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MIX

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

REMOTE RECORDING

Highs and Lows
Of a Changing Market

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iPhone Apps For Engineers

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SAADIQ
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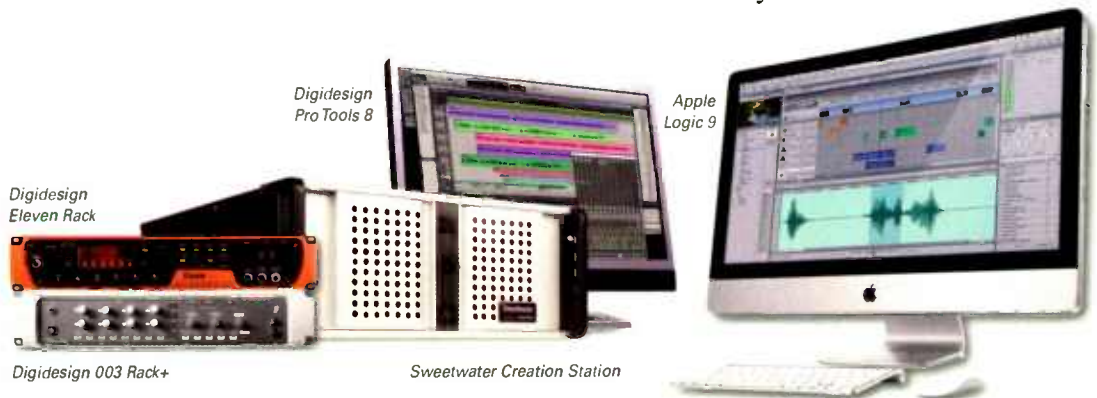
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SONAR 8.5

See the faces behind SONAR 8.5 at:
www.cakewalk.com/mix02

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► In With the Old, In With the New

We fully expect to receive some letters here at the *Mix* offices regarding this month's technology feature on pro iPhone/iPod touch apps. It happens each and every time we write about a shift toward more "down-market" applications and away from the more traditional "high-end" recording techniques or technologies.

Home studios emerged in a big way in the late '80s and we were taken to task for covering these upstart "project studios." When ADATs and DA-88s debuted and George Petersen trumpeted their game-changing approach to digital recording, we received letters stating consumer videotape-based media were not worthy of a real commercial studio. Then came emulation plug-ins, which—horror of horrors—couldn't compete with the real thing. And in the early days, the critics were probably right. Then came freeware, shareware, GarageBand. The list goes on. Now we have the iPhone, and no doubt plenty more Droid apps to come.

Are we advocating that professional recording engineers start tracking, editing or mixing full projects on their smartphones? Not at all. But we do have a responsibility here at *Mix* to stay on top of what's happening, and we would be remiss to categorize any breaking technology as worthy or unworthy of a recording professional. Our mission, from the first issue in 1977, has been to report on the tools and techniques that are used to create audio, no matter their price point or their point of origin. That includes high-end analog consoles from the likes of API and SSL, right down to sketchpads for artists in rehearsal halls or on the road as they work out new tracks. If the tool helps an engineer, whether it's in signal processing or in room design, whether it costs \$50k or \$0.99, we will report on it.

In a sense, we're privileged here in the audio industry. We have a user community that embraces tube technology and boutique manufacturers. We have a knowledge base that promotes tried-and-true miking techniques while encouraging radical experimentation with found sounds. We love our dials and knobs, and we support cloud computing and remote collaboration. Most every engineer I've met echoes the sentiment: Whatever serves the music; whatever gets the job done.

So if you find yourself in need of checking phase, there's an app for that. If you are out on the town and need to grab a down-and-dirty 2-channel recording because you've never heard a train pass-by quite like that, there's an app for that. And, of course, if you need to get in a few games of Tetris or Solitaire while waiting for the guitar player to show up, there's an app for that.

Make no mistake: The paradigm is shifting and mobile apps will be a part of the future. When those much-hyped tablets start popping up this year, don't be at all surprised if you see one right there beside the API console and the rack full of Pultecs, Fairchilds and UA 1176s. They are all tools.



Tom Kenny
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Mix

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World Radio History

CURRENT

compiled by Sarah Benzuly

IN MEMORY: FRED JONES



Fred Jones (far-right) in the studio working with Firesign Theatre, a band he produced and engineered

PHOTO: DAVID COGGIN

Studio owner, engineer, producer and industry figure Fred Jones passed away on December 9, 2009, after suffering a stroke. Longtime husband to Laurel Cash-Jones (audio author, former AES Regional/International VP and convention chair), Jones began his career in broadcasting and recording in 1971 as an on-air radio personality and program director, and started working as a recording engineer in 1974.

As a staff recording engineer, Jones worked at various studios in L.A., including Sound Services Inc. and Wally Heider Recording (among others), before building his own studio. Fred Jones Recording Services opened as a one-room, 800-square-foot studio in 1981,

and grew to become a 6,500-square-foot, state-of-the-art, multiroom facility with services as diverse as 24-track audio for video post-production studios and rooms specially designed for radio commercial production. The facility was among the first to offer such services as phone patch recording, satellite recording and 2-track digital recording on Sony DAT machines.

Jones sold the business in 1990, and he and Cash-Jones founded CJ Technology, a rep firm that promoted DIC Digital, a line of pro DAT tapes, CD-Rs and data products for the audio and computer industries. During the NAB show in 1991, attendees were shocked to see local TV news coverage reporting that the two were victims of a violent home invasion crime. Both were shot multiple times, requiring years of painful therapy and reconstructive surgeries.

After several years of consulting to audio companies during the recuperative phase, Jones returned full time to pro audio as product marketing manager for Panasonic's Pro Audio division. Jones later returned to his engineering/production roots, taking the responsibility as the chief audio engineer for leading game developer Electronic Arts from 2003 through 2006. The couple then semi-retired to Las Vegas, where Jones continued his audio consultancy practice.

—George Petersen

seen & heard

"The relaxed atmosphere of the production is completely capturing a new audience on the Web."



—recording engineer/mixer Peter Moshay, owner of A-Pawling Studio, on recording (to a newly installed SSL A1WS 900+ SE console) Daryl Hall's "Live From Daryl's House" monthly Internet program, which features Hall and guest performers.

Thunder Audio Expands

On December 10, Thunder Audio (celebrating 30 years in the business) hosted an open house of its new facility (Livonia, Mich.) and a new demo room, where Meyer Sound



Above: The new demo room. Below: President Tony Villarreal flanked by Greg Snyder (left) and VP Paul Owen.



showcased its new JM-1P arrayable loudspeakers. Other gear in the room included Midas and Yamaha digital boards, and systems from Nexo, Aviom and LightViper. In addition, Greg Snyder (formerly of Onstage Audio, Michigan, and Creative Audio) joins the company as business development manager.

'New' Bad Animals Celebrates 10 Years

"Our philosophy—that the client and the project is the most important thing in the world—is why we've been around for so long and why we will continue to be here."



—film/TV/videogame/corporate video company co-founder Charlie Nordstrom, pictured second from right with (from left) partners Dave Howe, Mike McAuliffe and Tom McGurk

ASCAP Doles Out Cash



Approximately \$2.7 million in cash awards for 2009-2010 has been made to writer members of the American Society of Composers, Authors and Publishers (ASCAP) by the Society's ASCAPplus Awards Panels (ascap.com/ascapplus). The purpose of these special awards is to reward writers whose works have a unique prestige value for which adequate compensation would not otherwise be received, and to compensate those writers whose works are performed substantially in media not surveyed by ASCAP. The panel includes choral conductor/arranger Judith Clurman, *Star-Ledger* (Newark) drama critic Peter Filichia, *USA Today* Nashville correspondent Brian Mansfield, music journalist Melinda Newman, radio personality Pat Prescott, Professor Emeritus at the University of Michigan H. Robert Reynolds and *Time Out New York* classical music editor Steve Smith.

Industry News

Eric Dies joins Symetrix (Seattle) as VP of manufacturing...New director of sales at MV Pro Audio (Santa Barbara, CA) is Brad Strickland...Dino Virella assumes the director of global sales, professional products role at Blue Microphones (Westlake Village, CA)...ASCAP (NYC) promotions: Jason Silberman, senior director membership, pop/rock; Joshua Briggs and Marc Emert-Hutner, directors of membership, pop/rock; and Jorge Rodriguez, director of membership, Latin...L-Acoustics (France) awarded system engineers Ulf Oeckel, Sherif El Barbari, Nick Pain, Paul Van Baasbank and Vladimir Coulibre to the status of K System Engineers (KSE)...Distribution deals: SONiVOX (Somerville, MA) acquires exclusive distribution rights to Way Out Ware's product sets; Intellimix Corp. will distribute dBTechnologies' (Italy) offerings in Canada; and Danley Sound Labs (Gainesville, GA) names Mitek Canada (all points north of the continental U.S.) and Sound Mission (Poland, Germany, EU countries).



Dino Virella

Mix Master Directory Spotlight

This month's featured listing from the new online-only Mix Master Directory (directory.mixonline.com/mmd)

Kaufman & Associates

Kaufman & Associates specialize in the design, project supervision and installation of critical-listening and viewing environments. Owner Jay Kaufman brings more than 30 years of professional audio and video experience and a wealth of knowledge to each job. Our approach combines acoustical know-how with architectural innovation to produce environments that sound as good as they look. We can provide comprehensive services or we can work with your architect, contractor and designers.

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on the move

Craig Paller,
Harman Music
Group VP, world-
wide sales



Main Responsibilities:
manage all facets of
global sales.

Previous Lives:

- 2005-2009, BSS
Audio and dbx Pro VP worldwide sales
- 2001-2005, Shure director U.S. sales
- 1995-2000, Shure sales positions
- 1993-1995, E-V market development
manager

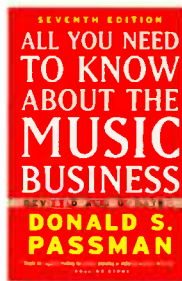
The one item in my office most like my personality is...my window (and view) of the Wastach Front and Lone Peak at 11,000 feet. I'm very active, skiing 50-plus days per year.

Currently in my iPod...Styx, Buckcherry, Foo Fighters and anything with Hugh McDonald (Bon Jovi) on bass.

When I'm not in the office, you can find me...with my family, in a pool, alpine skiing, hiking/climbing.

Studio Unknown

If you take a look at a recording studio's booking calendar, you may be surprised to find at least one live sound gig. Engineers and studios are expanding their services—and their revenue—by offering live recording rigs and support. Find out more in the latest entry of Studio Unknown's Confessions of a Small Working Studio at mixonline.com/studio_unknown.



Bookshelf

Free Press has released the seventh edition of Don Passman's *All You Need to Know About the Music Business*, which has been updated to address issues that stem from the current "digital age."

Price: \$24.95; donpassman.com.

Also check out twitter.com/DonPassman, where Passman tweets his thoughts, comments and more about the book, the industry, etc.

SESSIONS

Virtuo Sound Studio—Connecting With Atlanta Musicians

Josh Hack and engineer Andrew Burn started recording together a couple of years ago when drummer/engineer Hack's band, Gravity Burn, visited the studio Burn used to operate out of his parents'

Burn's folks asked that the studio be moved to a new "home." Hack and Burn found a serviceable office space that they were able to turn into a well-built four-room facility, Virtuo Sound Studio (Canton, Ga.;

www.virtuosoundstudio.com), which they constructed with the help of another musician friend, Mike Burke of Michael Burke Creative Carpentry.

"Mike is also a contractor and master carpenter, so in exchange for lifetime free studio time, he brought in his friends and anyone we could get in here, and we did six months' work in about six weeks. We paid

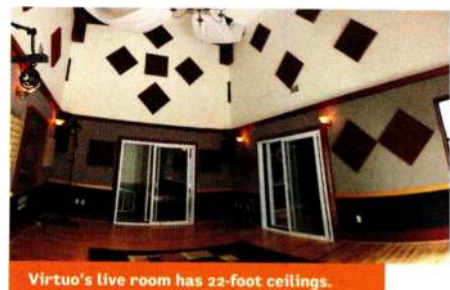
for his friends' labor and the materials, and he ran the job for free. And one of his friends, John Rice, who is also a master carpenter, built our Toft [ATB32] console desk."

Hack and Burn designed the studio themselves, installing Auralex acoustical treatments and custom finishes. The facility went online eight months ago. Studio A, the Toft room, includes a host of mic pre's (Neve, Drawmer, Empirical Labs,

UA, etc.) and outboard and plug-in processing, and recording/mixing via SONAR Producer HD or Pro Tools LE. Control A is attached to a large, live tracking room with 22-foot ceilings and plenty of natural reverb. Studio B is a smaller, deader recording space with its own control room, where recording/mixing is done in the box. "This is Atlanta," Hack says, "so we do lots of hip-hop and rap in there. It's good for those artists; they get that nice, large-sounding voice, but rappers like it big and dry, and they always bring their own beats in—either stereo-format beats or they'll break it out into Pro Tools tracks."

It's definitely the total package that makes Virtuo Studio successful—nice gear, good rooms, helpful friends and musical connections: "We've also been fortunate to develop relationships with some pretty well-known producers who are coming to use our rooms: Shawn Grove, Rich Ward, Neil Citron, Robert Hannon and some others."

Another relationship Hack is particularly happy about is with lo-



Virtuo's live room has 22-foot ceilings.

cal Christian metal artists Ephelion, who are new clients. "Their music is phenomenal to the point where one of their songs brought me to tears," Hack says. "They're young guys, and I think these kids could be stars. I'm a rock guy, so I tend to gravitate toward that kind of sound—heavy guitars with harmonies, big bass and killer drums, and a voice that makes you want to cry. But we do it all here: gospel, bluegrass, screaming-bloody-murder metal, jazz, rock.

"When I'm not with my band playing or doing a recording project in the studio, I'm online constantly," Hack says. "Facebook, MySpace, doing research, calling people, emailing and letting everyone know what we're doing. I'm not shy."

—Barbara Schultz



Drummer/studio owner/engineer Josh Hack (left) with co-engineer Andrew Burn

basement. Hack joined forces with Burn, and both engineers really hit their stride.

"Our personalities mesh, and what I lack he has, and what he lacks I have. I've expanded his production and engineering horizons, and he's expanded my technical knowledge of mixing and sonic surgery," Hack observes.

When bands started lining up outside the Burn family's door,

project studio Mix-A-Lot Studios



Sir Mix-A-Lot at the controls of his 32-channel Digidesign D-Control worksurface

PHOTO: ANTHONY RAY

Seattle-based hip-hop artist and producer Sir Mix-A-Lot (www.sirmixalot.com) is perhaps most widely associated with his breakthrough 1992 single, "Baby Got Back" (from *Mack Daddy*, his first release on Rick Rubin's Def American label), which won a Grammy Award for Best Rap Solo Performance. But although Sir Mix-A-Lot made his mark in rap music, he points out, "I had a lot of different influences, and it wasn't really rap that made me want to produce; it was more of that early new-wave techno, like Kraftwerk, Gary Numan, Devo—stuff like that. I bought my first drum machine, the [Boss] Dr. Rhythm DR-55, and [became] addicted to the technical aspects of music production."

Sir Mix-A-Lot has maintained a D.I.Y. aesthetic throughout his career, including his three albums with Rubin. "I engineer most of my own stuff," he says. "I built my first true home studio in 1986. But I never felt the studio was what it should be. I abandoned tape way back when it was uncool to do so. I realized the power of editing on a computer."

