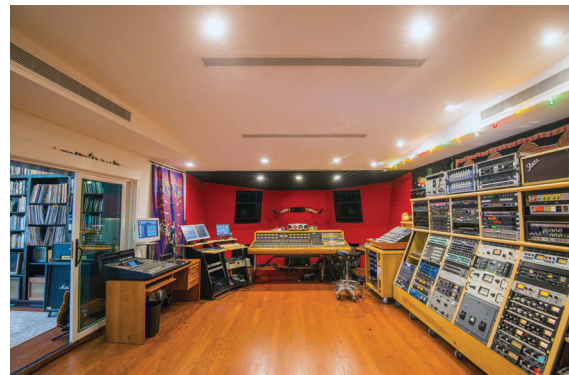


Photo: KnoxBill Photography

55TEC Recording Studios, Beijing, China



Studio owner and Golden Melody Award-winning recording engineer Li You joined with Wu Yongheng, (aka Bei Bei)—one of China's top drummers and producers—and with pro audio executive Lizzy Zhou, to create a 5,000-square-foot studio complex to serve China's expanding pop and rock music business. Designed by the Walters-Storyk Design Group, the facility includes the 930-square-foot control room, Studio A, which is equipped with an API 1608 32-channel console; Quested Q412D, QSB118 and Barefoot MM35 speakers; Burl B80 Mothership, Pro Tools HDX and a range of outboard gear. Geared for mastering and post-production, Studio B offers a 230-square-foot control room and adjacent iso room, and equipment including Apogee Symphony 64 interface, Grace Design M905 controller, and Meyer Sound HD-1 and B&W Nautilus 801 speakers.



Photo: Mills Xu



Photo: Taylor Sperring



Penthouse Recording Studios, New York City

This futuro spaceship-style control room was designed by Dave Malekpour of Professional Audio Design, Boston, Mass. With a wraparound “flight deck” overlooking Times Square, Penthouse Recording caters to music clients from rappers to ensembles. The control room is built around an Augspurger Duo15 monitor system with Sub218s on each side. Acoustical treatments include a custom-designed motion-vein labyrinth bass-trapping system, broadband diffusion across the rear wall, and a cloud system with both absorption and refraction. Targeted low- and mid-frequency absorption were designed to provide a smooth frequency response down to 20 Hz. Penthouse offers Pro Tools HD12, Apogee Symphony converters and an Avid S3 control surface.

The Show, Nashville, Tenn.



Carl Tatz, Nashville, originally designed the TEC Award-nominated MontAnna Mix Room, which has now been refurbished and re-opened as The Show. The new studio is equipped with a Carl Tatz Signature Series Cloud System by Auralex and was designed using Tatz's PhantomFocus MixRoom concept, featuring PFS 4002-HD High-Definition PhantomFocus Silver Monitors, and a Carl Tatz Edition Argosy dual 15-800 workstation. Additional audio equipment includes the Universal Audio Apollo 8, PreSonus Central Station, Roland FA-08, Native Instruments Komplete Kontrol, Pro Tools 12, Ableton Live 9, Native Instruments Komplete Ultimate 11 and more.

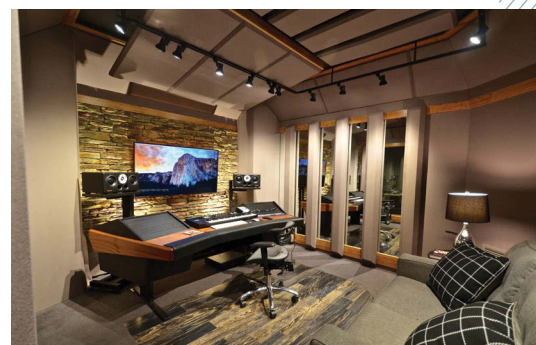


Photo: Lou Johnson

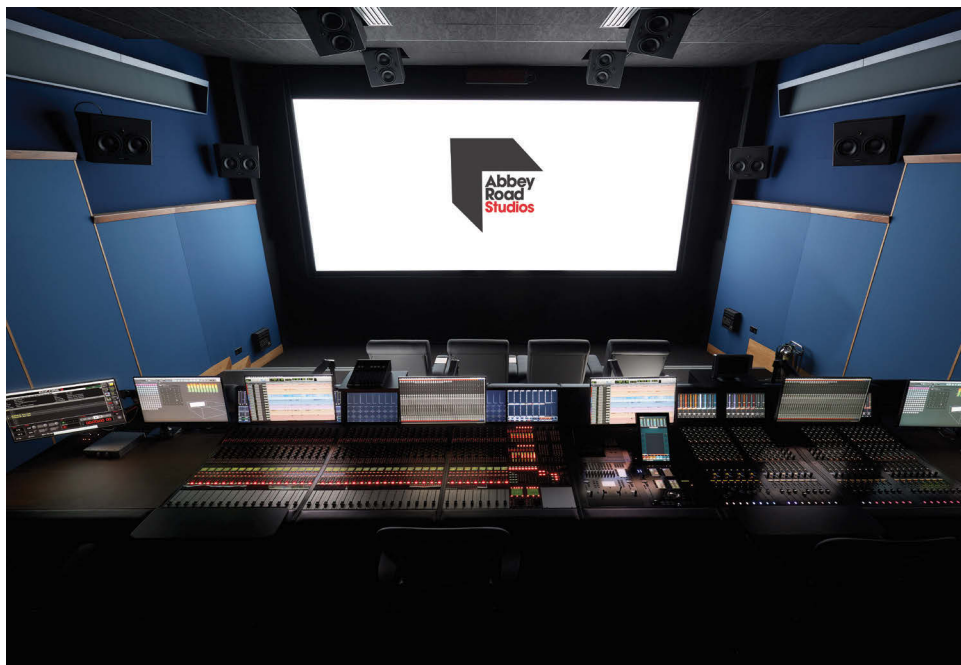
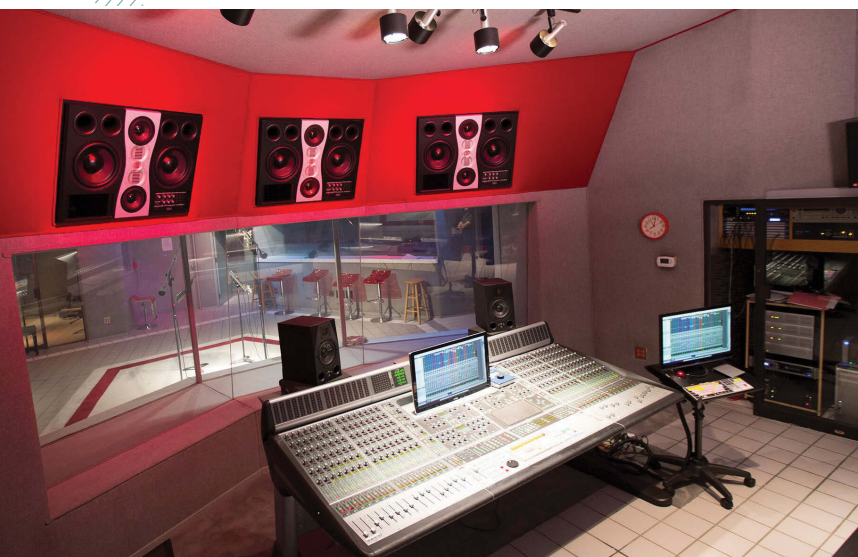


Photo: Jan Klos

← The Mix Stage, Abbey Road Studios, London

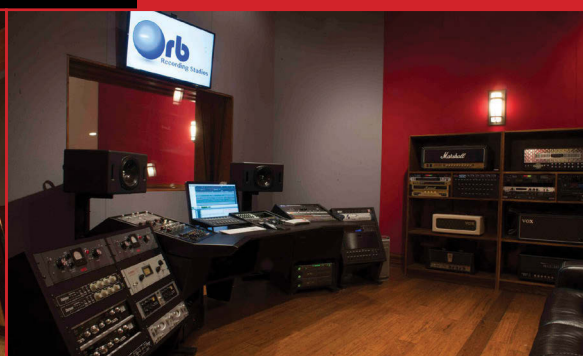
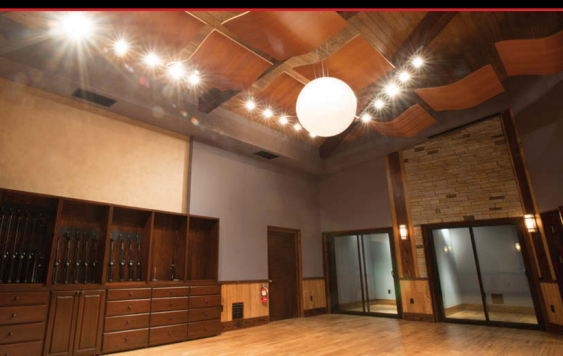
Iconic Abbey Road Studios has increased its offerings to film clients with a new Mix Stage that was designed and built by Munro Acoustics. The new room is Dolby Premier Atmos-certified, and includes green rooms and editing facilities. The studio's Munro-designed Dynaudio M3FX speaker system is Atmos- and IMAX-compatible with a secondary B&W 7.1 system that is matched to the other control rooms within Abbey Road. Additional audio equipment includes a hybrid console frame that houses in-

terchangeable buckets of Neve DFC 3D and Avid S6 channels, multiple Pro Tools systems, and BSS BLU Monitor processing via a custom control interface.



acoustic spaces
acoustic design and consulting

www.acousticspaces.com



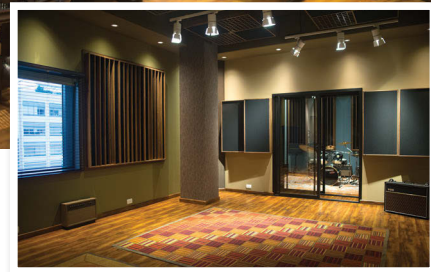
Gaira Musica Local Studios, Bogota, Colombia



Gaira Musica Local Studios was designed by Horacio Malvicino's Malvicino Design Group, New York City, for Grammy-winning artist Carlos Vives. The multifunctional facility includes a 700-seat performance space, performance stage and restaurant with tielines to the studio control room. Windows in all areas of the complex offer views to the mountains and lots of natural light. The Malvicino Design Group provided system integration (supervised by Inaki Prades Cardenas), as well as design services, while architecture was by Javier Martinez. Westlake Pro provided equipment, including a custom Neve 5088, Ocean Way Audio HR 3.5 studio monitors and Pro Tools HDX3.



Photos: Carlos Felipe Montoya



PILCHNER SCHOUSTAL
INTERNATIONAL INC.

WHEN IDEAS
MATTER

innovative studio design

www.pilchner-schoustal.com
IG: @pilchnerschoustal
416.868.0809



Sound Lens Studio - Toronto





Photo: Tim Gaudreau

EQs built into a 500 rack. The Pro Tools HDX system has Avid and Lynx Aurora conversion, as well as plug-ins from Waves, Melodyne, Antares, Fab Filter and others.

← Q Division, Somerville, Mass.