Reelsound, Oprah Visit Texas State Fair

A few months ago, veteran remote recording engineer Malcolm Harper took his 42-foot Reelsound Studio truck to the Texas State Fair in Dallas to capture a Martina McBride performance for the *Oprah* show. Harper, whose studio is equipped with a 60-input Amek Media 5.1 analog console, dual 72-track RADAR systems and Meyer HD1 monitors, is based in Austin, but he has worked concerts from coast to coast, including 20 years and counting for the Public Radio International classic jazz program *Riverwalk* and a couple of previous *Oprah* music segments. Harper describes a day's work in his world:

"I got a call from Harpo Productions' technical director that Oprah was going to be doing the State Fair of Texas, but they didn't have an artist lined up yet. We found out about two days in advance who it was,

and luckily I have worked a lot with Martina in the past and know her husband, John McBride [engineer/owner of Blackbird Studios, Nashville, and longtime live sound engineer/provider].

"We got the truck up there on a Saturday before we taped on Monday. We had been in touch with [live sound providers] Clair Global, who were already set up on that stage. We were able to coordinate with them as far as getting input lists. John travels with a Clair system when he [mixes front of house] for Martina so they used what Clair already had in place. Her band set up—I think it was a six-piece—and she did one new song and a medley of her hits.

"We interfaced with Clair on the splits. The TV truck arrived the next day, we interfaced with TV, as far as getting timecode and feeds back and forth between us. We got to do a line check with Clair the night before and hear a few bands because that stage was already up and running for the State Fair. We established we had good signal, left for the night, got back the next morning at about 4

a.m., and hooked everything up, and they'd had a big rain storm that night, so somehow we had developed some buzzes and snaps and crackles. We spent about an hour going through and cleaning that up, and then Martina's band arrived at 6 a.m. and we got to do a line check with the band. Then Martina arrived about 7, and we got to do a check with her. Then the show got started and we taped about 9 o'clock till 10, and it was over by 10 o'clock. We ended up taking a couple of takes on the songs. John mixes FOH for Martina, so he wasn't in the truck the whole time. He did the soundcheck, came out, listened, said, 'Sounds like we got what we need,' and after the show he did the same thing and determined which take they would pass on to Harpo [Oprah Winfrey's production company] that would go on the show, and we were done."

For more information about the Reelsound truck and projects, visit www.mixonline.com.
—Barbara Schultz



John McBride with Harper during recording of Martina McBride's performance



Malcolm Harper at the Amek Media 5.1 board in his Reelsound mobile studio

by Matt Gallagher

Sir Mix-A-Lot's studio in Auburn, Wash., is his third project studio, and he is currently building a fourth in a new home. "Every time I move, I set up a new studio," he says. "When I built [the current studio], it used to be a formal dining room, and I don't do much formal dining so I gutted it." In recent months, Sir Mix-A-Lot has been producing artists on his label, Rhyme Cartel Records, including vocalist Tomeka Williams (*The Black Hood*) and artist Outtasite (*Careful What You Wish For*).

"I have no rules when it comes to making music," Sir Mix-A-Lot says. "Whatever sounds good, that's what we use. [Laughs] I mix with the end-user in mind. I listen to my mixes at 16/44.1, which is how everybody else is going to hear it. And I'll make an MP3 and listen to it that way, too. It has to sound right that way for me to call the mix complete. It's all about what feels right, what sounds thunderous in a kid's car with some subs in the back. I have six subs in my studio alone." Sir Mix-A-Lot monitors with KRK V88s and soffitted JBL 4430s. "I record myself right in the control room," he adds.

"My control room is pretty dead—that's how I like it. I don't want it live at all because then you have a tendency to mix to the room."

Sir Mix-A-Lot's studio is based around a Mac Pro and a Pro Tools HD3 system with two 192 I/O interfaces, a 32-fader D-Control worksurface and D-Command Producer's Desk. He notes that he works primarily in the box, and has begun favoring software synths, samplers and drum machines—such as Native Instruments' Kontakt and Battery, and Spectrasonics' Omnisphere—over his collection of hardware synths and MIDI controllers. He turns to Roland V-Drums (with real cymbals added) for drum tracks, and handles effects processing with plug-ins. He cites the Blue Kiwi multipattern condenser as his favorite mic; he also uses a Shure KSM44 and Neumann models.

"I love what I do," Sir Mix-A-Lot concludes. "Not many of us can get paid for doing something we love doing. It's a blessing. A lot of people sometimes don't appreciate it." ■

L.A. Grapevine

by Bud Scoppa

When Shooter Jennings called Dave Cobb, his longtime studio collaborator, two summers ago to enlist his services in making “a wild record,” the producer’s initial surprise soon gave way to excitement. True to his late father Waylon’s maverick spirit, Shooter wanted to tear down the fences that existed between the kinds of music that had influenced him growing up—ranging from Pink Floyd to Nine Inch Nails, from Lynyrd Skynyrd to the soundtracks of early Nintendo games—to make a concept album that would push sonic and stylistic envelopes. The fact that Cobb shared those influences and desires was the icing on the cake.

“We were rebelling against being in a box,” says Cobb, a rock dude who has made his mark primarily with amped-up country records like Jennings’ and Jamey Johnson’s. “By ‘wild record,’ I think Shooter meant anything but what we’d done before. It turned out to be a culmination of all those influences—really classic rock, but also not being scared to digitally manipulate sounds.”

At the time, Jennings had written just one keeper—“Black Ribbons,” which would provide the album

ning joke,” Jennings says. “He’s got all the vintage gear; I’ve got the synthesizers and the programming knowledge. We were breaking new ground left and right, doing things we’d never done, and things we’d never even heard of being done. It was an exploration for us.”

“The way we made the record was very mad scientist,” Cobb says. “The previous records we’d done were all old-school; this one was very much the opposite. This one was, ‘Let’s abuse technology.’ Shooter, surprisingly, is a computer genius. He knows how to get into a sampler like nobody’s business. So I was primarily the analog engineer and he was the digital operator and programmer. But we also called in Greg Gordon, who started out with Rick Rubin back in New York, to do the band tracking towards the end and then mix the record—he was a big part of it as well.”

When the digitally constructed tracks were complete, they brought in bass player Ted Russell Kamp and drummer Brian Keeling to replace and in some cases play on top of the programmed grooves. In those cases, says Cobb, “We recorded digitally to Pro Tools, but we bounced the real drums and the digital drums to a stereo pair on the analog machine.” They also served as the rhythm section for the songs designated for live-off-the-floor treatment, joined here and there by Shooter’s buddy Jonathan Wilson, who jammed over the passages that called for six-string intensity. Shooter’s mom, Jessi Colter, and sister, Jennifer Davis, sang backing vocals on the title cut. Near the end of the project, Kamp came up with “When the Radio Goes Dead,” which serves as the album’s thematic climax.

One key piece of gear was the Avedis MA5 mic-pre Jennings used to record his vocals at home, singing into an AKG D19. They also used a pair of Avedis E27s on the stereo bus. “We put the whole mix through those, and they rocked everything,” says Cobb. Additionally, they made use of Cobb’s UREI 1176s, Fairchild 660 and EMI RS124.

But there was still one crucial bit of unfinished business. After months of failed attempts, Jennings finally got word to novelist Stephen King, who agreed to provide the voice of the album’s narrator, the late-night talk-radio host Will o’ the Wisp. Jennings sent King the finished tracks and the monologue he’d written, and a few weeks later he received a recording of the author’s performance.

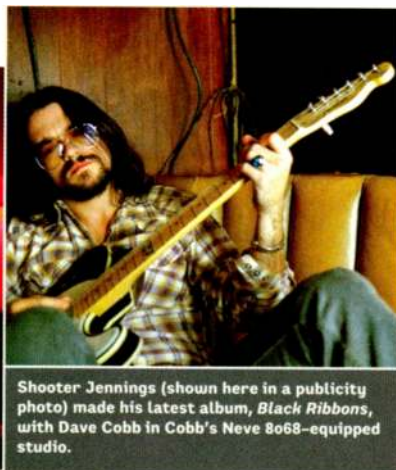
“He took what I’d done, doctored it and made it his own,” Jennings says. “He threw in some awesome lines, like ‘Killing for peace is like fucking for chastity.’ That made me feel vindicated for any frustration I’d felt. It told me I really was on the right path. Not that it should matter, but for any human being there’s always an element of doubt, and that experience shut those demons up for me, so that I was able to finish this record and put the passion into it that it deserved. I’m super-proud of this record, and making it was one of the best times of my life. In a way, I’m the man I am now because of it.”

The 70-minute opus *Black Ribbons* hits March 2 on the Rocket Science label. III

Send L.A. news to Bud Scoppa at bs7777@aol.com.



The control room of Cobb’s “1974” studio



Shooter Jennings (shown here in a publicity photo) made his latest album, *Black Ribbons*, with Dave Cobb in Cobb’s Neve 8068-equipped studio.

with its title and emotional thrust. But he did have a broad concept in his head inspired by the sociopolitical unrest and economic tumult that were threatening to knock the world off its axis, along with the big changes in his own life, starting with the birth of Alabama, his daughter with actress Drea DeMatteo, and his split with Universal South Records. “I went into the studio with a blank slate and the intention of creating an audio movie,” Jennings recalls.

The two collaborators spent 10 months holed up in Cobb’s basement studio—which bears the name “1974” after the year the producer was born—and proceeded to build *Black Ribbons* from the ground up. They started by recording drums to tape, cutting them up and using the results as samples. “It was more about messing up the sounds than trying to get a natural representation of the sounds,” Cobb explains. They used Reason to MIDI-track most of the keyboards in creating the complex sonic architecture, “but we used a lot of real instruments too,” Cobb points out. “We both played a ton of guitars, a lot of them with fuzz boxes directly into the console [a Neve 8068]. Him and I are kinda hack engineers, so it was whatever came out. Some of it was good and some of it wasn’t. But we kept the worst parts and made a great record out of it.”

“Dave’s the analog dude; I’m the digital dude—that’s our run-

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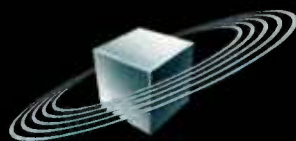
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Skyline

by Peter Cooper

“Welcome to the University of Creativity,” says Kenny Alphin, best known as Big Kenny, first of country duo Big & Rich and lately the author of genre-skewering solo album *The Quiet Times of a Rock and Roll Farmboy*. “These are the laboratories of peace, positivity and tranquility.”

Having said that, Alphin smiles and opens his arms, simultaneously acknowledging the campy nature of his proclamations and underscoring a genuine sincerity of intent. With the help of pros, including famed acoustician and designer Michael Cronin and engineer Chris Stone, Alphin built The Last Dollar Studio on his Nashville property, and since the studio's summer 2008 completion he has been working tirelessly there on audio, visual and combo projects.

“They're working around the clock,” Cronin says. “They're like Oompa Loompas over there, man.”

Last Dollar is an 860-square-foot 5.1 mix room, with a 600-square-foot tracking room stacked on top of it. The studio's centerpiece would be the API Legacy Plus console, except that there's really no such thing as a centerpiece at Last Dollar. There is original art on

exists in Nashville. True, the mixing room is based on the Cronin-designed Studio F at Blackbird, where Big & Rich often recorded. But the upstairs tracking room is highly unusual in Music City, and the vibe is unlike anything in town. “It's a pretty trippy place, all the way down to the lighting,” Cronin says. “There are 16 million variations of color in the lighting. It's any color imaginable, except for white.”

During the construction phase, Alphin's background as a general contractor aided him in elaborating on ideas with Cronin. Though he owns substantial property on Nashville's west side, Alphin wanted to build up rather than out, and he needed to make sure that his neighbors weren't disturbed by any amped-up sessions. Cronin had built several “stacked studios,” usually for post-production work, and he determined that Alphin could achieve adequate isolation by using a floating concrete system. Video cameras upstairs feed images of the recording musicians to a large screen in the control room, and the whole thing is tricked out to allow (and encourage) Alphin to indulge his frenetic creativity, which includes film and animation efforts.

“It will ultimately become my personal broadcasting facility,” Al-

phin says. “And it's also a space that I can come in and listen to music in its most pristine form. I looked at it like a farmer buying a combine: ‘Is this the right horsepower? Will it last me for the next 10 years?’ The connection between artist and fan is getting closer, and it's going to get to the point where I can be making music and you'll be listening to it and watching as it is recorded, live. We can do that here.”

The control room has three isolation booths, and a piano and drum set that stay miked up (Alphin writes and demos hundreds of songs each year, so there's not much down time). Alphin records to Pro Tools HD, usually going through a Millennia HV-3D pre-amp designed to capture subtlety and

detail rather than to color the sound of drums, guitars or vocals. The studio isn't open to the general public, but Alphin's friends often use it when he's on the road. “I don't want to be in the studio business,” he says. “This is all to inspire, and to be a meeting place where people share ideas, learn from each other and lift each other up.”

Cronin says he has lately seen an uptick in the building of custom, private studios. In late 2009, he was busy working on one for Taylor Swift, and he has built studios for Sheryl Crow, producer Byron Gallimore and hit songwriters Chris Lindsey and Aimee Mayo. “Some of these people are married with kids, and all of them work hard, constantly,” Cronin notes. “They want to be able to stay creative when they're at home, without disrupting their home life. Plus, it's hard to create when you're paying someone else by the hour. But you have to be really doing business to pull this off. This ain't a toy. This is a world-class studio. This is the full monty.” ■

Peter Cooper can be reached at peter@petercoopermusic.com.



PHOTOS: PETER COOPER

“Big Kenny” Alphin, of Big & Rich fame, in his inappropriately named Last Dollar Studio.

the walls, there are numerous instruments around, there are massive, custom-built ATC monitors in the wall, and there are couches and kibitz-spots that make the tracking room as viable for parties as for recording.

“The whole thing started out that I was going to build a church,” Alphin says. “I wanted it to be solid: slate roof, concrete walls and brick. And for a studio, it couldn't work any better than that. Now, it looks like a church, but it's a place to create, which makes it feel even more like a church to me.”

“I'm on the road so much, and when I get home I like to be around my family,” he continues. “I was raised on a farm in Virginia, and I could always go out to the shop and be with my dad. I learned a lot from him and all the men around him, and it's the same thing here. Creative people are here all the time. But the main thing for me is that I get to have a regular life.”

“Regular” is relative. Last Dollar is as idiosyncratic a studio as

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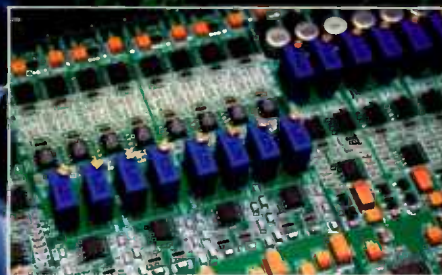
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World Radio History

Remote recording specialists are regularly called on to record performances and other events, ensuring that those who couldn't be there live and in person can hear them later. But for sound designers like Chris Jones (www.circa70.org), there's a whole different reason to set mics up outside: It's not to purely document sonic experiences, but rather to subtly incorporate them into the ambiances he makes.

"A field recording can be a great place to start when creating material," says the Brooklyn, N.Y.-based Jones. "I definitely come from that 20th-century electro-acoustic philosophy that acoustic recordings are spectrally the richest, and therefore better sources to process."

"I would also say it's fun to go outside and find things to hit. It creates a different yet simpler challenge as an engineer: get it clean and don't distort."

Jones is on the lookout for sounds that he will later blend with other synthetic samples, use as audio triggers for sound-mangling purposes in the programs AudioMulch, Metasynth and Jeskola Buzz, fashion into impulse responses for convolution reverbs, or use in other fiendish ways. Traveling with a Zoom H4 recorder recording at 96 kHz/24 bits, Jones depends equally on his gear and experience,



Chris Jones often applies a contact mic to found objects.