Q Division moved its “B” room to a new location within the existing studio building. Designed by Lou Clark of Sonic-Space, Portsmouth, N.H., the new control room has 12-foot ceilings and front wall traps around the speakers. A generous amount of insulation helps control the low-frequency response of the space, and rear-wall reflector panels are aimed so that energy from the speakers reflects off of the panels toward side wall-installed diffusers. The live room features large poly-cylindrical diffusers on the walls and ceiling. The control room is equipped with a 40-plus input SSL XL analog desk with SSL and API mic pre’s/

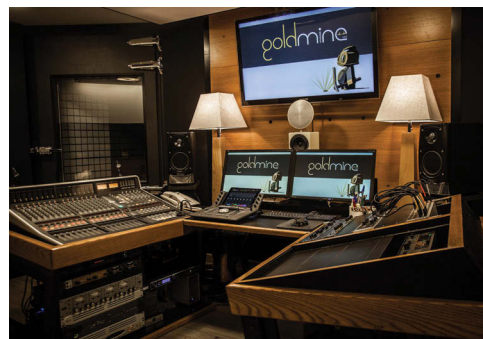


Photo: Christina Malkoun

WES LACHOT DESIGN GROUP

TRUST YOUR ROOM

Deep River Sound Studios
Sanford, NC

wes@weslachot.com • (919) 942-9434 • www.weslachot.com

↑ Goldmine Studios, Beirut, Lebanon

Goldmine Studios occupies 700 square feet in two levels, comprising a control room and booth, as well as a lounge/writing space. The design focused quite a bit on sound isolation. The designer, Jeff Hedback of HDAcoustics, Highland, Utah, employed BEM Modeling to optimize the shape of the control room. Multiple custom-tuned acoustical devices were used throughout the facility, while Vicoustic panels were installed in the recording booth. Construction administration and interior fabrication were managed by studio owner Ryan Sfeir. The control room is built around an SSL Matrix console. The studio also features PMC AML 2 and Avantone Mixcube monitors, Pro Tools HD, and Sfeir’s collection of boutique preamps and microphones.

High Fidelity Mastering, Albuquerque, New Mexico →

This dual-use room designed by the Russ Berger Design Group, Dallas, is an audio mastering/restoration facility and a 9.1.4 Dolby Atmos screening theater. Created as an addition to owner Andy Rogulich's existing residence, the studio has its own entrance so that clients can use the facility at any time. The studio features custom acoustical treatments and an impressive array of analog and digital mastering equipment from manufacturers, including Legendary Audio, TC Electronic, Manley and Weiss. Primary monitoring includes B&W Series 800 mains and CCM 8.5 surrounds, along with McIntosh amplifiers and processing.



Photo: Vicki Kerr

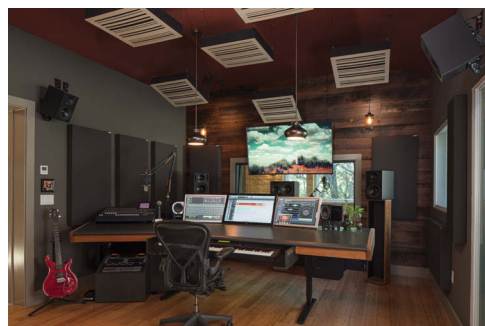


Photo: Paul Bardagiy



Carl Thiel Music, Austin, Texas

Mark Genfan of Acoustic Spaces, Austin, Texas, designed this new studio for composer Carl Thiel, whose scoring work includes films such as *Sin City 2*, *Spy Kids 4*, and *Machete Kills*, and TV series including *Last Man Standing* and *From Dusk Till Dawn*. Connected to Thiel's home in the Texas Hill Country, the studio includes a control room featuring a reclaimed longleaf pine front wall, GIK acoustical treatments and a customized Genelec 7.1 surround system. The tracking room has a native limestone wall, with an adjoining iso booth.

Acoustic Consulting | Facility Design | System Integration



Little River Sounds | Fremont, NH



Pause it Music Productions | Dedham, MA



Hearstudios | Camden, ME



Sonic-Space

Designing spaces that inspire the creative spirit

www.sonic-space.com

lou@sonic-space.com

(603) 433-7174

PROBLEM-SOLVING THE ROOM

New, Notable and Unique Acoustic Treatments

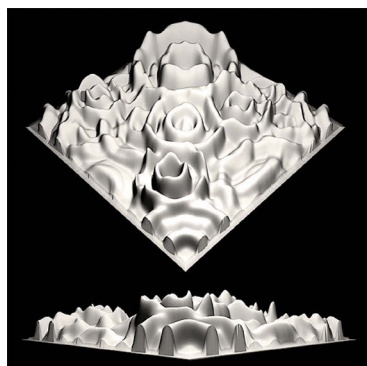
BY STROTHER BULLINS

Despite careful design, skilled craftsmanship and thoughtful selection of materials, the acoustic characteristics of nearly any audio production environment will present at least a few irregularities, somewhere within the space. Meanwhile, many content creators set up shop in less-than-stellar spaces just to have a place to work; needless to say, these rooms often need acoustic honing, specifically to bring them closer to frequency-flat, at least in the monitoring environment.

In my work, I regularly speak with studio owners about their rooms. Most have recently completed an acoustic treatment-oriented project or associated refurbishment. One wise, award-winning engineer recently reminded me that even the finest world-class (read: multimillion-dollar) facilities sometimes have strange and distracting nodes in the control room, obfuscating bass build in its corners, and/or generally unique acoustic quirks that may get in the way of hearing the mix or capturing a performance. He said, “I know—I’ve worked in the best and worst of them. And they all have some issue, big or small.”

The select following products, organized by manufacturer, exist to address one or more of a long list of acoustic/frequency irregularities and/or isolation issues. Most are one of three treatment types: isolation, diffusion and absorption. Applied thoughtfully, they should ideally provide a relatively flat frequency response with little room-influenced coloration.

The patented TubeTrap, a pressure-zone, corner-loaded bass trap voiced with a treble-range diffuser panel, is a cornerstone of **Acoustic Sciences Corporation’s** business, founded in 1984 by acoustic engineer/physicist Arthur Noxon. As the TubeTraps are cylindrical in shape, they are inherently modular, too; I have found them useful as they can be moved easily—especially ideal today when many of us stay on the move, even within one facility. Further, ASC’s website provides a wealth of valuable content for the DIY engineer/researcher/builder.



Acoustics First is a rich source of acoustic materials, including sound absorbers, barriers, diffusers and bass traps made of materials including polyurethane and Class 1 Melamine foams, Fiberglas, wood, plastic and metal. Of particular interest is Acoustic First’s Transfusor, a transparent diffuser panel created to fit standard 2x2-foot fluorescent light fixtures. Just under 2x2 feet, the

company’s Art Diffusor Model D is a striking “organic quadratic diffuser,” reportedly increasing “overall perceived” acoustic space. Further, its trademarked surface is sculpted to specially control reflections above 4 kHz. It “deflects the sound hemispherically, a result of the bicubic concentric rings and various quadratic well depths,” the company explains.

Since the early 1990s, **Acoustical Solutions** has manufactured and distributed a wide range of products—panels, fabrics, foams, bass traps, booths and enclosures, ceiling and floor treatments, doors and windows, sound barrier materials, HVAC noise and vibration control systems, and more. Most notable are the company’s DIY AlphaSorb Panel Kits and suspended AcoustiCloud Ceiling Clouds. The latter, available in many shapes, sizes and colors, are built of a unique polymer stretching system to cap each cloud for a tailored look.



Created by John Calder and Mark Stender of **Acoustic Geometry** of Chaska, Minn., the CornerSorber is reportedly “the only laboratory-proven bass absorber design that allows maximum pressure-zone room-mode reduction due to close-corner placement.” This bass absorber features a unique shape—beveled on two sides and the top—to allow a pair of CornerSorbors to be set up three inches from,

and parallel with, each corner wall, either vertically or horizontally. The CornerSorber is part of Acoustic Geometry’s comprehensive Acoustic Bass Management line; together, it produces “consistent bass-energy absorption from 45 Hz to 200 Hz,” according to Acoustic Geometry, corresponding to room-mode dimensions from 5.5 to 25 feet.

One of the most recognizable names in acoustic treatment products is **Auralex Acoustics**, offering acoustical foam, diffusers, bass traps, construction components, and various other notable products. The company’s Website offers valuable insight about its remote consultancy services. This year, Auralex celebrates 40 years in business and has marked the event with a range of ProPanel Pro Kits, showcased most recently at the 2017 NAB Show. Consisting of beveled-edge 2x4-foot, 2-inch-thick

It's Not Your Gear... *It's The Room!*sm

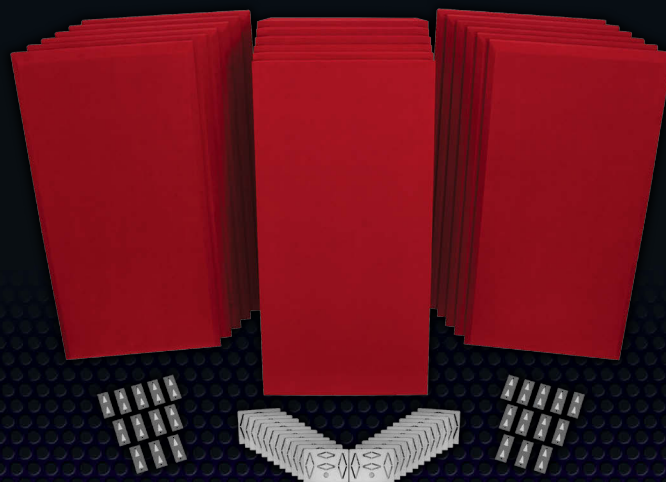
Auralex® 40th Anniversary Edition ProKits™



(Shown in SonoSuede Red)

The Auralex® ProPanel ProKit-1™ and ProKit-2™ in SonoSuede™ acoustical treatment packages are engineered to improve the sonic accuracy of your space by reducing excess low-, mid- and high-frequency reflections.

ProPanel™ ProKit-2™ in (Red) SonoSuede™



SubDude-II™
SUBWOOFER ISOLATION PLATFORM

Auralex® 40th Anniversary Edition ProKits™ Include a FREE *SubDude-II™ Subwoofer Isolation Platform!



*Subwoofer Not Included.



Carl Tatz
Signature Series
Kits™ by Auralex®

Carl Tatz Design™
Signature Series Kit-1™
by Auralex®
(Shown)

Designed in conjunction with Carl Tatz, the TEC Award-Winning studio designer, Grammy®-nominee and creator of the acclaimed PhantomFocus™ System, the Carl Tatz Signature Series Kits™ by Auralex® are turn-key integrated systems emulating Carl Tatz's award-winning studio designs.



Bob Bullock
Engineer/Mixer/Producer

(Shania Twain, Reba McEntire, George Strait,
Kenny Chesney, The Monkees, REO Speedwagon
& Chick Corea)

"I love the Auralex Carl Tatz Signature Series™ acoustical treatments...what I hear in this room I know is accurate"

Real-World Acoustics®
1-800-959-3343

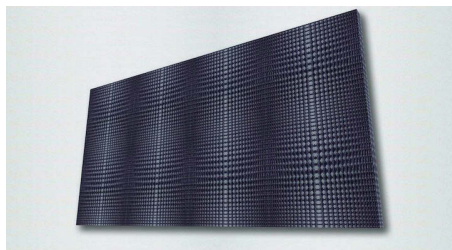




Auralex ProPanel SonoSuede fabric-wrapped Class A absorptive Fiberglas panels, these kits are notably affordable and designed to balance mid- and high-band frequencies. The SonoSuede ProKit-1 and ProKit-2 kits include 2x4-foot, 2-inch mitered-edge ProPanel corner treatments for low-frequency absorption. The SonoSuede systems are available in two fabric choices, red or black, and include all mounting hardware.

As a drummer, I discovered **ClearSonic** years ago. I invested in their ClearSonic Panel line—the 5.5-foot-tall, five-panel version, to

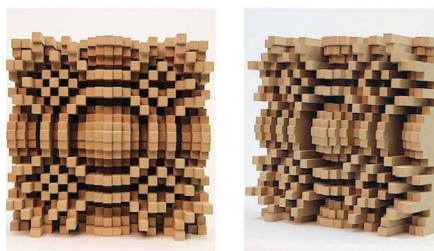
be exact—which works wonders in separating loud instruments (e.g., drums), amplifiers, etc., onstage, in rehearsal or while recording. As such, it reduced mic bleed, too. Best of all, users can see out, and others can see in. I felt I had made a “pro” choice when I saw Max Weinberg, live in Nashville with Springsteen, using the same CSP array. CSPs are made of 1/4-inch-thick acrylic; standard panel heights are 2, 3, 4 and 5.5 feet tall. Extenders are available for extra height. Paired with SORBER baffles—a 1.6-inch-thick fabric-covered Fiberglas wall treatment device—the acoustics inside the CSP space is surprisingly balanced.



Delta H Design Inc. is now shipping its new ZR Micro Twin acoustic panels in version 3.0. DHDI's ZR Acoustics device is reportedly 50 percent lighter and 30 percent thinner than its predecessors; it is effectively two ZR Micro panels in one. The ZR Micro

Twin V3.0 comes wrapped in proprietary acoustic transparent textile and is backed with ballistic nylon Cordura, a notably abrasion-resistant fabric. DHDI recommends its ZR Micro Twin V3.0 for use in pairs directly behind speakers, or within larger, custom-designed monitoring systems, making it a great acoustic tool for addressing control room monitoring abnormalities. Dimensions of the ZR Micro Twin V3.0 are 24x48x7/16 inches.

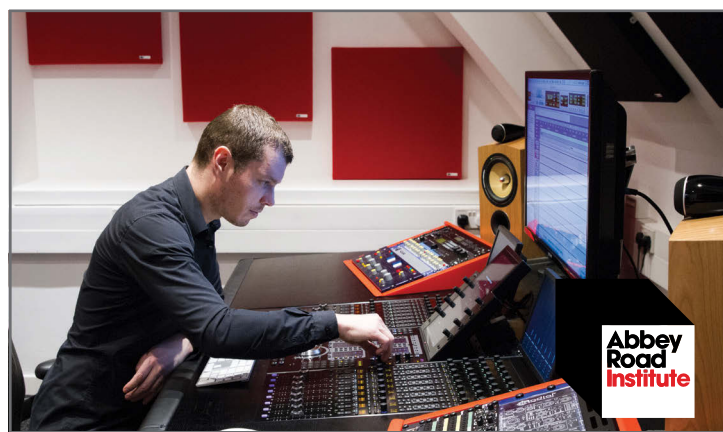
ESR notably offers the Roundffusor1—“the world’s most efficient acoustical diffuser,” according to the company—which is a combination diffuser/low-frequency absorber made of hard polystyrene. Reportedly, the Roundffusor1, placed in an array of 9 to 15 pieces, remarkably reduces a room’s overall reverberation time.



Atlanta’s **GIK Acoustics** has unveiled its latest product, the Gotham N23 Skyline Diffusor, featuring what is reportedly the widest diffusion range on the market. Designed to provide notably even diffusion from 1.25 kHz to 9.5 kHz, with scattering

effects down to 650 Hz, the Gotham N23 Skyline, or two-dimensional, diffuser measures 17.5 inches x 17.5 inches x 5.5 inches deep, weighs 20 pounds, is made of medium-density fiberboard and can be used in its natural state or painted to match any décor. It has a 23-root, calculated quadratic sequence, machine cut within 1/120th of an inch, confirms GIK materials. GIK explains that Skyline diffusers offer the benefit of scattering sound across two planes: horizontal (left and right) and vertical (up and down).

One of the more recognizable names in DIY acoustic treatment, **Primaacoustic’s** products are a broad range of bass traps and diffusers, wall and ceiling absorber systems, Fiberglas absorber components, and more. Primaacoustic’s comprehensive website offers a wealth of acoustic treatment information, as well as selection and installation tips. Worthy of note, Primaacoustic’s Paintables Cloud series features three different shapes of absorptive acoustic panels that can be used as ceiling clouds, baffles or wall panels to reduce excess reverberation. In a recent conversation, Primaacoustic’s James Wright noted that much of the appeal of this particular Primaacoustic line may reside in how well it can be camouflaged. “Aesthetics and acoustics are often



“GIK Acoustics’ products and expertise have allowed us to set up our studios very quickly and with great results.”

~ Luca Barassi, Managing Director of Abbey Road Institute

GIK Acoustics treatments absorb more sound than any product on the market. We provide customers cost effective solutions to make every space sound its best. Acoustic panels, bass traps and diffusers direct to customers worldwide.

GIK ACOUSTICS MAKES YOUR ROOM SOUND BETTER.



Order Direct
www.gikacoustics.com
888-986-2789



at odds with one another,” he reasons. “Accent colors for fabric-wrapped panels or panels that are paintable can match the room color. [Our] paintable panels can also be printed on using a flatbed ink jet printer, so literally any image can be oriented on the panel. [In some cases], the goal is to have the acoustic treatment be as invisible as possible.”



RealTraps is well known for building superb broadband absorption solutions with its complete line of portable bass trap products. MiniTraps, MondoTraps, MicroTraps, GoboTraps, and the aesthetically unobtrusive SoffitTraps all offer various and impressive absorptive benefits. Worthy of note, RealTraps has recently touted its Guilford MiniTraps (pictured). They are a self-described “spouse-friendly” series built to the same standards as MiniTraps and MondoTraps, “but are wrapped with genuine Guilford of Maine FR 701 fabric on the front and four edges to blend with any decor.”

RPG Diffusor Systems builds notably attractive diffusion systems, used by a variety of studio designers. Most recently, Acoustic GRG Products, Ltd., RPG’s UK-based manufacturing arm, debuted a new collaboration with designer Anna Gravelle, using her lovely tufted and printed wool fabric designs. Called Tufted Waveform (pictured), these are rich in look and effective in application. According to company promotional materials, this tufting product (also called candlewicking) incorporates unique fabric and



yarn in architectural gray and blue hues.

Northhampton, Mass.-based dealer **Silent Source** sells a wide variety of foams, barriers, baffles, bass traps, diffusers and much more; as a matter of fact, they sell most of the brands you see listed in this feature. As

such, they can superbly guide you to selecting just the right product for your needs. Silent Source also markets its own signature products, including HushFoam—panels featuring absorbent open-cell polyurethane foam wedges—and WhisperWedge, a 2x4-foot flat foam absorber.

Taytrix has recently unveiled its interesting “building block” style Booth Kit. Functioning just like the “room in room” vocal isolation booths made by a range of manufacturers, Taytrix’s Booth Kit can be assembled in about five minutes and is notably modular. It includes four corners; one arch top in two pieces; two arch inserts with vent ports; one door, two door inserts; and two cross pieces. As such, Taytrix’s Booth Kit can be dismantled and utilized in a variety of ways—for example, its parts can form a vocal enclosure or an instrument go-bo (go-between). ■

Strother Bullins is Technology Editor for NewBay Media’s AV/Pro Audio Group.

AcousticsFirst.com®
The first name in state-of-the-art sound diffusion.™

Proven Performance.

Toll-Free Number:
888-765-2900

MIX REGIONAL: CHICAGO



Nick Raskulinecz (second from right) with (L-R) Tim McIlrath, Zach Blair and Joe Principe of Rise Against

GRAVITY STUDIOS

Multi-Platinum rock band Rise Against spent two days recording vocals and guitar on two songs for an upcoming project with producer/engineer Nick Raskulinecz (Mastodon, Rush, Foo Fighters) at Gravity Studios in mid-April. This makes the fourth Rise Against album that has included tracks made at Gravity. The band also recorded there for *Appeal to Reason*, *The Sufferer & The Witness* and *The Siren Song of the Counter Culture*.

Also in session at Gravity: FRENSHIP stopped in while on tour to do some editing. And as this issue went to press, producer/engineer Dan Farnsworth and the studio's founder/mixing and mastering engineer Doug McBride were wrapping up an 11-song album with local pop/electronic artist Eric Lee Carpenter.

Gravity project manager Herf Yamaya reports that the main control room was upgraded this year, as well. "We purchased four products for low-end acoustic treatment, made by Acoustic Fields, that were placed under our Barefoot studio monitors," he says. "This change immediately gave significant clarity to the lower frequencies in the room, and as a result, mixes have been sounding the best they have ever been coming from Gravity Studios."



Photo: Steve Gullick

Tom English, Paul Smith, Lukas Wooller, Duncan Lloyd

Maximo Park Records at The Loft



It didn't take too much convincing on the part of producer/engineer Tom Schick to get the members of Maximo Park to decamp from the UK to Wilco's The Loft studio in Chicago to record their sixth album, *Risk to Exist*. The foursome arrived for the two-week session armed with demos, well-rehearsed, and

fully prepared to record live as a group—in contrast to the demos, which were pieced together one instrument at a time.

"We were taking a lot of traditional sounds and manipulating them into something unique," says Schick. "For 'Make What You Can,' we blended a synthesizer with an old Farfisa then ran both instruments into an Effectrode Binson Echorec 3° Delay pedal. We then edited the track to take out the echo and were left with a tight, interesting sound, which became the foundation for the song. We also ran the background vocals in the pre-chorus, and the piano in the chorus into the Echorec to add the dreamlike atmosphere in those sections.

"In the pre-chorus and chorus we took the same combination of tracks and ran them through a Leslie and Earthquaker Devices Ghost Echo reverb pedal, blending in an analog synth pad. We were trying to get the song to really open up and then close back down when it went back into the verse."

The Echorec/Ghost Echo combination is also used on the chorus for "Respond to the Feeling," where a Wurlitzer, electric guitar and piano are blended and put through the pedals to create one sound. The synths on "Respond to the Feeling" are given the Echorec treatment, "to manipulate the character into something a little more gritty and atmospheric," says Schick. —Lily Moayeri



L-R: Phoelix, Smino and Chris Classick

CLASSICK STUDIOS

Christopher Innumerable started his audio business in 2006 in a bedroom studio, providing engineering and production mainly to local rap and hip-hop artists. He gradually expanded the studio until, in 2011, Classick Studios moved to its current facility, in an industrial area between West Town and Humboldt Park. “We have two big studios,” Innumerable says. “I don’t like to say ‘A and B.’ Who wants to get the ‘B’ room? So we say ‘Red’ and ‘Blue.’”