PHOTOS: DAVID WEISS

"I like going out just to record transients. One recording I use all the time is this old window in a stairwell. It's just me opening rusty hinges and banging it with its chain. Later I might chop out three or four episodic files, perform/collage in an AudioMulch patch, then process the whole series of rich, random transients not caring so much about the sound's identity, but rather just caring that it's full, transient and unpredictable."

When recording specific sounds, such as when he captured bees for music library VideoHelper's *Modules* series, Jones notes that the toughest challenge is to stay on top of the take as it unfolds, and be able to judge whether or not you just got a usable one. He points to a tough lesson he learned from the bee recording, when he was sure he had gotten nothing more or less than the beautiful sounds of bees buzzing. It wasn't until long after he had packed up his mics and returned from the bucolic upstate N.Y. location that he realized he had picked up far more background noise than he originally thought—a complication that greater in-the-moment awareness and closer miking could have prevented.

"I guarantee it always sounds more incredible to you while you're recording it than it will in the studio later on, where you'll hear all the problems you didn't notice out in the field," he advises. "During the event, your brain was reviewing it in real time and giving you a better impression of what the recording would sound like. You may not realize the mic was a little too far from the target, and it's picking up the sound of the highway that's miles away."

Safely back inside the studio, Jones will decide on a case-by-case basis whether or not to retain the natural goodness of his field recordings or completely twist them, the better to fill out sound designs for TV promos, film trailers, his own DJ mixes, and beyond.

"I'm into serial techniques, randomizing, and using mechanical devices when working with the material initially," says Jones. "Sometimes you may get a glimpse of what the original recording was through all the processing. I like this effect—it can be unsettling, mysterious and alarming."

To make unforgettable sound designs, capture each moment with kid gloves. "You have to look at your remote recording like it's a wedding, a once-in-a-lifetime experience," Chris Jones recommends. "Cover yourself. Capture everything properly, like one of those Vietnam movies where before filming an explosion they tell the crew, 'We're only doing this once.'" III

Send news for "Metro" to david@dwords.com.



Chris Jones on the hunt for the ultimate sound design ambiances.

recommending the following essential items: a tackle box, a stereo microphone, a shotgun mic, a 12-foot telescoping boom, wind protection, closed-back headphones, tons of batteries, SD cards for storage, mallets, baseball bats, and hammers to strike/play with, and—somewhat surprisingly—a contact mic.

"Think about it: A contact mic has no ambient sound," Jones notes, specifically recommending the designs of Jeff Thompson (www.contactmics.com). "Contact mics are great for field recording because they work on vibration only and can be like a DI for your field recordings. It can function the same way in the mix, too, filling in gaps and pulling the whole sound together. Contact mics are magic."

When Jones leaves his personal studio in Brooklyn's 3rd Ward art space, he may head to the roof, go just around the corner, drive upstate, or thumb a ride to Bora Bora. "There are two types of field recording in my mind," he says. "One where you're going out and recording whatever you hear as it moves you. The other is where you get an opportunity to record something specific and awesome."

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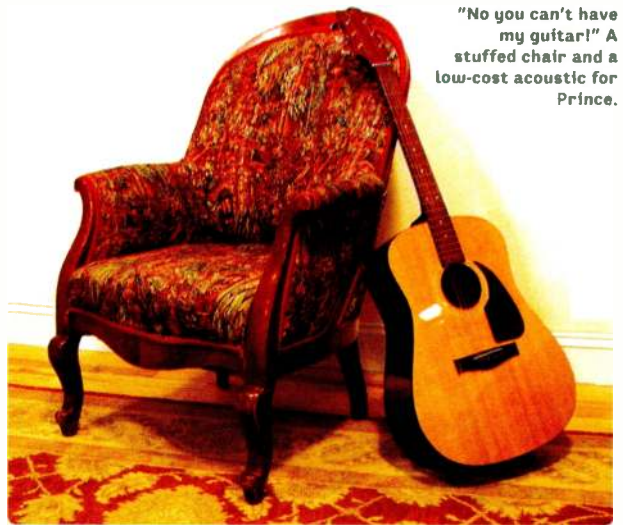
Prince and the Gemini II

BUDGET GUITARS AND ROCK STARS AND GRANDMA'S CHAIR

■ Prince walked into Studio B, looked around at the cold, clinical '80s décor, and asked, "Don't you have a big stuffed 'Grandma's chair' or something?" Knowing full well there was nothing like that in the entire facility, I said, "Why, yes...of course. I'll just...um...go next door and get it..." I then ran out of the room to the front desk. "Lemme borrow someone's truck, QUICK!!!" I tore out of the parking lot straight down to Melrose Avenue and purchased the first upholstered chair I could find. Minutes later I calmly walked back into the session with the big chair and set it in front of Prince. This was his first day booked into Larrabee Sound in West Hollywood and I wanted to make a good impression. He sat down in the chair and nodded. What was originally a four-day booking turned into a three-year odyssey with Prince.

Working with Prince was extremely challenging. He was impatient, uncommunicative, intolerant and yet extremely generous with credits and opportunity. And he actually wanted to know my opinion! He would have three or four rooms running at the same time, with songs in various stages of development. I usually worked in Larrabee's Studio B on a Solid State Logic 4056 E/G console with a pair of Studer A800 analog 24-track tape recorders. To prepare for a Prince session, I would have the room set up for anything that might be happening that day with rented drum machines, keyboards, bass, electric guitars and pedalboards available. He would play everything and anything. It was 100 percent Prince, so when he would spin around on his heels and go for an instrument, I made sure I was *on* it like my life depended on it! He would even have a vocal mic hung over the console, usually a Neumann U87, so he could do the vocal recording himself. Prince would rarely warn you of his arrival. He would just show up and everyone would jump to action, no matter what time of day or night.

In anticipation of engineering a particular Prince date, I once brought extra guitars to the studio—one of them being my cheap little Fender Gemini II acoustic. I was a bit embarrassed for it against the row of pol-



"No you can't have my guitar!" A stuffed chair and a low-cost acoustic for Prince.

ished, tuned and beautifully tweaked rental guitars on the session, so I stuck my Gemini II in the corner out of sight. It was untuned, had old strings and no stand. I knew that whatever instrument Prince reached for had to be tuned, plugged in and ready to record, or he was outta there.

It would figure that Prince pulled out that damn Gemini II. I was horrified. I imagined him throwing it down on the floor and storming out of the studio because it was not properly prepared for him. Instead, I was shocked to witness Prince playing flawless rhythm and even solo parts, bending the individual strings to the right pitch as he fretted chords effortlessly. He compensated with his fingers to bring the instrument in tune and the guitar sang like it had a fresh set of strings.

That acoustic sounded great on the track "Walk Don't Walk." It did just what it's best for—keeping an even percussive rhythm throughout



Prince's tape-strip scribbles from the *Diamonds and Pearls* sessions

Hit Records are Mixed Analog

Allen Sides explains why he mixes to the DV-RA1000HD



Want the major-label sound? "The majority of hits are not mixed in the box," says Grammy award-winning producer/engineer Allen Sides. "Probably 85% of the high-end albums that come out, all of those mixes are done analog."

Allen chooses the **DV-RA1000HD** to capture his multi-platinum analog mixes. Compared to mixing back into his DAW, "it sounded *significantly* better recording DSD" to the TASCAM high-resolution recorder. With a 60GB hard drive, DVD-R writer, and up to 192kHz recording as well as Direct Stream Digital, the DV-RA1000HD is simply the best stereo recorder ever made.

Read the entire Allen Sides interview, including his thoughts on affordable analog mixing and CD copies, at www.tascam.com/dvra1000hd.

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the song. Prince used the Gemini II on several other songs, and at the end of the sessions he casually directed his crew to pack the guitar up into one of his road cases. I don't think he realized it was mine and assumed the rental company would just charge him for it. I noticed what Prince was doing, and said, "Excuse me, you can buy one of your own for \$200; they aren't that expensive." He smiled at me, and said, "But I want this one."

The dreadnought-shaped Fender Gemini II six-string acoustic is really nothing special, or so I thought. Prince had a thing for that guitar. You'll hear it on the *Diamonds and Pearls* album. Originally manufactured in Korea in the late '80s, the guitar features a mahogany back and spruce top. It's a budget guitar—dry sounding, very woody. Not sparkling, not shimmering, more like a chugging. Just a very plain acoustic. I generally use it to fill out rhythm tracks in rock songs, more as a percussion instrument, like a shaker.

Acoustic guitars can play multiple roles in album recording, either as a melodic voice or as a percussive instrument. It is not always necessary to have the deepest, most resonant tone in an acoustic guitar; in fact, for percussive needs you may

want the guitar to sound almost like a washboard!

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Massy's mountain of gear in Larrabee Studio B

Paisley Park Studios in Minnesota. It was a great opportunity, but I decided to remain in Los Angeles. After declining his job offer, I never heard from Prince again. No, I never sold him that guitar and most of my clients today who use the Fender Gemini II could never imagine its stressful, difficult and incredibly magical heritage! III

Sylvia Massy is the unconventional producer and engineer of artists including Tool, System of a Down, Johnny Cash, Red Hot Chili Peppers, Tom Petty and Prince. She is a member of the NARAS P&E Wing Steering Committee and Advisory Boards, and is a resident producer at RadioStar Studios in Weed, Calif.

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SHIFTING GEARS

Facing Fewer Gigs and Shrinking Budgets, Remote Recording Studios Streamline and Diversify

By Sarah Jones

The remote recording

business is dying. The remote recording business is booming. It's about music. It's about broadcast. Ask 10 remote recording engineers about the state of their world, and you'll get 10 different answers. A historically small market, the remote world is certainly shrinking, with fewer players competing for smaller budgets and fewer projects. But given the challenging financial climate, most of the major companies are at the least cautiously optimistic, and at best enthusiastic, about brighter days ahead. And all are finding innovative ways to streamline and reinvent themselves.

Trickle-Down Trends

Many changes in the remote business are indicative of larger shifts in music-industry models. Album sales are no longer success indicators; new releases support tours, which support 360-degree merch deals. Concert-recording budgets have dwindled, and clients either choose to record shows themselves with low-cost rigs or forego live-recording projects entirely—with remote trucks left feeling the pinch.

Karen Brinton, president of Remote Recording, which handles high-profile projects such as the HD broadcasts of the Metropolitan Opera and the Academy Awards, says the past year has been challenging. "Budgets just keep getting smaller and people keep wanting more for less, so I've been trying to find ways to still deliver quality to clients on a smaller budget. It's not easy."

Kooster McAllister, who has been operating the Record Plant Remote truck for more than three decades, has also seen difficult times. "Counting inflation and everything, the truck is going out for less of a daily rate than it did 10 years ago. And the attitude is, take it or leave it," he says. "I've been doing this long enough where I'm still one of the go-to people who gets the calls. And I would rather have some money than

no money. But it's a slippery slope to get onto."

Bucking the downward trend somewhat is Music Mix Mobile, which in its first 18 months of business has expanded operations to the West Coast, and worked on projects ranging from VH1's *Storytellers* with the Foo Fighters to the Country Music Awards and this year's Grammys. Partner and technical engineer Joel Singer attributes the company's success to its "dream team" of veteran mixers: "Two of my partners are the most demanded live music broadcast engineers in the business—John Harris and Jay Vicari—and I've just built good technical facilities for them." Singer says the trucks were designed for new workflow rather than the most cutting-edge gear. "It's basically built around workflow to a way where we could streamline projects that didn't require having 30 percent more budget to do them. When you get that call, and they say, 'After you record this, we also want you to mix it,' it becomes more of a project than what a lot of our competition is doing by just going out and recording"

From Music to Broadcast

While some remote trucks continue to find solid work in music recording, in general most of the projects with the budgets are in broadcast. "Our business has definitely shifted," says Brinton. "The only way to adapt and stay in business is to realize we're making TV now."

Guillaume Bengle, president of Le Studio Mobile (Montreal), which recently celebrated its 30th anniversary with the launch of a new truck, says most of his traditional projects (music and radio) have been replaced by TV and satellite radio work—and TV trends drive the business. "If television still produces big audio music shows trucks will survive," he says. "In Canada, comedy shows are fashionable—and, of course, they don't need us; it's usually one guy with a mic. As long as music stays an important factor in television, they'll still need us." Bengle, who's been covering

Canada's Juno Awards for 23 years, says big award shows are important, as are "things like HDNet, which has a lot of live music shows."

Many remote facilities are banking on high-definition broadcast media to boost business. "We do the HD broadcast of the Metropolitan Opera into theaters around the country, which has been really successful," says Brinton. "So I'm hoping that the quality of that is contagious and there are more things done that way."

"With 5.1, people expect better audio and producers know that," adds Bengle. "The generalization of 5.1 has helped us because smaller studios can't do that well, and TV trucks can't because they are made for sports."

Sometimes the "product" is there, but monetizing it is a challenge. "I just did a show in Nashville called *All for the Hall*, which was a benefit for the Country Music Hall of Fame," says McAllister, "and it was like a who's who in the entertainment industry: Keith Urban, Vince Gill, Brad Paisley." Yet no television networks wanted to pick up the show. "It ended up going out over the Internet. And the way they're making their money on that is, they called me up the next day to remix a Faith Hill song that they were putting out as a ringtone. That's what we've been reduced to—ringtones on cell phones. It's not that there's nothing that needs to be recorded; it's because companies don't have a profitable venue to sell these new products."

The Internet still provides unparalleled promotional opportunities, but low-revenue potential—at least for now Bengle sees "live to Internet" as a viable prospect for the future. "We did a couple of shows that were broadcast over the Internet, but it has not yet materialized," he says. "I think it will take a certain number of years because just doing a music show involves lots of money, and for TV they can go there with small cameras and it's much simpler than it was. You may not need the big TV rigs for Internet shows, but audio is still complicated for them and that's good for us."



Music Mix Mobile's East Coast truck is pictured on the front cover. This interior photo shows the company's new West Coast truck, which will act as the remix facility for the 2010 Grammy Awards. Both Music Mix Mobile facilities are equipped with full-blown Pro Tools recorders/D- Control surfaces, Genelec 8200 Series DSP surround monitoring and more than 112 channels of Grace Design preamps. Pictured (L-R) are partners Bob Wartinbee, John Harris, Jay Vicari, Mark Linett and Joel Singer. Not pictured: partner Mitch Maketansky.

PHOTO: SCOTTWYNN.COM

D.I.Y. at FOH

The fact that artists can record their own shows accounts for a large drop in midlevel remote recording gigs. "The advent of those front-of-house systems eliminated much of the middle of the market, leaving only the high end, where the artist and producer are concerned about reliability, quality and a proper acoustic environment," laments David Hewitt, who recently left the remote truck world after nearly 40 years and launched his own company, Hewitt Remote Services, to consult and facilitate projects nationwide. "You pay for quality up front or you can pay for trying to fix it in post."

Singer says he realized years ago that the concert DVD business would change drastically as it got easier and cheaper for clients to bring their own recording rigs on tour. "Now the smarter ones still said, 'When I'm going to bring in a 20-camera shoot, even though we're recording every night, I'm going to bring in a remote facility because it's money well spent to make sure the thing goes down without a hitch,'" he says. "But no one's getting middle-budget stuff, like bands who wanted to do a DVD. They'd rent a video flight pack and have their front-of-house engineers record on a [Digidesign] VENUE. But we had already moved away from that, and we're entrenched in doing broadcast music television."