Each studio is equipped with fundamentally the same gear: a Pro Tools rig, Control 24, Neumann U87 vocal mics and Apogee Symphony interfaces. However, the Red studio has Yamaha NS10 mains and the Blue control room has AD-AMs. “We’re mostly recording vocals,” Innumerable says. “We do record bands, but when we do, we need to reconfigure the room and use the control room, as well. We’ve recorded drums in our control room, and it sounds great.”

Now, most projects at Classick are engineered by Elton Chueng, and recent clients include Chance the Rapper and Ravyn Lenae, as well as Smino and Monte Booker, both of whom are managed by Innumerable.

“The main focus for my studio is really being a bridge between artists and the industry,” Innumerable says. “I want to create the network between artists, producers and engineers—be the missing link for your team. That’s why we push these events we hold on the first Sunday of every month. We have an artist come to the studio—someone who a lot of people look up to—and invite 30 people to come down, and we talk about the artist’s ideas. It helps encourage artists, and helps make connections in the Chicago community.”



Vocalist Nate Cook, drummer Noah Shomberg, and producer/engineer Alex Hall

The Yawpers recorded album *Boy in a Well* for Chicago-based Bloodshot Records with producer/engineer Alex Hall in Reliable Recorders. “We tracked with all the bandmembers live in the room: drums, two guitars, and scratch vocals,” Hall says. “We tracked a portion of the tunes completely live through a single RCA Varicoustic ribbon onto an Ampex 602 field recorder.

“The instrumentation of the band is unique because there isn’t a dedicated bass instrument,” Hall says. “Jesse, the guitarist, splits his signal through multiple amps and plays with a technique to fill out the lower frequency range. He played through a variety of vintage tube amps we’ve got at the studio. The lion’s share of the guitar sound came from a single RCA-77 between two amps, roughly pointing toward one another—and flipped for phase.”



In CRC’s Studio 5, from left: Jim Carroll, Sammy Hagar, Rick Nielsen and engineer Matt Lejeune

season 2 of *Rock & Roll Road Trip* with Sammy Hagar.

CHICAGO RECORDING COMPANY

CRC continues to host national as well as local artists. Recent work includes Gorillaz tracking “Let Me Out” featuring Mavis Staples and Pusha T in Studio 5 with engineer Stephen Segwick and assistant Jonathan Lackey. Staples sang through a Neumann U47 mic and a Neve 1073 mic pre. Staples used the same recording chain when she guested on Benjamin Booker’s song “Witness,” engineered by Steve Weeder. Matt Lejeune engineered when Cheap Trick guitarist Rick Nielsen guested on an episode for



Mystery Street President Joe Tessone

Mystery Street is migrating WFMT radio’s archives, including spoken-word recordings of F. Scott Fitzgerald, Dr. Martin Luther King Jr. and more.

MYSTERY STREET RECORDING

Mystery Street Recording Company completed exterior and interior renovations of its 130-year-old building in the Lakeview neighborhood. Mystery Street offers rehearsal and recording spaces, as well as live sound mixing and equipment rentals. Renovations include improvements to the studio’s Audio Preservation Lab, where engineers restore old analog tapes and records, transfer them to high-res digital formats. Currently,



Belly and Stonecutter assistant engineer Salvatore Bertucci

STONECUTTER

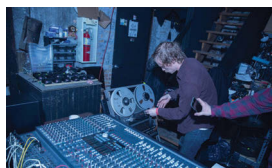
Hip-hop recording artist, singer/songwriter and producer Belly stopped in at Stonecutter with DJ. Faris to work on tracks for his new project, *Glorious*. Engineers Chris Steinmetz and Matt Welenc helped Belly and his team record and edit four new tracks. Belly’s vocal went through a Neumann 149 mic and a vintage Neve 1073 preamp. Violin/viola player Heather Boehm was also in, working on tracks for the Chicago run of *Hamilton* and for her band Hot Pink.



Japanese rap star Aklo (left), with producer Alex Gross, shooting *Back to the Root* for MTV Japan

STUDIO 11

At Studio 11 on the west side, producer/engineer Alex Gross completed commercial music for Linea Luxury Apartments with Glass Lux, as well as mixes for the Lowdown Brass Band and tracking with the The Street’s on Fire. Kris Anderson recently finished tracking and mixing projects for Robb Bank\$ of Cash Money Records, and mixes for AudioJazz Music, Emby and more. Local rappers Saudi Money recorded and mixed their project with producer/engineer Dan Zorn.

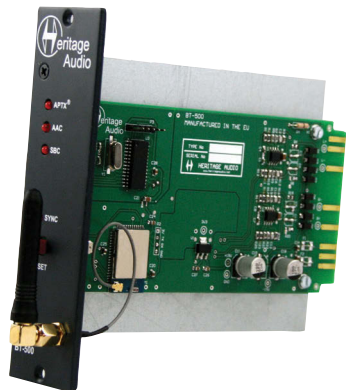


Engineer Barrett Guzaldo records Twin Peaks live.

TREEHOUSE RECORDS

Last fall, Treehouse Records acquired the Trident console formerly owned by Paragon Studios. Built in London for Trident Studios in ’79, the board was used on sessions with Pink Floyd, Queen and more. Treenhouse also captured Twin Peaks’ *Urbs in Horto* double live album; engineer Barrett Guzaldo followed the band from Thalia Hall to Metro and back to Thalia Hall, and recorded all three shows straight to tape via the studio’s travel rig.

Tech // new products



HERITAGE AUDIO BT-500

Streaming Playback Over Bluetooth

The BT-500 from Heritage Audio (\$199) connects mobile devices to the professional studio environment via Bluetooth. Using the latest Bluetooth technology and high-quality Burr Brown-based analog signal path, the BT-500 can tether to devices over 100 meters away. The unit delivers a fully balanced +22dB signal streamed over the nearly lossless aptX codec (Android), the AAC codec (iOS), or Low Complexity Subband Codec (SBC).



PMC MB3-A AND BB6 LOUDSPEAKERS

High-End Monitors for Studio, Post, Mastering

The MB3-A (\$59,000) and BB6 XBD-A (\$115,000) feature PMC's hand-built, precision-matched 34mm soft-dome tweeter and legendary 75mm fabric midrange driver coupled with the latest generation of the Radial low-frequency driver built specifically for use with PMC's ATL™ designs. Available as single- or twin-cabinet (XBD) versions, the PMC BB6 offers digital and analog inputs and is designed for freestanding or soffit-mounted use. The MB3 features a 12-inch and the BB6 a 15-inch Radial driver; teamed with the ATL, these exhibit a flat response down to 20 Hz and 17 Hz, respectively. Each channel of the MB3-A, MB3

XBD-A and BB6-A is powered by a single Control 1200 and a Power 2400 unit, which supplies 2400W to the bass driver (and to the XBD unit on the MB3 XBD-A).



ANTELOPE AUDIO ORION STUDIO 2017

New Converters, Connectivity, Processing

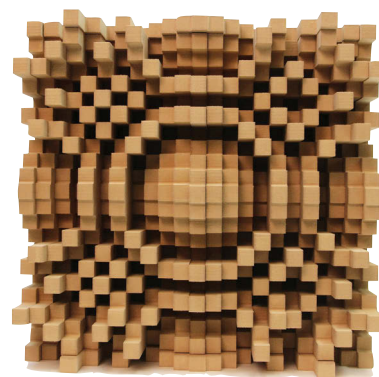
The Antelope Audio Orion Studio 2017 (\$2,395) boasts new A/D conversion chips capable of 124 dB of dynamic range and 64-bit Acoustically Focused Clocking (AFC) jitter-management technology. Other features include talkback, four DIs, two transformer-based re-amp outputs, dual headphone outs, and WC I/O. Also onboard are 12 preamps, 16 analog outputs including dual mastering-grade monitor outputs allowing switching between two speaker pairs. ADAT and S/PDIF digital I/O allows for additional channels to be delivered via Thunderbolt or USB 2.0. The unit supports a growing library of FPGA-based effects without sacrificing the generous 40 EQ instances the hardware offers.



TK AUDIO SP501 PREAMP

Class A Circuit, Twin Outputs With Lundahl Xformer

The TK Audio SP501 (\$799) is a single-slot 500 Series Class-A unit offering both vintage and modern circuits derived from TK's DP1 stereo preamp. The SP501's input stage is built around a high-quality Swedish Lundahl transformer, followed by a Germanium stage that adds more harmonics. Two different output stages can be selected—an electronically balanced stage or a discrete transformer-balanced class-A stage sporting a Carnhill output transformer. Also onboard is a sweepable HPF from 30 Hz to 400 Hz.



GIK ACOUSTICS QUADRATIC SKYLINE DIFFUSOR

Mid- to High-Band Problem Solver

The Gotham N23 Quadratic Skyline Diffusor (\$358 per pair) has a working range from 1,250 Hz to 9,500 Hz with scattering effects down to 650 Hz. Each 23.5-inch unit is made of medium density fibreboard (MDF) and can be easily mounted without using destructive adhesives.



FLUID AUDIO F5 AND FX8 MONITORS

Affordable 5- and 8-inch Self-Powered Speakers

The new F5 studio monitor from Fluid Audio (\$299.99) features a 5-inch low-frequency driver with composite paper cones and a 1-inch treated silk-dome tweeter biamped by 70 watts of Class A/B power. Other features include a front-loaded slot port, magnetic shielding to eliminate interference from other electronic equipment, and XLR balanced, ¼-inch balanced and RCA unbalanced inputs. The larger FX8 (\$249.99) offers an 8-inch low-frequency driver and a 1.2-inch treated silk-dome tweeter powered by 130 watts of Class A/B power. Both speakers offer fader volume control on the front baffle and amplifier standby mode that powers down the amp when no input signal is detected.



REFTONE PASSIVE MONITORS

4-Inch, Single Driver With Options

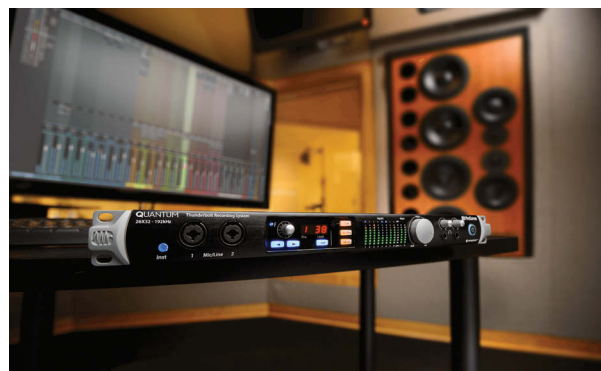
The new Reftone passive monitor is a svelte (5x5x5.5 inches) cube offering clear, mid-range-exposed sound without losing low-end presence. The pair comes in a number of shipping options including the 2LD stereo pair (\$379); 2LD mono cube (\$179); LD-8SC with a 15x10-inch SKB case and Dayton DTA-120 amp (\$599); and the LD-8LC including a 20x11-inch SKB case, plus backpack and Dayton DTA-120 amp (\$799).