"That's why we left the CD market: it's gone," says Bengle, "because people will come and put a computer next to the console and they'll have audio. They'll work more in post-production of course, but they're okay with that. In TV, they can't do that yet. Not with the same kind of flexibility

and safety that big trucks provide."

Bengle adds that production-wise, stakes can be higher for broadcast projects. "If you do a CD and it doesn't work one night, you say, 'Oh, we'll come back the night after.' In TV, they can't do that; not with the price of the big TV trucks. So what we have to offer is reliability and redundancy, which a PC next to the console doesn't provide."

Yet for many mid-level acts, recording their own gigs is sometimes the only option within their budget, and accommodating them is a revenue stream. "A lot of times, clients don't have a budget to bring a recording truck out and do a show," says Scott Peets, director of remote recording at Los Angeles-based Design FX, which also operates a large equipment-rental business. "But we can put together a Pro Tools flight pack that includes 48 channels of preamps and a Pro Tools rig with a monitoring system that they can take with them. So a lot of times, when bands might not be able to afford to record the show, they can get these smaller rigs and can capture not only one show, but they can use it on maybe 10 shows."

McAllister has a rudimentary flight pack, and sees some business moving in that direction. "But then it comes down to, do I want to be a rental company or do I want to be a recording engineer?" Bengle also gets requests for flight packs, but prefers to work himself, in his truck. "That's the way I

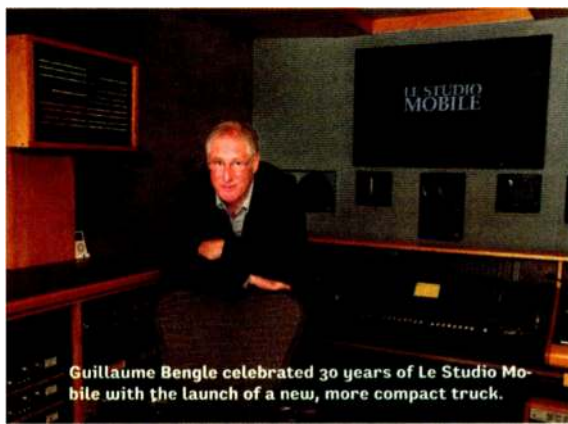


PHOTO: ROBBIE CLYNE

work. Some people do [flight packs] very well and have everything ready to go; I don't want to do that. I think there's a right way to do things in a truck, and my truck can go almost anywhere." Bengle notes that clients will often try recording themselves with a flight pack but end up returning for full services. "They realize that the flight pack—with the additional work that it involves—can cost them almost as much as my services."

The Value of Experience

In the remote world, just like in the studio world, mere access to equipment simply isn't enough; talent and expertise matter most. "Generally speaking, people who hire us aren't interested in the gear; they hire us for us," says Dan Childers, an engineer at Austin's MediaTech, who has worked many Austin City Limits festivals and engineered live recordings for the likes of the Allman Brothers, the Black Crowes and Buddy Guy. "It may be that we've lost some work to some cheaper flight-pack guys, but people know what we do, and we do a good job: Everything's



Guillaume Bengle celebrated 30 years of Le Studio Mobile with the launch of a new, more compact truck.

organized, everything runs smooth from their perspective. And that's what we sell; we don't really sell cheap prices."

Adds Singer: "Equipment doesn't make you a remote facility—people make you a remote facility. You could put a \$600 console in front of my guys, and it would be totally different than putting \$1 million console in front of another guy," Singer continues. "It's that old Eddie Van Halen thing: Just because you pick up Eddie's guitar doesn't mean you play like Van Halen. He can pick up your guitar and still be Van Halen."

And like studio projects, remote productions are collaborative efforts. "There's a saying on the road that 'the show is that little inconvenience between the load-in and the load-out,'" says Hewitt. "There is so much more to a successful live recording than just showing up and moving faders. The pre-production and logistics can be very daunting: Communicating and interfacing with sound reinforcement, touring production, video production and venue production are all vital. In this era of staff and budget cuts, this work is often left undone and the whole production suffers for it."

Beyond Capture

Remote facilities are re-evaluating their role in the production model, and adapting workflow to smaller budgets at every level, from operating additional trucks in different regions down to sending one fewer tech to a local gig.

"The M3 truck was built for large-scale tele-productions but with high-quality audio in mind," says Singer. "We've adapted with smaller systems and flight pack systems, and things that are more cost-effective for straight capture where [clients] know that they need to save money on the front end so that they can spend more on mixing." Singer says that's where workflow comes in. "I'll give you an example: Jay and John were doing the Rock Hall concerts at Madison Square Garden and we needed to record the Foo Fighters at Sony Studios in L.A., so we took our M3 West truck there. I cap-

tured it for Jay, and I used the Jay plugins and the Jay method of doing things, and dialed it up for the live cut that night, brought it back to Jay and it was 70 percent done. Jay edited it, and it saved a day-and-a-half or two days of what might have been the final mixing, which saved on the budget for them."

Analog Sound, Digital Functionality

The Design FX truck, which generally handles music gigs, gets regular calls for its vintage API console. "Broadcast has kind of turned into a whole other field of remote recording, especially when it comes to shows like the Grammys, Billboard Music Awards, these multiband shows," says Peets. "With digital consoles, you can set them up, do your soundcheck and store them, so when you've got 13 bands in a show, you're not dialing up your EQs and preamps manually—just hit a button and recall. That's the advantage of a digital console, whereas having an API, it's more of a sonic quality that you're going for."

At Remote Recording, the original "Silver" Neve-based truck is called into service as often as its newer "Polar Express" truck, which is based around Yamaha DM2000s. "I still have a good share of clients who want analog front end," says Brinton. "For something that's a one-artist show, I think that's very appropriate. We still record to Pro Tools or Nuendo or whatever their format of choice is, but they like having it go in analog."

McAllister, who expanded business with a compact all-digital truck in 2007, had the opposite experience. "My API truck went out four times last year," he says. "My thought was I would [use] my classic analog truck for people where quality really mattered. The bottom line is, that doesn't really matter these days. My digital [DM2000-based] truck is the truck that's working all of the time now. Especially for multiple acts, you need the recall capability."

Childers says he's pushing the limits of MediaTech's Dallas Sound Lab remote truck. "It's got an old Soundcraft board that sounds great, but it's a little bit long in the tooth; it can't really keep up with the technological demands," he says. "People want instant recallability, super-fast turnover from one band to another." Childers adds that speed of delivery is a challenge. "Like with Hank Neuberger's Third Wave Productions, where an audience can go see a festival, see a band, and maybe by the time they

get home download the show."

Bengle capitalized on compact technology in his new truck. "I record 192 tracks now, and that technology takes up maybe a fourth of the space of my old Studer 24-track," he says. "It's more flexible, and the truck is a better environment to work in because of the smaller equipment." He says that he can now arrive at a gig and be ready in an hour or two. "That's a big difference for producers."

Other than size and power, Bengle cites redundancy as a crucial technology consideration today. "Things have changed a lot since six or seven years ago when we had those snakes; with 32- or 50-pair snakes, it was difficult to lose that in one single instance," he says. "With fiber optics, that is possible, so everything must be so much more reliable. That's why we double most systems. And the safety of the whole thing is something those [smaller] rigs cannot do. If you lose your reference from the video truck—your black reference—and don't have the proper equipment, you will lose everything—your preamps, your consoles and your recorders, so that's something I've addressed. All the details—word clock, handling of the word clock, distribution—have to be perfect, because if you lose one signal now, you can lose it all."

Reinventing Yourself

To survive in today's market, remote companies are diversifying, offering more services and targeting new niches. "The show I just did for David Archuleta—Billboard Live's series of Internet-based shows—I did it on the Denali silver truck in their audio booth on the video truck because they didn't have the budget to use my truck for this," says McAllister. "So I'm sort of reinventing myself, doing things like working on TV trucks, and I'm the music mixer for the Wendy Williams show when she has live acts, and things like that."


Design FX has the unique benefit of tapping into its extensive rental collection to tailor recording rigs to project needs. "If a client wants to do a record, we have an API console in the truck, as



Kooster McAllister at the Yamaha DM2000

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Dan Childers of MediaTech works for music clients including the annual Austin City Limits festival.

well as Pro Tools and classic gear, but we also have a whole rental inventory—Neve preamps, Avalon preamps, tube microphones—so it's easy for us to customize the truck to the session," says Peets. "And if something breaks—let's say you have a 192 interface go down on your Pro Tools—we can just call the shop and they can just drop one by."

Going beyond technology, Remote Recording formed a strategic partnership with Joe D'Ambrosio Management, a firm that represents engineers and producers. "It gives me the ability to give my clients more choices as far as engineers; they're comfortable there's somebody appropriate for their projects," says Brinton, who adds that she is constantly looking to expand services. "We are offering more services—post-production, project coordination—whatever we can do to fill in any gaps or any needs. It's not just about showing up, recording the show and driving away anymore."

The new year brings new opportunity, and despite the downward trend in the remote business, even the hardest hit are cautiously optimistic. "Through all this, I'm sort of optimistic that things are going to be all right," says McAllister. "But because of the lull of '09, prices will never be back up to where they were."

Many see the industry as just expanding and cycling. "Music's always going to be around; you just have to adapt to the change," says Peets. "With the advent of broadband Internet, there's hope for more demand of high-quality audio for videos from bands."

"I love what I do," says McAllister. "It's still creative, and I still have people at the end of the day telling me, 'Great work.' What I'm more concerned about is my son, who I was thinking I was going to be leaving this great business to. I might have a business, but there might be no business to work in." III

Sarah Jones is the associate director of Women's Audio Mission, a San Francisco-based nonprofit dedicated to the advancement of women in the recording arts.

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THE NEW "ASSISTANT ENGINEER"

iPhone Apps Take a Professional Bow

By Sarah Benzuly

Microphones? Check. Console set up? Check. Outboard gear patched and ready? Check. iPhone set to Record? Huh? For professional engineers, Apple's iPhone and iPod touch might not spring to mind when getting their gear set up for an upcoming recording session. Many engineers probably have some fun gaming apps to breeze away the time between takes, but the technology that makes the iPhone a real music-making/recording tool has improved since Apple debuted the phone a few years

ago. No, no one's going to be creating final masters or multitracking on the iPhone, but new apps allow you to run pink noise, check instrument tuning, determine SPL levels, record a gig on-the-fly and more as this smart phone becomes even smarter.

Here, we focus on the pro apps (arranged alphabetically), bypassing those strictly made for music creation, which is another category for another time (or you can check out our sister magazine *EM's* Website, emusician.com, for a bevy of music apps). Now, stop texting and surfing the Web and get back to recording on your phone.

Audiofile Engineering FiRe Version 1.1

This upgrade to the professional field recording app features iPhone OS 3 compatibility, varispeed playback, multiple VU meter styles (including K-System scales) and adjustable input gain. Workflow enhancements include public or private uploads to SoundCloud, Web server authentication, and the ability to add a picture reference to the recording, and name and rename marker points. FiRe (\$5.99) features a real-time waveform display, audio markers, support for Broadcast WAV metadata and instant downloading of audio files in multiple formats. Users can scroll the live waveform display with the touch of a finger or navigate it with a system of configurable double-taps. Also included are input and output VU meters, a movable playback head, configurable time units, the ability to tag recordings with location data and an Overdub mode for layering tracks. Supported microphones include Alesis ProTrack (requires iPhone 3G or second-generation iPod Touch) and Blue Mikey (requires iPhone 3G).



BIAS iProRecorder

Not only does it support stereo recording (when used with compatible hardware), but the iProRecorder (V. 1.3, \$4.99) also offers location stamping, a scroll wheel and the ability to append to an existing recording. It also lets you attach photos to recordings, organize your files into categories, e-mail files up to 100 MB, sync using Wi-Fi and send files directly to BIAS' Peak audio editor (Mac). All files (44.1, 22 or 11 kHz) are uncompressed WAV. It also has a record timer, accurate stereo meters, variable playback speed and more. You're only limited by your phone: The iPhone can hold up to 13 hours per GB and up to approximately 200 hours for a 16GB iPhone.

Clartune Chromatic Tuner

This chromatic instrument tuner and pitch pipe allows you to quickly "tune up" your instruments using the iPhone's built-in mic. Chromatic Tuner (\$3.99) supports custom temperaments, transposition, notations such as solfège, adjustable calibration and more. It's useful for acoustic or electric guitar, bass, bowed strings, woodwinds—really, any instrument that can sustain a tone. Simply tap the Pitch Pipe button, select your note from the Note Wheel, tap the on/off button in the center to start sounding the tone, and use the buttons on the side to adjust the volume. An Options panel lets you select from several different waveforms.



Far Out Labs ProRemote, Pro Transport

The ProRemote (\$99, Mac; pictured right) control surface offers 32 channels of remote control with real-time color metering and 40mm touch-sensitive virtual faders; up to eight faders can be controlled simultaneously. It uses your existing wireless network to control such products as Pro Tools, Apple Logic and Soundtrack Pro, Mackie Control Protocol and Ableton Live; support for other DAWs is in the works. The full version includes a dedicated Transport view that lets you scrub/shuttle, set markers (memory locations) and control many advanced aspects of the transport, as well as basic play, record and return to zero. Also included are the company's ProPads and Pro XY MIDI controllers, so you can program MIDI sequences without having to switch out of ProRemote.

You must download ProRemoteServer to use ProRemote.

ProTransport (\$7.99, Mac) handles a variety of transport functions for Live, Pro Tools, and Logic and Soundtrack Pro. To make it work, you must first download and install the free ProRemote Control application. In Pro Tools, you can control transport features, including scrub and shuttle, and you can also zoom the timeline and jump to and add markers.



ioMetrics GigBaby!

A low-priced newcomer to the multi-track space is GigBaby! (v. 1.3, \$0.99), which has a surprisingly robust feature set considering its price. You get four tracks of recording (no punch-in, though) and a metronome that can be used with the recorder or stand-alone. It also has some nice graphical indicators. A small library of drum loops is provided, and a setlist manager for gigs is included. We can see it on the horizon: Instead of using ftp to pass files back and forth, use the app's track-sharing option to share and swap your recordings.



Line 6 MIDI Mobilizer, Planet Waves Rig Remote

MIDI Mobilizer (below) is a portable MIDI device, and Planet Waves Rig Remote is iPhone software for use with Apple iPhone and iPod touch using OS 3.

When used with Rig Remote, the forthcoming iPhone app from Planet Waves, MIDI Mobilizer lets guitarists control Line 6 Variax digital-modeling guitars and Vetta II digital-modeling amplifiers. Line 6 Variax guitars model the sounds of 25 instruments, including electric and acoustic guitars, a banjo and an electric sitar. Line 6 Vetta II amplifiers feature models of 80 guitar amplifiers and more than 80 effects. All models can be controlled with Rig Remote and adjusted in real time via its amp panel-inspired knobs.

Rig Remote features a graphical display that takes a nod from the Line 6 software commonly used to adjust Variax and Vetta II tones via personal computer. The iPhone display and touchscreen make it easy to scroll, choose and adjust models of amps, guitars, pickups, pickup placement, alternate tuning and more. Guitarists can save their favorite settings and apply them to any Variax guitar or Vetta II amplifier.

MIDI Mobilizer and Rig Remote 1 are currently in development, with pricing, availability and more detail on the complete feature set to be announced.



McDSP Retro Recorder

Retro Recorder has been updated with new features, including stereo recording capability and a high-quality Recording mode. The updates are free to existing Retro Recorder customers, and new customers may purchase it for \$2.99. The app features distortion-free audio zoom-in capability and the patent-pending Audio Level eXtension (ALX) technology. Recorded files can be exported individually or in batches. Exported files can then be downloaded to a PC or Mac using a Wi-Fi network. An external mic is required.

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Sonoma Wire Works FourTrack

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Steinberg Cubase iC

The Cubase iC (free) remote-controller application provides control for Steinberg's Cubase and Cubase Studio Version 5.0.1 music production systems. The app is based on the Steinberg Kernel Interface (SKI) technology for integration into the Cubase software core. Cubase iC controls Cubase 5.0.1 and Cubase Studio 5.0.1 running on both Mac OS X and Windows platforms.



Studio Six Digital AudioTools, SPL, RTA

AudioTools (\$19.99) bundles all of the company's audio and acoustics apps, adds more functionality for line-input audio analysis, and will work with the soon-to-be-released iAudioInterface and iProMic. The initial purchase includes the SPL Meter (with an increased range to work with the iAudioInterface mic), RTA (octave and 1/3-octave spectral analysis), level/frequency of the iAudioInterface line input (also works with any dock input audio source) and Audio Scope dual-trace audio band oscilloscope. Additionally, it offers a signal generator (sine/square waves, and white/pink noise; pictured), the ability to monitor the mic input in the headphones, audio-related calculators and File Export to upload those results to any PC or Mac via



Wi-Fi, and calibration of all I/Os. In-app purchasing (upgrades) include FFT analysis, SPL Pro, SPL Graphic, SPL Traffic Light (monitor live sound level), ETC (Energy Time Curve), Speaker Polarity, THD+N, speaker distortion, impedance, impulse response and Smaart (available this year).

SPL (V. 1.4, \$5.99) is a full-featured decibel meter that uses the iPhone's built-in mic or an external one. Studio Six Digital also makes the lower-priced SPL Meter (V. 1, \$0.99), which is designed to emulate a familiar, budget-priced analog decibel meter from a popular electronics-store chain.

Another Studio Six Digital product is RTA (V. 1.2, \$9.99), a real-time analyzer that has calibration settings for either the iPhone's built-in mic or an external measurement mic.

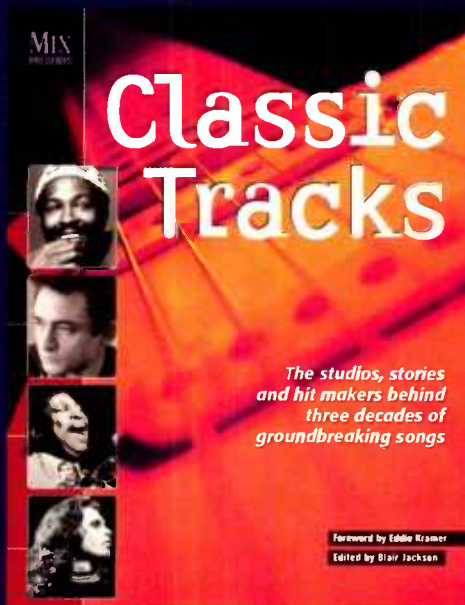


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Sarah Benzuly is Mix's managing editor.

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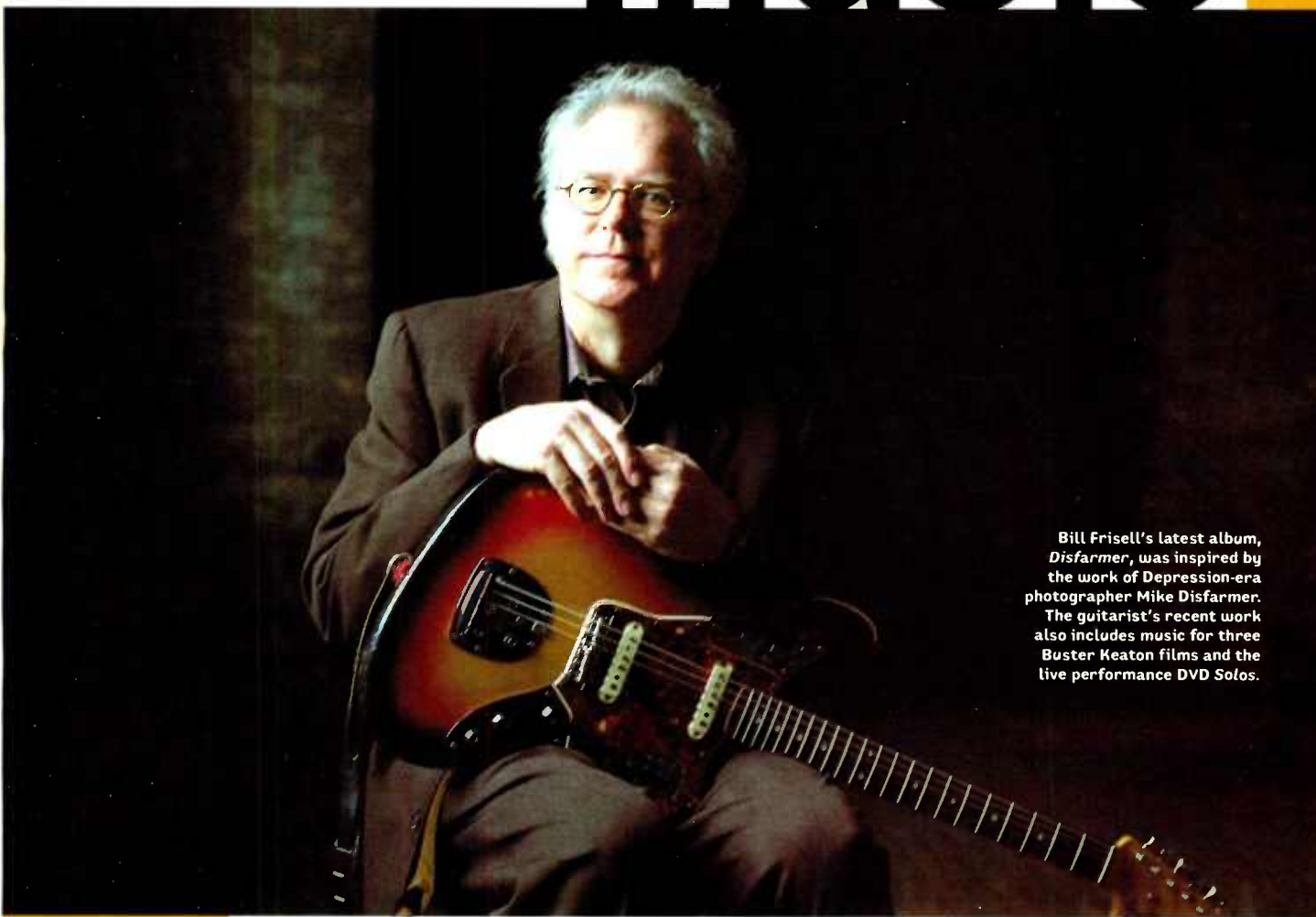
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Bill Frisell's latest album, *Disfarmer*, was inspired by the work of Depression-era photographer Mike Disfarmer. The guitarist's recent work also includes music for three Buster Keaton films and the live performance DVD *Solos*.

By Blair Jackson

Bill Frisell

PROLIFIC GUITARIST COOKS ON NEW CD, DVDS

It's hard to believe, but when I reach the extraordinarily prolific master guitarist Bill Frisell at an apartment he's renting in the beautiful, ancient town of Orvieto, Italy, two days before Christmas, he *hasn't* been working feverishly every second since he arrived in Italy nearly a month ago, and he *doesn't* have five projects in different stages of completion. Okay, after New Year's is a different story. But right now he's kicking

back, relaxing, writing some music at his leisure and anticipating just a single gig in Italy with his "mentor and hero," jazz guitar great Jim Hall.

Frisell and I have three projects to talk about, however: His exceptional recent album on Nonesuch, *Disfarmer*, which may be his strongest work yet in the Americana-folk-jazz vein he has mined so successfully from time to time (amidst countless other disparate

projects); a superb DVD shot in 2004 (but released recently) called *Solos*; and *finalmente*, as they'd say in Orvieto, a DVD of three Buster Keaton silent shorts for which Frisell's mid-'90s trio supplied the soundtrack—the music came out on CD in 1995, but not the films-with-music. So all in all, it's quite a bonanza for Frisell fans.

Actually, *Disfarmer* has a slight connection to the Keaton project in

the sense that it is music inspired by visuals (in part): Mike Disfarmer (1884-1959) was a photographer who captured the plain folks who lived in his community of Heber Springs, Ark., from the Depression era into the 1950s. Disfarmer was an odd duck: His actual last name was Myers, but he chose "Disfarmer" as a sort of dig against the principal livelihood of the people he lived around. And though one might think a portrait photographer would need to be a social fellow to loosen up his subjects, Disfarmer was famously cold, aloof, even misanthropic—he apparently made many of the people he photographed quite uncomfortable, yet they were fascinated by him, and he *did* do outstanding work. Rediscovered in the '70s, when many new negatives of his work came to light, Disfarmer's work is now shown in museums around the world.

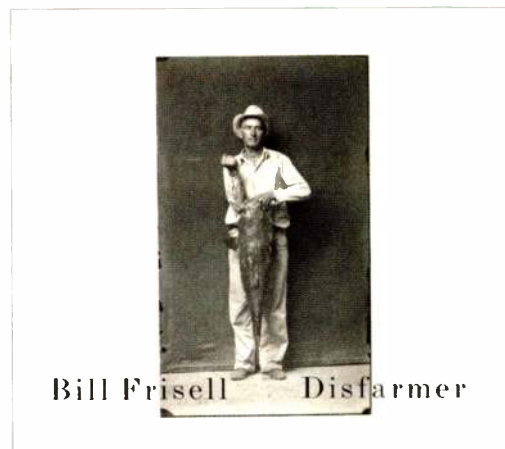
Frisell's *Disfarmer* was inspired by the portraits the photographer took and by Disfarmer's "bizarre life," as the guitarist puts it in the liner notes to the CD. Early on, Frisell and his wife went on a driving trip across the South to Heber Springs so he could "smell the air, talk to some people, taste the food, so the music wouldn't be coming only from what I had seen or read in a book." (It was an exhibit of Disfarmer's photos at the Wexner Center of the Arts in Columbus, Ohio, that provided the original impetus for Frisell to musically explore Disfarmer's work and life.) The setting and subject informed the style of music that Frisell composed for the project—this is rural America in the first half of the 20th

century—so he wrote a number of pieces and then brought in two of his favorite collaborators: violinist Jenny Scheinman and steel guitar, Dobro and mandolin specialist Greg Leisz. The trio developed the music together and played it at the Wexner Center, "and when we started doing gigs," Frisell says, "we actually had one not far from Heber Springs, and we got there early enough that the day of the gig Jenny and Greg and I went to the town and hung out for a while."

Frisell says that even on conceptual pieces like these, he rarely articulates his intentions. "It's mostly playing. I don't give them much verbal information. The reason I love to play with them is because I can trust their instincts. We have this understanding where we don't have to figure things out so I can write something on paper and then they bring so much to it—I'm counting on them to do something with whatever I present to them. After awhile, it's become more and more blurred about what's specified and what's not. There are plenty of things that are written out, but the ideas are also a sort of springboard, so what is interesting is getting from one specific thing to another specific thing; finding our way from one place to another. You kind of know where you're going, but you jump off into the unknown along the way."

The *Disfarmer* CD comprises 26 mostly short tracks. "There are three or four themes throughout the whole album, and most of the music is generated from those few little melodies," Frisell says. "So there are a lot of variations on those themes." Additionally, there are instrumental versions of three cover tunes from the early days of country music: Arthur Crudup's "That's Alright, Mama," and Hank Williams' "Lovesick Blues" and "I Can't Help It (If I'm Still In Love With You)." Frisell comments, "I used the excuse of thinking about what they might have been hearing on the radio [during Disfarmer's lifetime]."

Sessions for *Disfarmer* took place in two different studios, three months apart for four days each time: at Avast Studio in Seattle (where Frisell lives) in February 2008, and Sound Emporium in Nashville in May of that year. Lee Townsend, who has produced most (but not all) of Frisell's albums since the mid-'80s, was once again at the helm; Tucker Martine



The music on *Disfarmer* was influenced by the rural setting and subject matter in Mike Disfarmer's portraits.

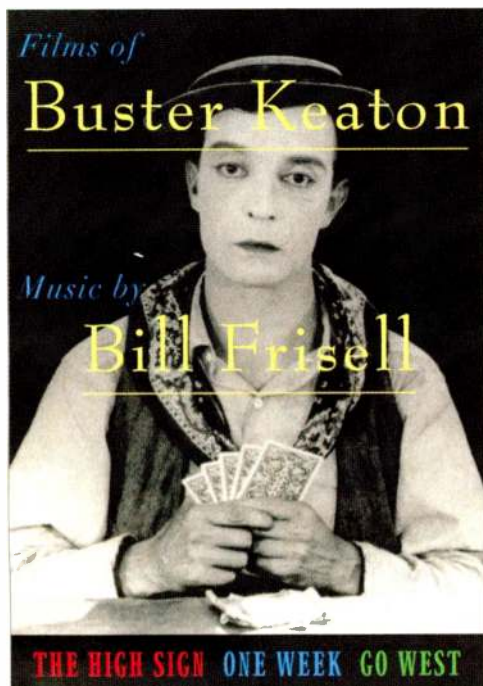
engineered and later mixed it in Fantasy Studios' "D" room in Berkeley, Calif.

"When we did the initial set of sessions up in Seattle at Avast," Townsend recalls, "they had performed the music a little on their trip, but we brought in [bassist] Victor Krauss for the recording, so that immediately changed things a bit. It was kind of an exploration—seeing how everything sounded not only with Victor, but which instrumentation would work best with each song. When we finished with that, we realized there were a few nuggets, but also some things we thought could be fleshed out better."

"There are a couple of different kinds of records that happen with Bill—ones where the material is kind of fleshed out in the studio and others where it's a little more road-tested. This one was somewhere in between, but mostly the former. For the next set of sessions we did at Sound Emporium, we had the same instrumentation but a little more seasoning—the second time around everyone was way more comfortable with the material. We had Disfarmer photos taped up everywhere. It was a very cool vibe."

Though Frisell and company will typically record live in the studio, usually laying down somewhere between two and eight takes per song, he and Townsend are certainly not averse to overdubbing; indeed, it's part of how they achieve such interesting textural depth on some tunes. "I think the most tracks we had on any song on this album was about 32," Townsend says. "It might have three guitar tracks—maybe an acoustic and two electrics, a loop [Frisell has long employed loops and other electronics as part of his guitar arsenal], a couple of Greg [Leisz], three tracks of two passes of Victor, a bunch of violins—it can add up."

Martine says that he used basically the



Frisell's guitar work provides an uncommon soundtrack to Keaton's treasured films.

same miking schemes in Seattle and Nashville, including an RCA 77DX on the fiddle; a Royer 121 and a Shure SM57 on the pedal steel amp; an M49 on the Dobro; an RCA Varacoustic on mandolin; a Gefell M300 for Frisell's acoustic guitar parts and KM84s on his amps; and for the stand-up bass, Martine says, "an RCA 44 by the F hole, a KM84 between the fingers and the bridge for articulation, and a Demeter DI.

"There was one song where I re-amped Jenny's violin through a small amp cranked up loud for some extra grit," Martine continues. "All of the reverb added during the mixdown was the great-sounding chambers at Fantasy. Also, I used a fairly quick delay from a PCM 41 on the pedal steel on a lot of songs, usually panned to the opposite side. It was [recorded to Pro Tools and] mixed to Studer A80 half-inch at 30 ips."