MACKIE AXIS DIGITAL MIXING SYSTEM

Customizable, Modular Package for Live and Install

The Axis Mixing System from Mackie (\$5,899.97) features the DL32R 32-channel digital mixer with iPad control, DC16 controller, and Dante expansion card. The DL32R features 32 Onyx+ preamps and DSP offering EQ, gating, and compression/limiting onboard, as well as delay and reverb. Other features include direct-to-disk multitrack recording and playback and functionality as a USB 2.0 interface for a Mac or PC. The DC16 controller features fast and efficient visual feedback via SmartBridge technology. The included DL32R Dante card connects the DC16 control surface to the DL32R and allows for digital audio connectivity offering a dedicated Wi-Fi control port that eliminates the need for an Ethernet switch.



PRESONUS QUANTUM THUNDERBOLT INTERFACE

Stackable I/O Featuring XMAX Preamps

The 26x32-channel Quantum from PreSonus (\$999.95) features 24-bit, 192kHz converters with 120 dB of dynamic range and PreSonus' recallable XMAX microphone preamps. Up to four Quantum interfaces can be stacked via Thunderbolt to create a 96x96 system. Features include two combo mic/instrument/line inputs and six combo mic/line inputs, each with a digitally controlled XMAX preamp and switchable +48V phantom power. Outputs include two ¼-inch TRS main outs, eight ¼-inch TRS line outputs and two independent headphone outs with dedicated volume controls expandable to an additional 18 outputs via ADAT Optical I/O and S/PDIF stereo digital I/O. Quantum owners get the Studio Magic plug-in suite free and can upgrade to Studio One Professional for 50% off.

New Sound Reinforcement Products



LECTROSONICS DUET DIGITAL WIRELESS MONITOR SYSTEM

Transmitter and Receiver With Analog and Dante Inputs

The Duet from Lectrosonics (\$TBA) covers the UHF frequencies of 470-608 MHz in a single range, uses digital modulation for transmission, and can accept analog or Dante digital inputs. The M2T half-rack transmitter houses two independent stereo transmitters allowing for up to four stereo or dual-mono transmissions in a single rackspace. The M2R bodypack receiver employs advanced antenna diversity, switching during digital packet headers for seamless audio. The 24-bit digital audio stream guarantees high-resolution sound quality with wide dynamic range, low noise floor and rock-solid stereo image. The headphone jack is fed from a high-quality stereo amplifier with 250 mW available to drive headphones or earphones to sufficient levels for stage performance or other noisy environments.



MEYER SOUND LINA COMPACT LINE ARRAY

Front Fill or Over-Balcony Fill Install Units

The new LINA loudspeaker and companion 750-LFC very compact low-frequency control element from Meyer Sound measures 20.27 inches wide and weighs 43 pounds. LINA features new drivers and an updated amplifier and signal processing package to conform with the LEO family design philosophy. The 3-inch HF compression driver incorporates a new magnet structure first used in the LEOPARD line array loudspeaker, and the dual 6.5-inch woofers are further reduced compared to MINA, aided by new internal venting and baffling to opti-

mize performance. Onboard signal processing has been upgraded for more power, and it now includes optimized Native Mode yielding excellent system performance with minimal external processing.



ALTEROS GTX SERIES UWB MIC SYSTEM

6.5GHz Wireless Operation Up to 24 Channels

The Alteros GTX Series features three key components: the GTX324 control unit, GTX24 body-pack transmitter and GTX32 transceiver. It is a fully digital 6.5GHz system that provides reliable, interference-free performance and license-free operation, supporting up to 24 simultaneous channels, an additional 24 channels of talkback audio, and eight group assignment channels in just 3U of rackspace. The system is ideal for studio-to-studio operation since it emits less intentional radiation than the typical PC and will not interfere with surrounding signals. Up to 32 GTX32 transceivers may be deployed, connecting to the GTX324 over standard shielded Cat 5 cable, which is operational to 1,000 feet.



SSL L200 LIVE SOUND CONSOLE

Compact Controller With 17-Inch Monitor and 38 Faders

The L200's unique inverted T chassis design keeps all essential console controls within easy reach and brings spring arm-mounted external screens/devices closer to the center of the console. Arms can be mounted on either or both sides of the console and can be specified as screen mounts or laptop/utility trays. L200 features a row of three 12-channel Fader Tiles, providing a total of 38 faders (including the Master and Focus faders) in the Master Tile. Other features include 144 processing paths (each with full processing), which can be configured as up to 96 input channels, up to 48 aux sends, up to 24 stem groups and six masters. A 4x32-input, 24-output Matrix is provided in addition. L200 features showfile compatibility with L300 and L500 consoles.

REMOTE STUDIO DESIGN SPECIALISTS FOR PRO'S LIKE YOU... WHEREVER YOU ARE



Mix Class of 2017
Goldmine Studios
Located: Beirut, Lebanon

Mix Class of 2016
drBill's Mindseye Studio
(Northern Arizona high country)

Mix Class of 2014
Espen Lind's studio
(Oslo, Norway)

Mix Class of 2013
Boali Studios
(Port-au-Prince, Haiti)

Mix Class of 2012
Grassy Knoll Studio
(Vancouver, BC)

Mix Class of 2011
Stonewall Studio
(Pensacola, FL)

Celebrating 10 years of creating great space

*"I've worked in studios around the world and Jeff's studios are second to none.
When I made the decision to build my own place, he was the first call.
He could work within my budget while getting me results far beyond expectation".
Kevin Churko- Producer Ozzy, Five Finger Death Punch*

*The room sounds great. So much clearer across the board, especially the low end!
The room isn't dead either, it's still got some life in it. I heartily endorse your expertise!
Don Roeser, aka Buck Dharma, Blue Oyster Cult*

*"I can personally attest to the power of Jeff's wizardry, he helped me to *transform*
the murky, boomy, washy sound of my little room into something tight,
focused, and very easy to mix in. No more guesswork of any kind, which means
I can work fast, and what I hear in that room has translated 100% every single time."
Gregory Scott-UBK Owner/Designer KuSh Audio*

*The magic Jeff performed with the limited dimensions I gave him to work with
is mind blowing. I love the translation from the room. I never question what my mix will
sound like in the outside world
Charles Macak - Mixer Fall of Troy, Letlive, Starkill*



HdAcoustics.net

Tech // reviews

UNIVERSAL AUDIO TWIN MKII QUAD

Update Brings More DSP, Advanced Functions, New AD/DA



Two years ago, I got to try out the original Apollo Twin Thunderbolt interface. I remember being impressed with the overall build and sound quality, and taken aback by the complexity of the software mixer. My two main complaints were that the converters seemed a bit colored and that the Twin maxed out at two UAD DSP processor chips. When I saw that the Twin MkII shipped in a four-processor configuration with newly designed converters, additional monitoring functions and a revamped software mixer, I couldn't wait to get my hands on one.

The Twin gets its name from its pair of analog inputs. Each can accept mic or line level signal through an XLR/TRS combo jack on the rear panel. As an alternative, the first channel can be fed via the front panel, high-impedance TS instrument jack. If two inputs aren't enough for your tracking needs, an ADAT optical input provides eight additional channels of digital inputs.

While the device can perform at sample rates up to 192 kHz, and the optical input supports S/MUX at these higher rates, the single connector means that this will come at the cost of chan-

nel count. It is also worth noting that the unit has no digital output or wordclock connections, so activating the ADAT input basically necessitates the Twin being clocked to the incoming digital signal. Another button push can flip the rotary control's operation to adjust the level of the headphone output.

The original Twin supported a maximum of just two SHARC processing chips. The Twin MkII ships in configurations having as many as four processors, meaning more UAD effects and more robust processing, in general. Four chips provide a lot more

nel count. It is also worth noting that the unit has no digital output or wordclock connections, so activating the ADAT input basically necessitates the Twin being clocked to the incoming digital signal.

Like the original Twin, a large, multipurpose, endless rotary encoder is the focal point of the top panel. This control has a nice weight and feel, with feedback provided by an array of LEDs wrapped around the knob itself. A top-panel preamp button toggles the knob's function between the two analog input channels, while a similar monitor button assigns the knob's function to monitor volume or headphone volume. Six other top-panel buttons toggle functions like phantom power, HPF and the circuit's built-in pad.

As far as hardware outputs, there are two analog stereo pairs, all using 1/4-inch TRS connectors. A headphone jack on the front of the unit offers an auxiliary monitoring option. At the touch of a button, the rotary encoder can be made to serve as a monitor level, controlling the first output pair's analog signal level.

TRY THIS

Sometimes when tracking, we apply processing to an instrument's monitor path just for reference. When using UAD plug-ins in Console's monitor path, those plug-ins then have to be mirrored in Pro Tools in order to exist during playback. Console's presets save in a different format than Pro Tools plug-in presets, but I found a workaround.

In the bottom left corner of a Console plug-in's GUI, there is a small folder icon. Clicking this reveals a "Copy" command, while the Pro Tools plug-in instance has a similar folder icon which reveals a "Paste" command. Using these copy-and-paste functions bridged the gap between the two pieces of software.

options and flexibility, but not just in mixing situations. This newfound processing boost comes into play in tracking situations, as well.

Apollo interfaces are controlled by a piece of software called the Console. Minimally, this software performs the function of combining direct input signals with software returns to create low-latency headphone mixes. The Console software performs functioning beyond this primary objective by providing aux sends and returns and insert points throughout, allowing UAD processors to be used within this software. By running on the Twin's own DSP, these effects can perform with near-zero latency.

When reviewing the original Twin, I regarded the two-input interface as inappropriate for tracking a full band. This time around, having received the full QUAD processor, I decided to take advantage of the ADAT input and inject a lot of UAD flavor on the front end. Using a mic preamp with an ADAT output, as well as the built-in preamps, allowed for ten total recording inputs. This was enough to simultaneously track a full complement of drum mics, bass, and scratch vocal and guitar.

If you still need more I/O, up to four Apollos can be ganged to one system. Having one Thunderbolt port on my MacBook Pro, and a single port on the Twin as well, the Twin would have to live at the end of a chain including an Apollo 8, 8p or 16, as each of those units has a pair of Thunderbolt ports. On newer Macs with multiple ports this is a non-issue. Also worth noting, Windows machines are now fully compatible with the Apollo and UAD-2 family.

On the basic tracking session, I wound up running my drum overheads through the Twin's built-in preamps. Because I was miking economically, the overheads were set up in a spaced pair from the drummer's perspective and designed to be the bulk of the drum sound. I planted this pair on the built-in preamps so that I could really explore the possibilities of real-time UAD processing.

When pairing an Apollo interface's hardware inputs with the Console software, special functioning referred to as Unison Control becomes available. Unison mic preamp plug-ins can be inserted across the hardware inputs, and can allow the hardware to emulate different preamps like the Neve 1073, API Vision channel strip or Universal Audio's own 610 mic preamp. When using a Unison plug-in, the software GUI can control the actual analog gain structure, and the software even changes the impedance and gain staging to match the original hardware's character.

Clearly, Universal Audio's engineers put a lot of research into this and executed with impressive results. In the case of drum overheads through the API channel strip, padding the input and driving up the gain to really saturate the virtual transformers produced a sound that was, again, very true to the API circuits with which I'm familiar.