The *Films of Buster Keaton, Music by Bill Frisell* DVD gives us a glimpse of Frisell 15 years ago, when he was in a trio with bassist Kermit Driscoll and drummer Joey Baron. It's interesting to contrast the type of music Frisell wrote for these three shorts—*The High Sign*, *One Week* and *Go West*—with the more typical piano or organ or orchestra scores we usually associate with silent films. Baron's drums and percussion provide much of the comic punctuation for pratfalls onscreen, but otherwise these are solid trio outings with Frisell's musical personality shining brightly.

"What was so cool about the Buster Keaton thing," Frisell says today, "was that I had no idea what I was doing and there were no rules and no one telling me what to do—it wasn't like a Hollywood movie or something. It was the best way that could've happened: I was left to make every possible mistake, and in making those mistakes I think I learned a lot. I could try all these strange things, like having a ballad playing during a wild fight scene; I could try anything. It was a great way to get my feet wet." Those Townsend-produced sessions were recorded at Mobius Music in San Francisco by Oliver DiCicco and mixed at Different Fur in S.F. by Judy Clapp.

And then there's the *Solos* DVD, which is a fantastic introduction to Frisell's artistry. It was shot up close and personal with multiple cameras in the abandoned-looking 19th-century Berkeley Church in Toronto, with no audience—just Frisell alone with a Telecaster, a couple of Fender amps and a few pedals, wending his way through a great selection of his original tunes from different eras: "Throughout" from his early ECM Records days, "Ron Carter" from *Blues Dream*, "Keep

Your Eyes Open" from Nashville, "Boubacar" from *Intercontinentals*, and a few well-chosen covers, such as Dylan's "Masters of War," the traditional country-folk tunes "Shenandoah" and "Wildwood Flower," and The Gershwins' "My Man's Gone Now." It was artfully directed by Daniel Berman and co-produced by Berman, Lee Townsend and Paul McNulty. "That was a great old church," Frisell comments. "I must admit, even after all these years, playing by myself is sort of intimidating, but that turned out nicely." The DVD also includes informative interview segments with Frisell.

But wait, there's more! Upon returning to the U.S. from Italy, Frisell was scheduled to record a guitar-stravaganza in Nashville with Buddy Miller, Marc Ribot and Greg Leisz (and a rhythm section and probably some singers), and then there's a second Floratone album to be made with his collaborators in that lineup—Martine, Townsend and Matt Chamberlain—and a gig playing the Buster Keaton music live to film, and—well, let's just say it was lucky I caught him during his break because there might not be another one for quite a while. Frisell wouldn't have it any other way. III

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Charlie Hunter: "The majority of records I listen to are mono. All those great old records that came out on Specialty and Blue Note, plus the early soul and R&B—that was all mono and it's very powerful and rhythmically very punchy."

sive album," comments Dave McNair, who engineered and mixed the album, "so I proposed the ultimate mix budget: 'Why don't you record it live to 2-track?' He said, 'Dude, can we do that?' I said, 'We can definitely do that. Let me record it and I'll be mixing it while we record it. But you're going to have to go to a nice studio because you can't go to any old place. It's gotta sound really good in the room we use.'" McNair, whose main gig is mastering at Sterling Sound, doesn't do much music tracking these days, but certainly is accomplished in that area.

But the next decision the pair made was perhaps more unconventional than live-to-2-track. "I went over to Charlie's house [they both live in Montclair, N.J.] and sat in his practice room and he played me some of the tunes so I could conceptualize it," McNair says. "I heard the melodies and he told me how he thought the groove should be, and I started to picture how it should sound [with the group] in my head. And then he said, 'I'd kind of like a lo-fi thing; I don't want it to be too shiny.' Okay, fine, I have no problem with that. 'In fact, I want it to be *mono*.' I said, 'Really? Mono? Can we at least spread a little ambience or something?' He said, 'Yeah, that's cool, but I really want everything to be in the middle. It really screws with the groove if you've got stuff spread out.'"

Hunter elaborates, "I've always liked mono, and the majority of records I listen to are mono. All those great old records that came out on Specialty and Blue Note, plus the early soul and R&B—that was all mono and it's very powerful and rhythmically very punchy. It's centered-sounding, not diffuse. In listening on headphones, I thought a lot of the pocket was getting lost by the pan happening and the time delay from side to side [in stereo recordings]. I thought, 'Wouldn't it be perfect to make something that didn't have that—that was hitting you all at once?'"

McNair: "So the record is actually mono except for the return from an EMT plate and then just a hair—a *tiny* bit—of a pair of East German Neumanns we used as room mics."

Miking on the instruments was also kept simple. "I only used three mics on the drums," McNair says. "A [Neumann] 47 on the overhead; a 47 kind of behind the floor toms—almost like a Glyn Johns thing, but maybe a little higher than that, looking at the floor tom and the ride cymbal—and then an M49 about two feet from the

Continued on page 40

Charlie Hunter

JAZZ GUITARIST'S NEW PROJECT GOES BACK TO MONO

By Blair Jackson

Seventeen years down the line since the Charlie Hunter Trio's eponymous debut album, no one is still wondering whether Hunter's 8- and now 7-string guitar wizardry—which allows him to play bass and lead/rhythm guitar at once—is a gimmick. Yes, he really does pull off these multiple roles beautifully, but more importantly, Hunter has also shown himself to be a gifted composer and a wonderful collaborator—certainly one of the most interesting all-around guitarists working in jazz during the past two decades.

The good news is that Hunter continues to look for new ways to express himself. His fine new album—the title of which will bring shivers to anyone who has ever played in a band, *Gentlemen, I Neglected to Inform You You Will Not be Getting Paid*—finds the New York-based guitarist in a band setting unique to my experience: guitar, two trombones (Curtis Fowlkes and Alan Ferber), trumpet (Eric Biondo) and drums (Eric Kalb). "I wrote this music and really wanted to do it with brass," Hunter explains. "In fact, I originally thought of using three trombones, but even for me that would be a bit much." What's the appeal of writing for trombones? "It's an underutilized instrument," he answers. "The saxophone became the pre-eminent instrument in the jazz idiom, and the emphasis has been on bop-ish solos with lots of notes and

lots of changes and lots of velocity—very dense. But the thing the trombone does, which is really cool in terms of the kind of music I want to write and play, is it has this intensely *vocal* quality. It has the ability to have a lot of different sounds, not just dependent on the [ability of the] person who's playing it, but also with the different mute selections you can have. And rhythmically, it really sits in with the drums and my instrument and it can really punch. The way I tend to play music is more vertically improvised—it's more about the rhythms and the rests where you fit in, and not a lot of flurries—and the trombone is a great foil for that."

There's definitely a New Orleans feel to some of this music—the trombone/trumpet combo will do that almost automatically—with languid ballads mixed with saucy funk numbers. As always, Hunter's playing is tasteful and economical, but also adventurous: The spare arrangements still give him plenty of room in which to jam. This group had only rehearsed some and played one gig together when they went into Brooklyn Recording to cut this album, so the tracks seem fresh and alive, as if the players are just discovering the magic in the quintet. It's a bare-bones, no-frills recording, but that, too, is part of the disc's charm. It is simple by design.

"Charlie was looking to make an inexpen-

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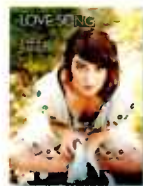
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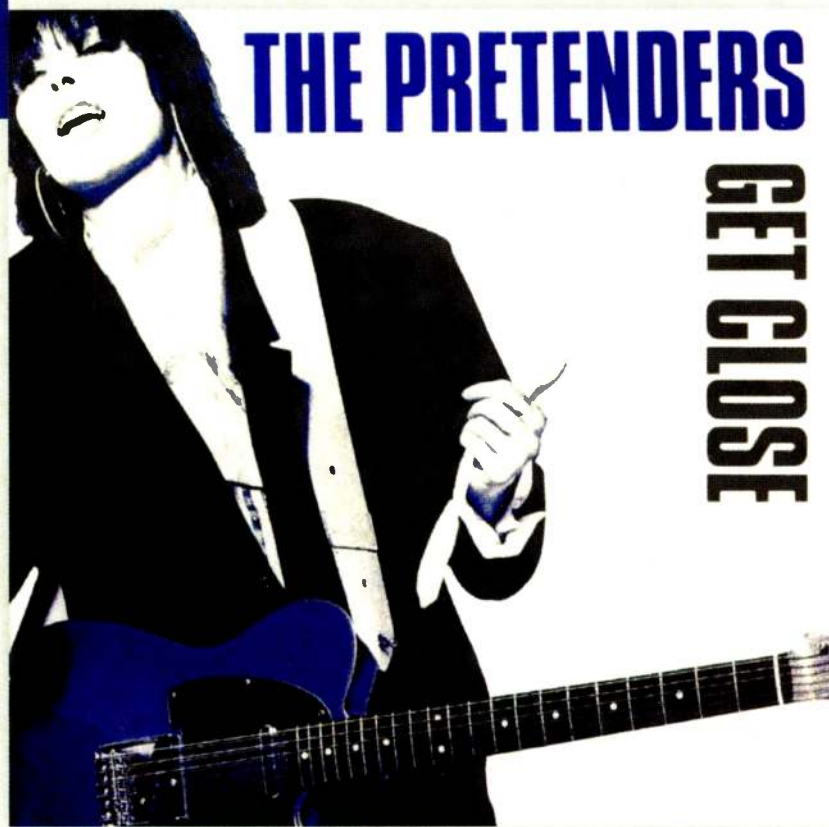
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CLASSIC TRACKS



The Pretenders

"DON'T GET ME WRONG"

By Gaby Alter

The cover of *The Pretenders*, the band's first album, reveals the mix of qualities that makes lead singer and songwriter Chrissie Hynde so compelling. With her heavy black eyeliner, tightly zipped red pleather jacket and thousand-yard stare, there's no question that Hynde is every bit as tough as her all-male band; probably more so. Yet there's no doubting her femininity, as evidenced by her long hair and lace gloves. The image captured Hynde's persona: She has a swagger that stands up to that of rock's cockiest frontmen and a vulnerability that gives her songs depth and emotional range. That combination paralleled The Pretenders' sound, which mixed the back-to-basics, aggressive energy of punk with Hynde's strong melodic sense and a wide stylistic palette that covered ground from rock 'n' roll to pop.

Both the sound and Hynde's persona are still in evidence on the group's 1986 hit "Don't Get Me Wrong." The song is a confession of in-

fatuation, but as Hynde sings about being swept away by passion, she sounds supremely confident: The confession doubles as a come-on. Under her supremely catchy melody, Robbie McIntosh's shuffling guitar line contrasts with Steve Jordan's straight-ahead beat to create a groove as propulsive as a train engine. And Paul "Wix" Wicken's synth flourishes add appropriate touches of pop grandeur.

Though The Pretenders formed in London, Hynde herself was an ex-pat from Akron, Ohio. She attended Kent State University in the early '70s, where she played in a college band with Devo frontman (and fellow Akronite) Mark Mothersbaugh, and witnessed the infamous Kent State killings. In 1973 she left the country to immerse herself in the London music scene as both a singer and a critic. She socialized with the Sex Pistols and played in several bands, including one with future members of The Clash,

before forming The Pretenders in 1978.

Their 1980 debut, *The Pretenders*, charted at Number One in the UK and went Platinum in the United States, and its follow-up, *Pretenders II*, was certified Gold in the U.S. Soon after, however, guitarist James Honeyman-Scott and bassist Pete Farndon both died of drug overdoses. Despite these devastating losses, Hynde continued forward with the band, keeping original drummer Martin Chambers and adding guitarist Robbie McIntosh and bassist Malcolm Foster. The result was another hit record, aptly titled *Learning to Crawl*.

But more personnel changes were to come. As they were rehearsing for their next record, *Get Close*, Bob Clearmountain recalls the band sounding "raggedy." At first, Clearmountain (who co-produced the record with Jimmy Iovine) chalked it up to poor acoustics in the rehearsal hall, making it difficult for the musicians to hear each other. But once they began tracking in London's AIR Studios, it became clear that acoustics weren't the issue. As they were setting up the drums, Chambers mentioned that he'd gotten into programming on a drum machine and hadn't touched a real kit in well over a year.

"I was like, 'Oh, really? How's this gonna work?'" Clearmountain remembers thinking. "Sure enough, he just didn't have the chops—he hadn't practiced enough. Even though this guy is an amazing drummer, you take away the drums from any drummer for a year, and it's gonna be tough to get that back, you know?"

As a result, both Chambers and Foster (whom Hynde and the producers felt was also not playing well) were asked to leave the group before recording began. Clearmountain describes the process as heartbreaking, but says that they couldn't have made the recording if they hadn't done it. On the upside, the situation left Hynde with a lot of options. "I think she was sort of at that Springsteen stage anyway, where she had played with the same band for a while and she just wanted to try some other players, just to break it up and make it interesting, besides the fact that Martin wasn't really cutting it," Clearmountain says.

The band began sessions at AIR Studios with drummer Mel Gaynor of Simple Minds. Hynde was married at the time to Simple Minds singer Jim Kerr, and Clearmountain and Iovine

had produced their last record, which was how they met Hynde and ended up working on *Get Close*. Many other crack studio musicians ended up on the album, as well, including drummer Simon Phillips, who was performing and recording with Pete Townshend at the time; Bernie Worrell, keyboardist for Parliament Funkadelic; and Steve Jordan, a drummer/producer and friend of Hynde's. (Jordan currently plays with and produces John Mayer's band.) Ultimately, Blair Cunningham played most of the drum tracks, T.M. Stevens recorded most of the bass tracks and Paul "Wix" Wickens did the lion's share of keyboards.

With Hynde and McIntosh supported by studio pros, the recording went smoothly over the next six weeks. Hynde herself was extremely easy to record, according to Clearmountain. "You could have four vocal takes—we wouldn't really do any more than that—and you had a choice between one would be amazing, one would be fantastic, the third would be unbelievable and the last would be perfect," he says.

Engineer Bruce Lampcov, a huge fan of both Hynde and The Pretenders, was thrilled to work on the album, and notes Hynde's personality with admiration. "I've worked with a lot of women in the industry," he says. "Women have to be very tough to get their voice heard, literally, but also just their ideas because it's such a male-oriented industry. Chrissie's a tough person, and she just wouldn't let shit go down that wasn't the way she saw it. She's the boss—that's it."

The recording eventually moved from London to New York because there were musicians there that the producers and Hynde wanted to use, according to Clearmountain. Lampcov recalls flying to the States on a Concorde overnight, touching down and heading straight into Power Station studio, still jet-lagged, to record "Don't Get Me Wrong." Clearmountain came late to the session, and Lampcov remembers feeling a little intimidated setting up by himself. "I was a young guy. I was like, 'Wow, I'm doing this on my own. This is scary.' I mean, I'd done lots of records, but still—Chrissie was my idol."

The song was recorded in Power Station's Studio A, using the studio's Neve 8068 desk. Clearmountain designed Power Station himself, with Tony Bongiovi; they sold the console in 1992, but Clearmountain Googled the model number a few years ago and ended up buying it off the owner. "That series of Neves all through the '70s were some of the best-sounding recording consoles on the planet," he says. "They have the famous mic preamps, and they're very

straightforward and easy to operate. I did a lot of big records on that particular console: Bryan Adams, Chic and Sister Sledge. It's very fast and sounds fantastic."

Hynde's vocals were recorded in Studio B, probably with a Neumann U87 microphone and an LA-3A compressor. Clearmountain recalls that, despite her in-your-face personality, Hynde liked privacy and darkness when she did her vocals, and always asked to be partitioned off from the control room. In fact, Clearmountain wasn't actually in the room when she did her vocals that day. "She had done three or four vocal takes on 'Don't Get Me Wrong,'" he says. "I think I had to take a phone call in the other room. I said I'd be right back. When I came back, she had done the perfect vocal take on the song. So sometimes it's just a matter of leaving to get an artist to perform."

Lampcov miked Steve Jordan's drums with Sennheiser 421s on the toms, top and bottom, an AKG D12 on the bass drum, SM57s on the snare top and bottom, and some type of AKG mic on the cymbals. He used 1176 compressor/limiters on the snare drum for compression, and Pultec EQs on a lot of the drums. "It was 24 tracks, so there were a lot of mics, but I mixed it down to bass drum, snare, hat, overheads and room, with EQ and everything," he says. "That was how you worked back then—you'd EQ everything to how you wanted to hear it."

"I remember Bob commenting on the drum sound because he probably wouldn't have gotten that sound himself; he would have done something different. I took it as, 'Oh, no, did I screw it up?' But I think he thought it was okay. Anyway, it's Steve Jordan's sound. And Bob's mixing, so whatever you do he makes it sound great."

McIntosh's main rhythm guitar was a Strat going through a Roland Digital Delay. He borrowed a Gretsch guitar for the song's solo, and also played a Telecaster on it. The Eurythmics' bassist, Chucho Merchan, played on the session, but his part was later replaced by T.M. Stevens. In a testament to the skill of everyone involved, the entire song was recorded that day, including vocals.

The rest of the album was recorded primarily at Bearsville Studios near Woodstock, along with one song at Right Track in New York City. Lampcov remembers that it was challenging to make the album sound consistent, as he and Clearmountain didn't have their own equipment; they used whatever they found in each studio. "Having said that, back then all the studios had Neve consoles and then you'd use the



You could have four vocal takes—we wouldn't really do any more than that—and you had a choice between one would be amazing, one would be fantastic, the third would be unbelievable and the last would be perfect.

—Bob Clearmountain

EQs on the consoles," he says. He also cites Clearmountain's mixing skills in keeping the album's sound unified. Clearmountain mixed *Get Close* at Bearsville on an SSL 4000 E Series desk, an earlier version of the console he usually mixes on now. (He uses the Neve 8068 to a lesser degree.)

When it hit the airwaves, the album was another success for The Pretenders, and "Don't Get Me Wrong" became the group's second Top 10 single in the U.S. It has proved to be a perennial favorite, as evidenced by a recent cover by British pop star Lily Allen. As a happy coda to the album, Chambers got his drumming chops back and rejoined The Pretenders, playing with them to this day. Other personnel changes have occurred, but Hynde has continued to tour and record with the band. Their recent album, *Break Up the Concrete*, proves that both her songwriting and vocals are still in great shape.

Lampcov and Clearmountain each remember their experience working with Hynde and The Pretenders on *Get Close* fondly. "It was fantastic," Lampcov raves.

"The musicians were so good, and Chrissie was so good, it was just stunning," Clearmountain says. "You just knew, this is everything we could ever want from a recording for a pop record." ■

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Charlie Hunter, continued from page 36

bass drum, no hole. No snare mic, no hi-hat mic, no tom mics." The two trombones "each played into either side of an RCA 44 ribbon; the trumpet was a Coles [ribbon]."

As for Hunter's custom Jeff Traugott 7-string axe—which has three bass strings and then four strings, "like the middle four strings on a regular guitar," he says—that constitutes two channels. McNair explains, "He's got a pickup on it so the bottom three strings go to a separate output and it's pretty discrete—you can hear a tiny bit of guitar in it but not much.

"[The bass signal] went to an Ampeg SVT, just used as a head, and powered [to] a closed single cabinet—it's a box with a speaker in it and you put the mic in there. I think I had a condenser—maybe a TLM 170—in there. No direct; just the mic on the internal cabinet, no EQ. Then the guitar signal went to Charlie's [Wayne Jones/Headstrong blueprinted Fender] Deluxe, and I put an RCA 44 ribbon on that. The only other mics were the room mics, which were spaced on either side of the control room window."

All mics went straight into Brooklyn's Steve Firlotte/Inward Connections—designed 10-channel Vac Rac re-creations of Bill Putnam's United Western tube preamps, "no EQ whatsoever," McNair says. "Then we took the output of the rotary fader and put [it] into the cleanest insert point in the Neve so I could have faders in front of me, and I put a Pendulum Audio Variable-Mu 6386—a little bit of that—on the quasi-stereo, and that was it; no compressor on the bass, guitar, horns. I put a little bit of a Purple Audio 1176 on the 47 overhead and that was it. Then we went to 15 ips [Ampex ATR-102] half-inch, no noise reduction."

Recording took place on two different days: The first was devoted to setup and capturing a couple of songs that feature just Hunter and drummer Kalb; the second was the full quintet. There are no overdubs at all on the album, and even McNair's original notion of comping together performances at convenient edit points from different takes went out the window (except for the title track, which comes from two takes). "It was all so well-played it just became a question of which performance was the best," McNair says.

Hunter says he was happy to leave the take selection to McNair, noting, "Once I play it, I trust it to others to know what to do with it. Dave's very musical, so I had no trouble putting it in his hands."

And as for the mono(ish) 2-track experiment? "I liked it," Hunter says. "I can definitely picture doing that again." ■■■

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PHOTO: PAUL ESALANO



Raphael Saadiq's vocal warmth is heard through a Shure SM58.

By Gaby Alter

Raphael Saadiq

KEEPING A MOTOWN SOUND WITH HOUSE-PROVIDED GEAR

Raphael Saadiq has covered a lot of ground in the music business. Following his days as the lead vocalist for the multi-Platinum R&B group Tony! Toni! Tone! in the late '80s and '90s, he went on to form Lucy Pearl with members of En Vogue and A Tribe Called Quest, and to write and produce for major artists including D'Angelo,

Mary J. Blige and Earth, Wind & Fire. In the past decade, Saadiq has also gone solo, releasing two albums that garnered critical acclaim and eight Grammy nominations between them. While he has often fused the many genres he heard growing up in Oakland, Calif.—from hip-hop and rock to funk and soul—his latest release,

The Way I See It (profiled in *Mix*'s Jan. '09 issue), is a focused homage to the classic sounds of early Motown.

"I'm not saying the Motown sound is me, but I was raised on a Fender Stratocaster and a Les Paul," Saadiq says at his recent touring stop in New York City's Terminal 5. "They've been in my house consis-



Monitor engineer Jon Lammi and FOH engineer Kenyatta Kelo Saunders at Terminal 5's Yamaha PM5D desk

tently since I was born. I grew up playing Fender guitar and bass—they've been like a piece of furniture in the house, all the time, and I knew exactly what they were used for."

Today, Saadiq takes this love for vintage gear and priceless instruments to create a mesmerizing live performance, complete with a six-piece band dressed in matching suits and ties—except for vocalist Erika Jerry, who is resplendent in a classy period dress. His act evokes Motown's heyday visually and musically, right down to the horn hits and synchronized dance moves. However, his eclectic side also comes through when he plays his more hip-hop- and rock-influenced songs from earlier albums.

To help translate Saadiq's sound to a live setting, his engineers do everything they can to warm things up. Front-of-house engineer Kenyatta Kelo Saunders (a Grammy-winning engineer/producer) uses a Native Instruments Guitar Rig to help get a vintage sound, as well as Apogee's Symphony Mobile. And while the tour doesn't carry any other gear, their tech rider requests all-tube amps for the band's backline: Ampeg Classic SVT for the bass with an 810 tube amp and Fender Twins for guitars.

"We've been adjusting the stage setup a little bit," says monitor engineer Jon Lammi, formerly with Aerosmith and Blue Man Group. "Rob Bacon, our lead guitar player, has been sometimes using a single Fender Twin, sometimes two Twins in stereo. And Raphael has been using a single Twin. For some reason tonight, we couldn't get Twins so we have four Fender Deluxes, re-issues. They're circuit-board-printed, not point-to-point, and they're not vintage at all,

but they're modeled after [the old Fender Deluxes]."

Sorting Through a Club's Racks

For their show in New York, the engineers are mixing on the venue's Yamaha PM5D desks. Saunders—who has mixed live for Jay-Z, The Roots and Joss Stone—generally doesn't prefer digital consoles. "I'm a Midas dude," he says. "Give me some analog warmth, especially for this band—it deserves to have vintage gear. A couple of tours ago,

I carried a rack that had a whole bunch of stuff in it. But with us flying and doing all this different stuff, the rack was just too expensive to carry. I think we'd rather have horns versus the rack, you know?"

Although they carry no outboard gear, Saunders does like to throw some effects into the mix. "I play with delays a lot," he says. "I lucked out and got a TC Electronic D2 delay today from Marciano [Saadiq's manager], so at least I can tap the delay out. I put them on the vocals to carry whatever [Saadiq] is saying, to add more drama. I put them on the guitar at points too, sometimes even the toms.

"I'm a really aggressive mixer," he continues. "The drums are going to be in your face,

the bass is definitely going to move you. Everything jumps out of the speakers—especially with this band because they're just so awesome! When they hit, you want to feel it—bap bap!"

Lammi adds, "[The band] reacts, too; they can hear the P.A. when it's slapping back from the room." "They play into it," Saunders confirms.

That said, he thinks the sound system is great for this particular venue. "If it was a bad system, we'd have to augment it with something, anything—I don't care what it is. Is it old? Is it warm? Put it everywhere."

The size of the venues has increased during the course of the tour, moving up from clubs to theaters, with Terminal 5's capacity around 2,000. Because the venues vary from night to night, Lammi notes that the Recall feature on a digital board wouldn't help, even if they carried one. "For me, even if I have the [memory] card, I'll just dial it up from scratch. The club asked me if I had a card today, but since it's a different room..." Saunders finishes for him: "There's no continuity so you can't rely on what you had in another room."

"The trick is to make it sound consistent, no matter what we've had," Lammi says. Sometimes this means that he has to sort through a pile of wedge monitors in the club (the band does not use in-ears) and determine what's working and what isn't, occasionally fixing an amp just so the show can go on. Lately though, their luck has been good, and Lammi says they've played in a lot of decent rooms with good systems.



Saadiq kickin' it old school with a background vocalist

Terminal 5 uses Clair Global systems for both monitor and main loudspeaker systems. There are 10 to 20 i2121 line array speakers per side, with eight CS218 floor sub-low speakers, and 2-1 S218 cluster sub-low speakers per side. Both systems have Lab.gruppen amplifiers and Dolby Lake Processors (LP4D12s on the main speaker system and LP4D8s on the monitors). With this system, Lammi can mix without a lot of EQ'ing onstage. Plus, "the band isn't that loud, so that helps," he adds. "They're great, very professional. And nobody is trying to take over onstage at all, so it's just a matter of balancing them."

"The processors fine-tune everything and add a lot of warmth," Saunders says. "Whatever Jon does will play into the house, and vice versa. It's kind of a game that he and I play back and forth to keep the balance."

Working With the Band

The band comprises two backing vocalists, Erika Jerry and B.J. Kemp; drummer Lemar Carter; keyboardist Charles Jones, playing two Yamaha Motifs and a Nord Electro for organ sounds ("Sometimes we get lucky and we get a Leslie and a B3," Saunders says); saxophonist Scott Mayo; trumpeter Jamelle Williams; bassist Calvin Turner; and guitarist Bacon. Saadiq plays an additional guitar.

All of the singers use Shure SM58s, the only microphones that the tour carries (for hygienic reasons). Saunders uses a longer plate reverb on the vocals, with an occasional hall reverb. "We really like plates because they are kind of old-school, like Raphael," he says. "When he recorded the album, he used a real plate and everything was original, so it was really true to that style of music—Motown and Stax." Lammi also uses a plate reverb on Saadiq's vocals in the monitors so the vocalists can get the effect in their mixes. "I'll take a plate reverb in the console and I'll take off all the highs in the wedges, a bit of the lows and give him this bed to play with so it doesn't sound too sterile onstage," he says.

The trumpet and sax are miked with Sennheiser 421s. "We had two other horn players [from P-Funk] and they preferred an SM58. They were very old school; actually, one was Parliament's horn player," Saunders says. "So they were just masters at working the 58. But some people can't maneuver around it in the same way, so we're using 421s now. They're adding a little deeper dimension to the horns. We want it to sound dark, and they're a little bit brighter, but we can shape it enough to be darker."

For the kick drum, Saunders mikes the

inside with an SM91 or a Shure Beta, and the outside with an Audix D6, which he calls "my all-time favorite kit mic. It automatically dumps out or rejects the trash you don't want, and it has a tremendous bottom end and a little click to it." The snare top and bottom take SM57s and Saunders adds a short plate reverb to that sound. Sennheiser e 604s or Audix D2s are on toms, while overheads see AKG 414s. Saunders notes, however, that things change from night to night depending on the club's microphone package.

The tour ended shortly after the Terminal

5 show, and Saadiq headed back into the studio to record his next album. Of his touring band, Saadiq says, "I'm just very fortunate to have a group of musicians who listen to my album, and everybody tries to make the sounds live like it sounds on the record. I think it's very important that we play with that spirit and energy; I think that's what carries into the music. There's a technical thing, but there's a mental/technical aspect that makes it all coincide and work together." ■

Gaby Alter is a New York City-based writer.

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SOUNDCHECK

Train Rolls Along With LMG



Clockwise from above: Train performing; front-of-house engineer Rob Thomas at the Digidesign Profile; and monitor engineer Rob Greene, also at a Profile.

Promoting a newly released album—*Save Me, San Francisco*—Train contracted with LMG Touring to provide video, audio and lighting support for its North American tour. The full audio control package includes two custom-built touring rigs (for front-of-house engineer Rob Thomas and production manager/monitor engineer Rob Greene) built around Digidesign VENUE Profile consoles. Each mix zone includes integrated mini-computers equipped with Pro Tools, iTunes, Smaart software and system control software.

The monitor system uses L-Acoustics 115XT

wedges, dV-SUBs and ARCS with couplers, and takes full advantage of the Digidesign PQ control system. Also in the package are 12 LA48 amps, XTA processing, an LMG Touring TM passive split system (74 pairs), Sennheiser ew300 IEM G2, and an assortment of mics, including Shure UHF-R wireless.

According to Greene, "As a production manager, I love that LMG can provide everything I need to put on a show. As a sound engineer, I love the quality, reliability and packaging of the gear."

tour log

Randy Meullier, Alice Cooper

Alice Cooper and band are rocking their way through the UK and Europe on their Theatre of Death tour. Cooper's longtime FOH engineer, Randy Meullier, spoke with *Mix* as he was winding down the last four shows of the 2009 tour; the band goes back out again this spring.



Alice Cooper (left) and front-of-house engineer Randy Meullier

How much gear are you carrying?

We are carrying all backline, stage set, props and a complete monitor IEM package and FOH console, the amazing [Soundcraft] Vi6. We use Precise Corporate Staging from Phoenix in the U.S. and SSE from the UK in Europe. Our recent UK tour had us carrying a full L-Acoustics V-DOSC rig from SSE.

What is the most important part of your mix?

Keeping Alice Cooper's vocals loud and clear above the band. The fans know every word and want to hear them.

How do you compensate in your mix due to the loud stage volume?

I need a powerful, well-tuned P.A., and I am constantly balancing the vocal with the guitars and trying to keep him above them. I have one hand on the vocal and the other on the guitars. It can get tricky at times.

What is your go-to piece of gear?

Nothing special as far as outboard gear. I am very happy with what the Vi6 has in it, so I guess you could say that right now the Vi6 is my tool of choice.

When you're not on the road, where can we find you?