While the API channel strip had a full, fat sound, the references that I had been given by the band featured a kind of tight, crispy, Krautrock sound to the drums. I bounced around between four different Unison preamps and eventually landed on the Universal Audio 610-B Tube Preamp. Driving up the tube gain and backing off the large output "fader," I was able to get the perfect punchy, edgy sound that cut through the watery guitars and persistent bass. The fact that I was able to quickly flip between four preamp sounds, all while the band was warming up, was really amazing.

PRODUCT SUMMARY

COMPANY: Universal Audio

PRODUCT: Apollo Twin MkII

WEBSITE: www.uaudio.com

PRICES: \$699, \$899,
\$1299 with 1, 2 or 4 cores

PROS: Wealth of useful features,
more UAD processing than
predecessor, improved converters

CONS: No wordclock I/O, only one
Thunderbolt port (no thru-put),
requires OSX 10.10 or higher

When basic tracking was done and we moved into guitar overdubs, I had to build a new artist mix including playback through Virtual Outputs, as well as the low-latency input signals. I was apprehensive as to what would happen when combining those signals while running UAD plug-ins in both Console and Pro Tools. When routing Virtual Inputs from Pro Tools to their headphone mix, while live input signals were running, the guitarists continually confirmed that their pick attacks were properly responsive. After tracking a pass, everything lined up properly in Pro Tools, as well.

I miked the chunkier rhythm guitar with an SM57 and a ribbon mic, and the cleaner, reverb-laden guitar with an SM57 and a large-diaphragm condenser. I used the Twin's preamps for the first SM57 and the condenser. The SM57 paired really nicely with the Neve 1073 Unison preamp, sounding reasonably thick and smoothing the harshness of the distorted attack. There was an appropriate bite that still cut through the track, but in a pleasant and refined way.

I tried a few different Unison preamps on the cleaner guitar, but was most pleased when I bypassed them and let the natural sound of the circuit shine through. Here, I got to hear the character of the newly improved converters in more depth and detail, and I was impressed. The full and open sound came across just like the amp in the room. It was such a nice, accurate depiction that I needed to look no further. Unlike the original Twin, the sound was not bright and colored, and seemed like it would be a much more universal tool.

All in all, the flexibility of the Twin MkII, in terms of tone, made it really easy to get great sounds. The routing characteristics of the Console software made low-latency headphone mixing with great-sounding effects quick and practical. We were able to have a very productive day relying on the Twin MkII as our central tool for tracking.

I went on to do a rough mix, and I was surprised at how fast I ran out of UAD processing power. Then I remembered that I had left a lot of processors active in Console. After I deactivated them there, I had enough UAD power to run four different reverbs in my Pro Tools session. The better UAD reverbs like the EMT140 plate verb and Lexicon 224 tend to eat up more processing power than the average UAD plug-in, but sound really incredible. I was pleased that I was able to come up with four UAD reverbs and still have a number of EQs and compressors running, as well. You always want more UAD DSP, but four chips gave me enough to cover my bases and let regular, non UAD plug-ins pick up the slack.

The first-generation Twin is already a fantastic interface, and the MkII does well to build on the framework of that unit. For a solo artist who doesn't need a lot of inputs, or a mixer that just grabs occasional overdubs, this is the perfect tool. The size, feel and thorough monitor controls make it a perfect desktop companion, and the converters are appropriate for the critical mixing and mastering decisions.

Remember, a big reason for buying Apollo is the built-in UAD processing. You can look at the UAD-2 Instance Chart on the Universal Audio website to see how many plug-ins each number of chips will buy you, but it seems like the price jump from the DUO to the QUAD is well justified by the power that it will afford. ■

SLATE DIGITAL REPEATER VINTAGE MODELED DELAY

Plug-in Emulates Delay Devices from Past and Present



Fig. 1. Repeater's excellent interface lets you audition 23 models of different-sounding delay devices without altering current control settings for delay parameters.

Slate Repeater emulates dozens of delay devices, including many vintage analog and digital models. The models have obscure names to avoid trademark issues, but experienced users will recognize their pedigrees with handles like Coopy Cube, Digital 42, DM-2, Plexy Echo and Space Delay. Also included are models of delays created using various tape machines (including an early '80s Japanese cassette deck), radios and telephones.

The plug-in, jointly developed with DI6 Group Audio Software, is available in AU, VST and AAX formats. I tested v1.0.0 of the AU plug-in in DP 9.01 running OS X 10.9.5. Close to press time Slate released v1.1.0 which may address some of the bugs noted in the review.

The plug-in can be instantiated on stereo tracks, auxes and buses, or as a mono-to stereo plug-in on a mono track. It can output mono effects and features a dual-mono control set (that is, independent controls for left and right channels; see Figure 1). When you select an item from the Delay Model menu, all the other control settings remain the same. What changes are the delay line's basic sonic characteristics: signal degradation, saturation, possible detuning, highpass and lowpass filter calibrations, and how the frequency response of the feedback loop deteriorates.

This construct lets you set the delay times, feedback amounts, filter settings, panning and other controls and then browse the various delay models without fear of those control settings changing. It's like having 23 different delay units—each exhibiting different sonic characteristics—set to the same delay setup and switching between them with the click of a mouse. Very cool! Just be aware that recalling a preset changes both the controls' settings and the delay model, and there are no Undo and Redo functions.

Each channel has the same type of controls and processing blocks, which I'll describe in the order they occur in the signal path. First comes the Clipper, which is driven to saturation by the strength of your input signal and the level of the Input control (which adjusts gain ± 12 dB). You can adjust the tone of the Clipper using the Color control. In the Status Bar at the bottom of the GUI (or, alternatively, in a separate Options panel), the Clipper's sound quality can be further modified by selecting one of four modes (Draft, Normal, High or Ultra) independently

for real-time and offline modes of operation.

Next in the signal path comes a delay line with a Feedback control. Delay times for the two channels can be synced to your DAW, entered using tap tempo or manually adjusted from 0.1 to 1000 ms. A display gives a numeric readout of the current delay time for each channel. Dragging up or down with your mouse on any digit in the readout will increase or decrease its value, allowing you to set delay times to the tenth of a second. When synced to your DAW, delay times can be set to any of 21 note values ranging from a 64th-note to a whole note and including dotted-note and triplet variations (with a maximum delay time of 10 seconds).

A three-way Spread control creates a small or large phase offset—or no offset—between the left and right channels' delay lines; the offsets create a wider stereo image. Activating the Analog button sends the feedback signal through an analog-style circuit, adding more artifacts with each repeat. Ping-pong delays are produced when you activate the Ping-Pong button. The phase of each delay line can also be inverted by activating its Phase Invert button. Highpass (HPF) and lowpass (LPF) filters follow the phase inverters. The HPF's cutoff frequency can be adjusted between 40 and 1,000 Hz, and the LPF's between 1 and 22 kHz.

After the delay line is a stereo mixer, providing controls for pan-

PRODUCT SUMMARY

COMPANY: Slate Digital
PRODUCT: Repeater
WEBSITE: slatedigital.com
PRICE: \$149 permanent license; included in Everything Bundle (\$14.99/month rental)
PROS: Sounds fantastic. Offers a wide variety of delay models. Excellent interface.
CONS: No Undo or Redo. Slightly buggy.

ning and adjusting its wet/dry mix. You can adjust Repeater's output gain from minus infinity (no sound) to +12 dB. Multicolored left and right meters—virtual LED ladders with VU ballistics—show output levels for their respective channel. You can independently link controls for delay times, feedback levels, color (tone), pan, wet/dry mix, and HPF and LPF cut-offs between channels. Right-click a plug-in control to access a MIDI Learn function and link the control to a MIDI CC controller. Complete preset-management facilities—recall, reload, name, save, delete, import and export functions—are provided. Clicking on the Browse button opens the Preset Browser in a panel below the main GUI. Presets listed in the browser may be filtered using categories and tags to find the most relevant preset for your current application. Version 1.0.0 included 30 presets in the Decaying Echo category, 14 in Room Slap and one in Wave Shaper (the latter preset is a highly saturated, 0.1ms mono delay named 40s Tape).

In mixdown sessions, Repeater dished out slapback, flutter and chorus-y echoes; long echo trails; ping-pong delays; and automatic double tracking (ADT) with ease. Using the A and B Spread settings with extremely short delay times and moderate feedback produced wide and dense ADT effects on vocals; they sounded virtually compatible with mono summing at my mixer. To my ear, activating the Analog button rounded transients, rolled off high frequencies and added pleasing harmonic distortion to the wet signal.

With Repeater's LPF and HPF set to pass full bandwidth, Analog mode turned off, the Clipper's Color control set to 0 dB (and its quality in real-time mode set to Normal), and both channels set up for quarter-note repeating echoes, I auditioned all the delay models in turn on a female lead vocal track to see how their wet signals differed in sonic quality (both channels' Mix controls set to 100%). Memory Guy, Mirky Delay and especially the DM-2

model sounded saturated and rolled off high frequencies a lot. Mellow Delay yielded very understated midrange reproduction but readily passed sibilance; TelRay sounded even muddier (in a good way), producing a mild upper-bass/lower-midrange bump and passing virtually no highs. New Radio sounded smoothly present and lightly saturated, while Old Radio offered an equally present midrange band but sounded more saturated and passed little top end. PlexyEcho sounded a little more present than New Radio and slightly more saturated in the high frequencies.

The three Pitchy models all produced warbly echoes; Pitchy 3 sounded darker than Pitchy 1 and 2 and modulated the wet signal's pitch more audibly. Coopy Cube and Digital 42 each produced a noticeable lower-midrange bump and were only subtly different in tone; Digital Delay and Digital 42 x2 were comparatively smoother in the midrange band, but the latter model sounded noticeably saturated and dramatically rolled off high frequencies.

Of the four Tape Delay models (Ancient, Classic, Modern and Vintage), Ancient sounded by far the most saturated and the least extended in the highs, while Modern sounded the cleanest and clearest.

As you would expect, Telephone 1 had a bandpass filter on the midrange band and sounded a bit saturated; Telephone 2 sounded muddier (again, in a good way), with its spectral balance skewed more to the lower midrange band. Cassette Tape sounded moderately saturated and produced a gentle bass roll-off. The takeaway: Repeater's delay models offer so many variations on tone and saturation level, you're bound to find a great-sounding effect.

Repeater was slightly buggy, but not enough to discourage you from buying. Repeater is a fantastic plug-in that's smartly designed to let you audition many great-sounding virtual delay devices in turn without altering your parameter settings. It's a winner! ■



FAIR USE IS FAIR PLAY

Whether he is recording Mark Knopfler or learning a new plug-in, award-winning recording engineer Chuck Ainlay always acquires the music software he uses from legitimate sources. Chuck believes in fair play and works exclusively with legal software.

Respect yourself, your craft, and the work of others.
Buy the software you use, and buy the music you love.



BUY THE
SOFTWARE
YOU USE

www.imsta.org



Producers &
Engineers Wing

HARRISON CONSOLES MIXBUS 4

A DAW With the Personality of an Analog Mixer

Back in 2009, Harrison Consoles decided to dip its toes in the DAW market. Using the open source DAW Ardour as the engine, Harrison created Mixbus, a multitrack recording and editing application with a mixer section designed to re-create the signal flow, workflow and sound of the company's 32 Series and MR Series consoles.

Now in its fourth major release, Mixbus, which runs on Mac, Windows and Linux, is more fully featured and versatile than ever. It's not yet on par with other major DAWs when it comes to MIDI and arranging features—though it does have those capabilities—but it offers a significantly different mixing environment that really does feel more mixer-like. And it sounds great.

STRUCTURE

Like many DAWs, Mixbus' two main windows are an Editor and a Mixer. The essential functions of the Editor are what you'd expect—viewing track lanes, editing audio and MIDI, editing automation, changing meter and tempo, and so forth—and the features give you everything you need. The MIDI editing, like the MIDI features in general, are rudimentary but functional.

Whether for MIDI or audio, the track structure in Mixbus is versatile. Not only can you record on multiple playlists, you can also record in layers on a single playlist. It's a pretty flexible system, although it lacks a swipe-comping feature.

The Mixer window is where things really get interesting. Like on a studio console, each input channel has built-in EQ and compressor sections. Harrison stresses that although you can add plug-ins, it isn't strictly necessary, and the company includes a group of its own plug-ins in Mixbus. There are some useful utilities included, but most of the processing plug-ins are



Each input channel of Mixbus 4 includes built-in EQ and compressor sections.

just demos. You can unlock them and purchase others through the Harrison online store. Considering the low price of Mixbus itself, spending a little more for plug-ins is not unreasonable. Also included is a collection of open source plug-ins from the Ardour community. Mixbus supports the AU and VST plug-in formats. VST support for Mac is new to Mixbus 4.

The three-mode compressor built-in to each channel is versatile and sounds quite good. Its features include a threshold slider and a ladder-style gain reduction meter that runs parallel to the fader and channel level meter. It also has a makeup gain knob and a variable parameter knob that changes function depending on which compression mode you've selected.

The compressor's default mode

TRY THIS

If you want to make a channel strip wider, just double click on the track-name field. If you hold down Shift while doing it, all the channels will get wider. Mixbus automatically adjusts the fader size to match the resolution of your computer monitor, but sometimes you'll want to shrink the channel strips more if you have a large session. To do so, go to Mixbus 4/Preferences/Apearances and pull down the Mixer Strip Scale menu. There you can reduce the channel strip size in increments of 5 percent, down to a minimum size of 70 percent.

is Leveler, which is quite transparent and does a good job of keeping dynamics under control. Here, the parameter knob governs attack time. The second mode is simply called Compressor. It gives you a more noticeable compression; the variable knob controls ratio. The third mode is a Limiter with a fixed, high ratio and a very fast attack. The parameter knob controls release time.

Each Mixbus channel sports a 3-band semi-parametric EQ with a highpass filter. I found it convenient to have the EQ controls always available, rather than having to insert and open an EQ plug-in. I like to highpass most tracks, so it was great to have the control right there. In addition to wishing the EQ was fully parametric, my main gripe with it is that the knobs are too small, and they kind of get lost visually in the dark colored GUI.

LIFE IN THE BUS LANE

The Mixbuses are the key to the program's analog-mixer-style workflow. Eight bus tracks reside on the right-hand side of the mixer and function as subgroups to the Master Bus. Any track in a session can be easily routed to any Mixbus by simply pressing the corresponding button on the track's channel strip.

Mixbuses are more than just glorified aux busses. All the Mixbuses and the Master Bus have a good-sounding Tape Saturation effect built in, which can be applied with a knob located above the fader. Like the compressor and EQ, the Tape Saturation quickly becomes a part of your workflow, thanks to its easy availability.

Each Mixbus also has its own compressor, offering the same three flavors as the track compressors, plus a fourth, Sidechain. You can route individual channels to a MixBus's sidechain compressor using buttons located on each tracks' channel strip. Assigning tracks to sidechains on third party plug-ins is achieved through the Pin Connections dialog, which is accessed by right-clicking on a plug-in that's been instantiated in the mixer.

Additional controls on each Mixbus include a Track Width button for narrowing down the stereo field, and a "Spill" button, which hides all other channels except the ones routed to that Mixbus. Both of those features are new to version 4. I found the Spill feature, in particular, to be extremely useful. On any DAW, it's not unusual in a large session to have to do a lot of scrolling around searching for tracks. The Spill button makes it easy to quickly focus on a group of specific tracks. For example, if you had all the drums routed to one of the Mixbuses, you could press its Spill button, and all you'd see in the track area would be the drum tracks. Spill buttons are also available on Mixbus's VCA faders.

Mixbuses and the Master Bus contain a "Tone" section, consisting of Low, Mid, and High EQ knobs at fixed frequencies and a limited gain range of ± 6 dB. Although they're anything but surgical, they're handy for subtle tonal tweaks. Each Mixbus is routed by default to

PRODUCT SUMMARY

COMPANY: Harrison Consoles

PRODUCT: Mixbus 4 (Mac/Win/Linux)

WEBSITE: www.harrisonconsoles.com

PRICE: \$79

PROS: Console-like workflow. Built-in EQ, compressor and tape saturation. Spill buttons make focusing on specific tracks easier. Good VCA implementation. Highly customizable.

CONS: Channel EQ's not fully parametric, EQ knobs hard to see. No usable reverb included. No swipe-comping feature. Manual needs updating.

the Master Bus, but you can easily change its output, making it possible to use Mixbus with summing hardware.

In addition to its VU-style meter, the Master Bus has a separate K Meter that can be switched in the preferences between K14RMS, K20RMS, as well as several IEC standards and more. Also on the Master is a switchable brickwall limiter that keeps peaks below -1 dBFS. Again, it's nice to have that built in.

NEW AND IMPROVED

Most of the improvements put into version 4 were designed to streamline the workflow. These include redesigned transport and channel-header controls, and the impressive new Tempo Map feature, which simplifies the (always tedious) task of creating a grid for a session recorded without a click.

The VCA implementation is another key addition. VCAs can be assigned to any track or Mixbus, and are particularly handy for controlling several Mixbuses at a time. If you have, say, background vocals on one Mixbus and lead vocal on another, you can assign both the same VCA slider.

The new Navigation Timeline at the top of both the Mixer and Editor screens functions similarly to the Universe View in Pro Tools. Click on specific times, measure numbers or markers in it, and the transport will jump to that point.

Speaking of Pro Tools, Mixbus 4 also includes a new feature that's technically still in beta, called Import PTX PTF. It's designed to let you import audio and MIDI files from a Pro Tools session file into Mixbus. Its performance was inconsistent when I tested it, but assuming they get the kinks worked out, it should be quite useful.

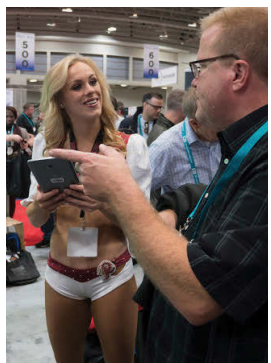
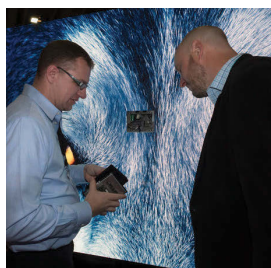
For those comfortable with scripting, the new LUA scripting engine can be used to create a wide range of triggerable custom actions. Scripts can be triggered by keyboard commands, actions, and by using one of the eight Action Buttons.

MIX AND MATCH

The more I use Mixbus, the more I like it. It's not going to replace my regular DAW for tracking and arranging, but I've already mixed a couple of projects in it and could see doing more. Harrison has done a good job of translating the analog-console vibe and sound to its software. If you're one of those people who misses mixing on a console, Mixbus could be an appealing option.

You'll also want to check out Mixbus 32C version 4 (\$299) which should be out by the time you read this. It's basically the same feature set as Mixbus, but with some upgraded aspects including a fully parametric channel EQ based on the one from the Harrison 32C, and 12 Mixbuses instead of eight. ■

Mike Levine is a composer, producer, and multi-instrumentalist from the New York area.



Government
VIDEO EXPO



NATIONAL
DRONE SHOW

WALTER E. WASHINGTON CONVENTION CENTER
WASHINGTON, DC

SAVE THE DATE: November 28-30, 2017

Save the date for the region's largest technology event of the year! Government Video Expo and The National Drone Show are returning to DC! Our DC Post | Production Conference runs for three days and our Exhibit Hall Floor and National Drone Show are open on days two and three of the show. This expo features a full exhibit floor, numerous training options, free seminars, keynotes, demos, networking opportunities, daily raffles, panel discussions and more!

SIGN UP TO LEARN MORE
WWW.GVEXPO.COM/INFO



We're Social. Follow Us and Join the Conversation.    #gvexpo @GVExpo

PRODUCED BY

Government
VIDEO

TVTechnology

VIDEOEDGE

CREATIVE PLANET
NETWORK

SOUND & VIDEO
CONTRACTOR

scn

prosound

BroadcastEngineering.

To learn more about exhibiting contact Jackie
Gospodinoff at 212.378.0493 or via email at
jgospodinoff@nbmedia.com.

Classifieds

ACOUSTIC PRODUCTS

Shane D. Wilson
Engineer/Mixer
(Ben Rector, Switchfoot,
Third Day, Crowder and
GRAMMY® Nominated
All Sons & Daughters -
"Poets and Saints")

Photo by Eric Brown

Total Sound Control Since 1977
Auralex
acoustics
www.auralex.com

"Auralex was able to quickly make me feel sonically at home in my new space"

Photo: J. Evans

Photo: K. Hatschek

Toll-Free Number:
888-765-2900

AcousticsFirst!
The first name in state-of-the-art sound diffusion.

Don't miss your cue...
with the VoxGuard VU™!

PRIMACOUSTIC
www.primacoustic.com/voxcguard

SILENT Source
58 Nonotuck St., Northampton, MA 01062
Info: (413) 584-7944 Fax: (413) 584-2377
ORDER: 800-583-7174

Silentcore Fabric Panels •
Sound Barrier • Isolation Hangers
Tube Traps • Primacoustic •
WhisperWedge • ProFoam • Clearsonic
• Hushfoam • R.P.G. Diffusers •
Sonex • Sound Quilt • More
www.silentsource.com
info@silentsource.com
QUALITY • PRICED RIGHT • INTEGRITY

www.mixonline.com

INSTRUCTION

BE A RECORDING ENGINEER

★ **ONLINE COURSE**

BRAND NEW online practical training in Multi-track Recording. Join our successful working graduates or build your own studio. Career guidance. Diploma. Registered School.

FREE INFO:
ATA Audio Institute of America
from San Francisco - USA
www.audioinstitute.com

To advertise here, contact:
Zahra Majma
212-378-0400 x517
zmajma@nbmedia.com

Marketplace

Gotham Skyline Diffusor Alpha Series 244 Bass Trap

GIK ACOUSTICS MAKES YOUR ROOM SOUND BETTER.

Choose from our full line of Absorption, Bass Trapping, and Diffusion products. Our design staff is available to provide free acoustic advice and solutions.



Order Direct from
gikacoustics.com
888.986.2789

MASTERING

FREE MASTERING

VINTAGE HELIOS + 1/2" TAPE

ANALOGMIX.COM/FREE

RETAIL

0% INTEREST FOR 24 MONTHS*
*ON SELECT PURCHASES OF \$299 OR MORE WITH YOUR SAM ASH CREDIT CARD. 24-EQUAL MONTHLY PAYMENTS REQUIRED.

• **LOWEST PRICE GUARANTEED**
• **EXPERT ADVICE**
• **FREE SHIPPING ON ORDERS OVER \$10**

SamAsh 1-800-472-6274 | **SamAsh.com**

Run your MOTU studio on the cutting edge

Run Digital Performer 9 on the ultra thin, ultra powerful iMac with Retina, then add the very latest studio recording technology.

Apple iMac

Retina. In colossal and ginormous.

The idea behind iMac has never wavered: to craft the ultimate desktop experience. The best display, paired with high-performance processors, graphics, and storage — all within an incredibly thin, seamless enclosure. And that commitment continues with the all-new 21.5-inch iMac with Retina 4K display. Like the revolutionary 27-inch 5K model, it delivers such spectacular image quality that everything else around you seems to disappear. Adding up to the most immersive iMac experience yet for your MOTU studio.



MOTU 624

16x16 Thunderbolt/USB3 audio I/O

Equipped with renowned ESS Sabre32 Ultra™ DAC technology, the 624 has the same award-winning audio quality and proven performance as MOTU's flagship 1248 interface — packed into a mobile half-rack enclosure. You get 2 mic inputs, 2 guitar ins, 4 x 6 balanced analog with dedicated main outs and 8-channel ADAT optical.

Eventide Anthology X

The best Eventide effects in one bundle

Seventeen mixing, mastering and multi-effect plug-ins based on 40 years of Eventide studio mainstays like the H910, H949, H3000 Factory, Band Delay, and Omnipressor. Includes future classics like UltraChannel, UltraReverb, Quadravox and Octavox. A true must-have for any size MOTU studio.



Value Added
Reseller
Professional Audio

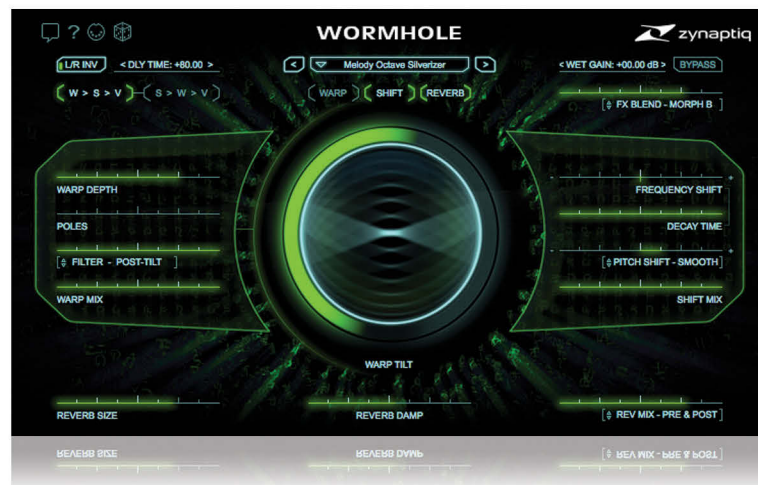
MOTU



Zynaptiq WORMHOLE

Otherworldly audio effects plug-in

From beautifully shimmering detuned guitar widening and glassy ambient octave-shift tails, to surreal ambiences, starship drones, alien, monster, and robot voices — WORMHOLE is the new indispensable multi-effects powerhouse for sound designers, music producers and film composers alike. Combining ultra-clean pitch/frequency shifting, eccentric spectral warping, dual lush reverbs, and unique dry/wet morphing, WORMHOLE delivers sounds so unearthly you'll swear they're from a parallel universe.



Neumann TLM 103

Large-diaphragm cardioid microphone

The TLM 103 combines a capsule drawn from the legendary U87 with tried-and-true transformerless circuitry to deliver classic Neumann sound to any project studio, professional facility or performance venue. Incredibly low self-noise, robust feedback suppression and solid construction make the TLM 103 a must-have mic for any situation.

Focal Trio6 Be

450W 3-way studio reference monitor

The Trio6 Be was designed to meet the standards of the most demanding engineers. This dual monitor is the new reference in its price range owing to its extreme neutrality, its precise stereophonic imaging, and its ability to resolve the most minute sonic details, while its Class G amplifiers deliver SPL levels to suit all musical styles.



Sweetwater®

Music Instruments & Pro Audio

(800) 222-4700
www.sweetwater.com

©2017 Sweetwater, Inc.



The Parallel Universe



By Kevin Becka

One of my favorite things to do when tracking or mixing is to use parallel chains of gear, creating parallel chains of sound. Simply put, a parallel chain is a copy of a single track, or group of tracks, that is processed and then mixed back in with the original tracks. When I say “copy,” that can mean a send from a single track to an Aux input, a second physical copy of a track, or a group of tracks (like toms, for instance) sent across a bus, or buses, then blended to a new stereo Aux input. It sounds simple, and it is, but the magic happens when you process your copy and figure out how it works best with the original.

I remember the first time I heard a great drum recording. I had the chance to solo all the mics, some of which were dry and unimpressive. But the whole picture, when all the inputs worked together, was stunning. The kick and toms had a big fat bottom end with beautiful attacks on the stick hits, and the snare was a rifle shot. The cymbals were crisp without being strident and were so present it sounded like I was sitting on the drum throne playing the kit—it was both intimate and stadium-like at the same time. The “secret” to this great track was parallel compression and EQ. Once I “got it,” I started collecting parallel tips from every engineer I worked with.

BPT (Before Pro Tools), when I was an assistant engineer, Mick Guzauski had me mult a dull-sounding snare to an adjacent track, which he compressed flat with a dbx 160 and proceeded to boost enough 3 kHz that it ripped your face off. But when it was tucked in under the dullard, it was just the ticket. (Of course, now you’d use Sonnox TransMod, elysia nvelope, or Slate’s FG-Bomber plug-in.) John McBride runs two parallel drum chains, one stereo from the multitrack buses on the console where he sends the kick, snare, toms and overheads to a Fairchild, plus individual kick and snare parallel bus sends to both sides of a BBE Sonic Maximizer set appropriately for each feed. Once they all come back to the console and are blended with the direct mic feeds, it makes the drums bigger than life.

You can use parallel chains on vocals, guitars, drums, handclaps, percussion and more. I’ve been using what I call a Kit Close mic that I like to grunge up with a guitar pedal or some other overdriver. The new Chandler REDD mic has been working admirably in this regard; I place just over the kick drum facing the snare in omni. The mic has its own preamp, which I set in Drive mode for a gritty edge that I bring out further with an 1176 Blue Stripe compressor. Since it’s line-level out of the mic, I also mult the clean

feed to a separate track in case I want to re-treat it later—a parallel chain from a single microphone.

For rock vocals I’ll have the vocalist sing into two mics, a live parallel chain. One mic is a standard SM7 going directly through a preamp and compressor into Pro Tools. The second mic, placed right next to the other, is a Placid Audio Copperphone or Shure Green Bullet going into a guitar amp, which is miked and sent to a second track.

Another reamping trick is one that I borrowed from Jacquire King and altered a bit. It all starts with a “trash” mic, something you place on the floor under a snare drum; this goes to a preamp of your choice, then into a Radial EXTC or other re-amp box. This goes into a Boss NS-1 Noise Suppressor then an amp head such as a Sovtek or the like. From there, the speaker out goes to an SE Electronics RNDI. The Thru from the RNDI goes to a ceramic 8-ohm resistor to take the load and the XLR goes right to Pro Tools. (The RNDI needs P48 so you’ll need an ATUS box or something else like it at the output.) Once you set it up and start tweaking the amp, it’s stunningly distorted and ugly, but under the rest of the track it puts the kit right up in your face.

I’ve recently been binge watching videos at PureMix, most notably from Andrew Scheps, who has a great tutorial on how his mix template works, especially in reference to parallel chains. This blew my mind, and I’ve been trying most of his tips both inside and outside the box on mix and tracking sessions. Andrew uses a Kick-Snare crush, a parallel send to a Fatso plug-in, a parallel drum “dirt” bus, sometimes a stereo Tom Crush bus, and a separate Drum Crush that he EQs and compresses appropriately to manage the cymbals next to the K-S and Tom chains. His ears are incredible and he is a natural-born teacher. In other videos, he goes over the settings of the plug-ins in the template and how the chains effect the overall sound of the kit, guitars, vocals and more. Watch his Green Day Bang Bang mix video—it will change your life.

I’m venturing into new parallel territory this next week. FedEx just dropped off a pair of the new Maag Magnum K-Compressors that I’m going to use on a drum crush bus where I’ll send the hi-hat, and OHs so I can parallel crush the cymbals. The K has two compressors, one full-featured with threshold, sidechain and attack/release, and a second K-Comp crushing just at 3 kHz. Next, there’s a parallel, boost-only, 2-band EQ, plus a soft limiter at the output. It’s stuff like this that keeps me up at night thinking how I can use it. Isn’t audio gear grand!! ■

Get ready for the ultimate mixing platform.

STUDIOLIVE® 32



Not to sound boastful, but when the new Series III was completed, even *we* were blown away. Or as Jim Odom, our founder put it, *"We expected to knock it out of the park, but we knocked it all the way to New Orleans."*

Nine years in the making, StudioLive 32 is beyond everything else in its price point and surpasses anything we've ever created. Yet it remains at the head of the class for ease of use and sound quality.

From XMAX preamps, 7-inch color touch screen and a 55 x 55 AVB networking interface, to 1.6-billion (with a "b") DSP instructions per second and 40 inputs, the complete StudioLive 32 feature list is nothing short of mind-boggling.



Log on to presonus.com and learn how we've leap-frogged our competition again.



One-touch Multitrack Capture™ SD Card recording without a computer —leave the laptop at home.



Totally re-designed Fat Channel with State Space Modeling now has vintage EQs and compressors in an all-new UI.



100mm touch-sensitive motorized faders maintain that intuitive 1:1 fader-per-channel workflow that StudioLive is famous for. You can also switch to classic split console mode!



Includes new versions of Studio One® DAW, Capture™, QMix® UC, and UC 2.0 —all with groundbreaking integration.

©2017 PreSonus Audio Electronics, Inc. All Rights Reserved. PreSonus, StudioLive, QMix, and Capture are trademarks or registered trademarks of PreSonus Audio Electronics, Inc. Studio One is a registered trademark of PreSonus Software Limited.

M64 • 8D • LP32

Three new audio interfaces with digital I/O
for studio, stage and A/V installations



M64

- 256 channels of MADI I/O
- Optical and BNC, all formats

8D

- AES3 and S/PDIF digital I/O
- Sample rate conversion

LP32

- Four banks of "lightpipe" I/O
- ADAT, S/MUX and TOSLink

- USB support for Mac and Windows.
- Route, split and convert digital audio.
- Ultra-low latency and proven drivers.
- Stand-alone operation with Wi-Fi control.
- Powerful DSP mixing and effects.
- Support for AVB-TSN networking.