I live in Pittsburgh and am looking forward to some down time and a bed that isn't moving.

fix it

Duncan Sheik FOH Engineer Adam Robinson

At FOH, the versatility really just continues for me. As sound engineers, we all become very familiar with the sound of those 1/3-octave centers and think of our tunings in that respect. So many times, I've started thinking, "I need less 800 Hz in this system" only to put a filter in at 800 and find that it's not exactly what I was hearing. A sweep in either direction locates that problem zone at maybe 750 or 900, etc. Any parametric EQ can help achieve this but the Lake is one of the few where I can grab a tablet, sit in the audience and make my changes away from the console, which today seems to get put in worse and worse positions at venues.



PHOTO: BEN LAJING

Yamaha Croons With "Sammy"



The Tony Award-winning Old Globe (San Diego, Calif.) is hosting hit play *Sammy*, based on the life of Sammy Davis Jr. Sound design was handled by John Shivers and David Patridge, with gear provided by Masque Sound. The duo took advantage of the theater's Yamaha PM5D digital audio consoles, citing the ability to cascade the inputs from a MY16-AT card to bus the sound effects system into the P.A. Effects were programmed using QLab Version 2 that was used as a master cue list to recall scenes in the PM5D. QLab's audio was routed over optical from an RME Fireface 800 to the PM5D's card slot, cascaded to the buses and, in turn, routed to various speakers.



Old Globe theater's FOH engineer, Erik Carstensen

Patridge says that a Yamaha DM1000 was paired with two AD8HR external preamp units to serve as a submix for drums and percussion, as the sound design for *Sammy* exceeded the inputs available on the PM5D. "We like the higher-quality microphone preamps available via the AD8HR and the ability to pair them with Yamaha's product line of digital consoles using MP slots, and serial control of preamp functionality is very convenient."

Old Globe engineer Erik Carstensen handled FOH mixing duties, and this is the second project he has mixed for Shivers and Patridge. "Erik combines a good deal of industry experience as a sound engineer with a calm and good-natured demeanor—an excellent combination for a venue that could easily produce 15 different works in a season," Patridge says.

Adds Carstensen, "I find that changing and storing EQ and dynamics settings, for example, is achieved quickly—vital in the production process where audio usually doesn't get a lot of time to get it right. On top of that, using the PM5D with our DME64N has been very reliable, show after show."

load in



Rob Thomas performs during his Cradlesong tour with the Sennheiser SKM 5200 handheld transmitter with a Neumann KK 104 capsule.

Sound Image FOH Russell Fischer is using a Studer Vista 5 SR console for the current Taylor Swift tour; mics are Audio-Technica 500 Series...Each Jump the Gun bandmember is using an Aviom A-16CS control surface onstage paired with an A-16R rackmount mixer to customize his own mix. Monitors include Shure PSM6000 personal in-ear systems...According to Roger Daltrey FOH engineer Mark Brnich (Eighth Day Sound), guitarist Simon Townshend is using a 3RD Power Amplification HLH100 guitar amp system...Miranda Lambert's front-of-house and production manager/monitor engineers—Jason Macalik and Chris Newsom, respectively—chose dual DiGiCo SD8s as part of their "all-digital" setup...JSL Productions selected D.A.S. Audio's Aero Series 2 sound system for Fireflight's recent stretch of gigs.

road-worthy gear

WorxAudio Upgrades TL1801 Woofer

The new TL1801A long-excursion, high-output sub bass loudspeaker has a high-temperature neodymium magnet surrounding an underhung voice coil encased in a low-carbon steel structure. The 52-pound, 18-inch diameter unit's driver has two inches of peak-to-peak, fully linear excursion, and the TL1801A is presently incorporated into the company's TrueLine Series TL218SS and TL118SS sub bass enclosures.

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Now shipping, the SC700CT A/V direct box is ideal for connecting the outputs of MP3 players, PCs, laptops, CD players and other audio devices to gear with XLR inputs. The SC700CT converts high-impedance stereo or mono line-level audio devices and musical instruments having 1/8-inch stereo, RCA or 1/4-inch connections to a low-impedance/balanced/isolated mono mic-level signal. Ground lift and -20dB pad switches are standard, as is a rugged case with recessed connectors.

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www.qsc.com III

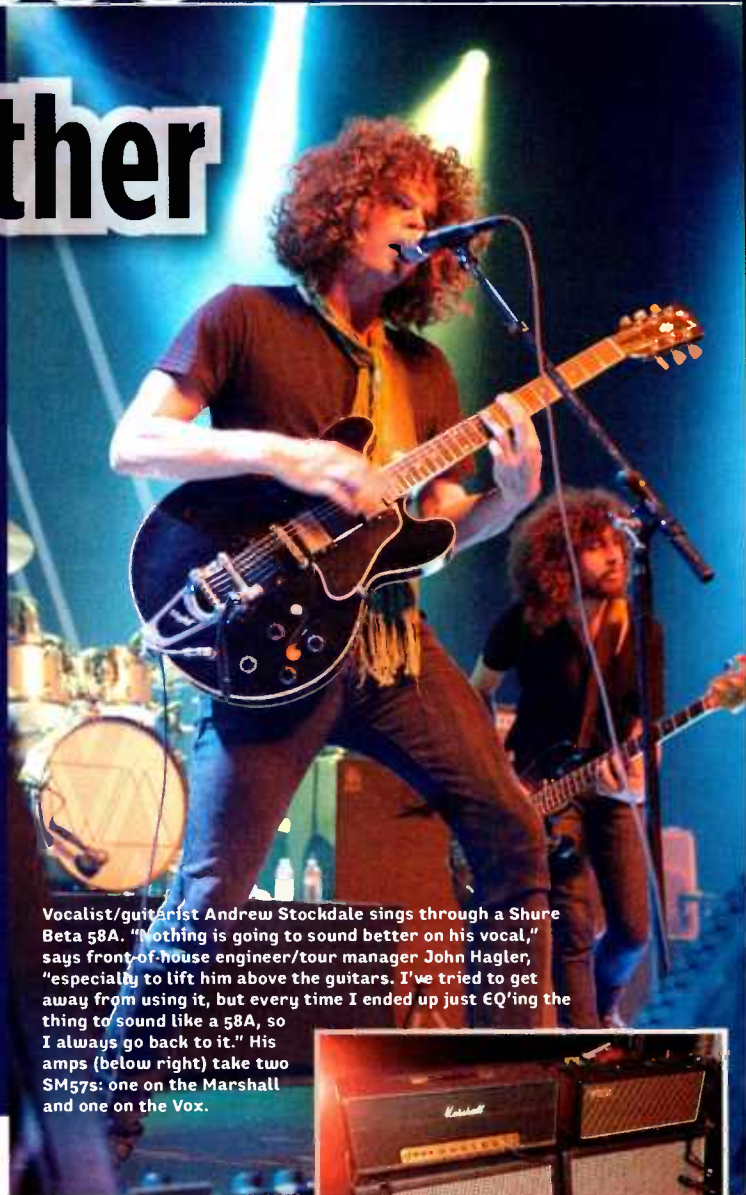


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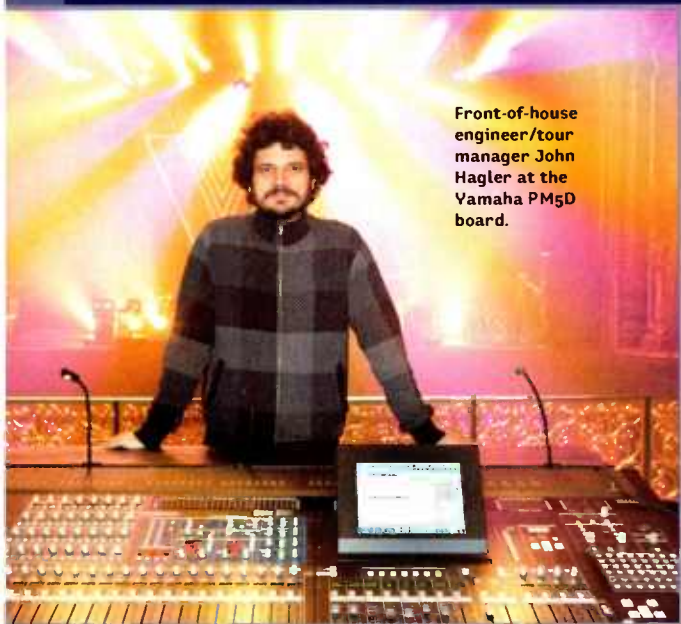
Photos and text by Steve Jennings

Wolfmother

On the heels of their stint as main support for The Killers' latest tour, Wolfmother have taken a headlining spot, out promoting their latest album, *Cosmic Egg*. Bringing a little "green" to the tour, the Australian rock-in' foursome partnered with Musictoday and Trees for the Future; a tree will be planted in a third-world country for every pre-sale ticket sold. In addition, the tour is saving resources by carrying very limited gear. *Mix* caught the show at Oakland, Calif.'s Fox Theater.



Vocalist/guitarist Andrew Stockdale sings through a Shure Beta 58A. "Nothing is going to sound better on his vocal," says front-of-house engineer/tour manager John Hagler, "especially to lift him above the guitars. I've tried to get away from using it, but every time I ended up just EQ'ing the thing to sound like a 58A, so I always go back to it." His amps (below right) take two SM57s: one on the Marshall and one on the Vox.



Front-of-house engineer/tour manager John Hagler at the Yamaha PM5D board.

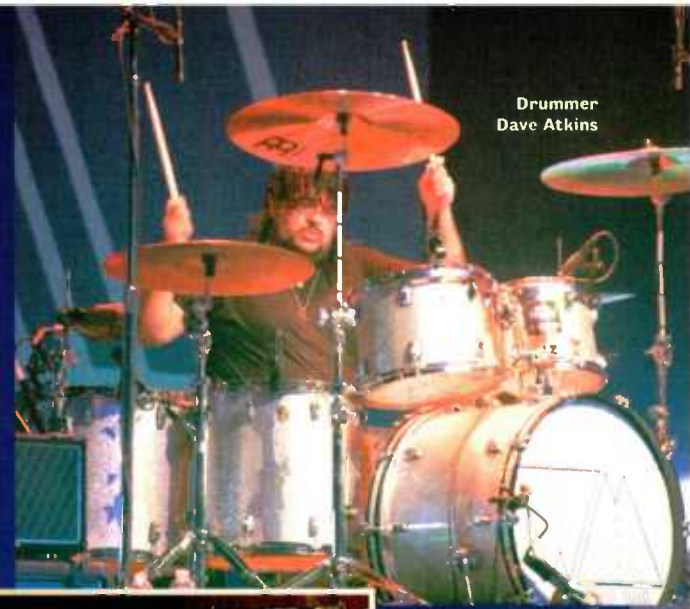
Hagler mans a Yamaha PM5D, a board he has used since an Aly & AJ tour in 2005. "It's really fast and I like the SPX-2000 effects," he says. "I haven't seen too much that has impressed me in the dynamics world, so I would rather just bring my little rack out front with me and tie it in." Outboard gear includes a Drawmer 1960 tube pre/comp that he uses to take some of the transparency out of the vocals and a Line 6 Echo Pro that he puts on vocals; all other effects are onboard.

As the tour is not carrying full production (except mics, claws and Z-bars), Hagler will spec a 5D or contact Clair Global for a D-Show.

Interestingly, the tour does not have a monitor engineer, something Hagler is nonplussed about, "but between myself and the stage crew, we are able to make it work in a timely manner. So, my question: 'When is someone going to invent the rackmounted coffee maker?'"



Bassist Ian Peres plays a Fender 1962 reissue; Peres also mans the keyboards.



Drummer Dave Atkins

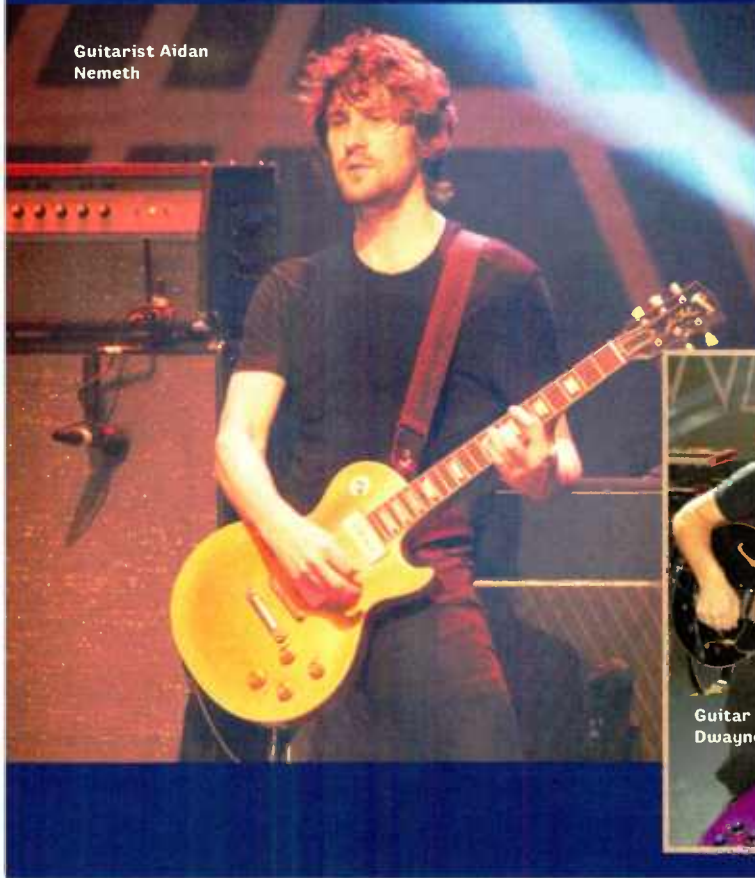


Drum/bass/keyboard tech Judd Kalish

Dave Atkins' kit is miked with a Beta 52 (kick), SM57 (snare top and bottom), SM81 (hi-hat), Sennheiser e 604s (toms) and KSM32 (overheads).

Keyboardist/bassist Ian Peres is miked with a Beyer M88, "an all-around amazing mic with great low-end response, and it smooths out the grating high end from the Rhodes," Hagler says.

According to drum/bass/keyboard tech Judd Kalish, Peres plays a Fender 1962 reissue bass through an Ampeg SVT VR head and an 8x10. Keyboards are a Korg CX-3 and Rhodes piano. "For bass guitar, I use a Korg Pitchblack chromatic tuner, a Dimebag Darrell wah pedal, a Way Huge Swollen Pickle distortion pedal and an Electro Harmonix English Muff'n pedal," Kalish says. The CX-3 sees an original Electro Harmonix Memory Man Deluxe delay pedal. "For the Rhodes, I use a Crowther Audio Hotcake distortion pedal and an Electro Harmonix reissue Memory Man pedal."



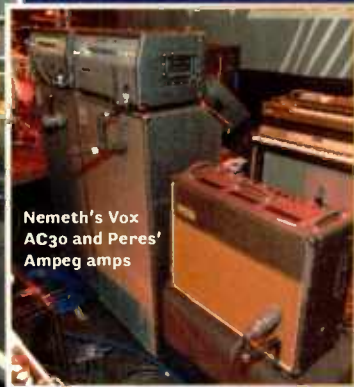
Guitarist Aidan Nemeth

Guitarist Aidan Nemeth's Vox AC30 combo takes Hagler's "secret weapon": an Audio-Technica dual-element AE2500. "It quickly became my favorite mic after I picked it up in 2004," Hagler recalls. "I used a 57/98 combo for a while and really liked that, but the AE2500 has elements that are just that much better." Ampeg amps take D112s (bass cab).

According to guitar tech S. Dwayne Bruner, guitarist Andrew Stockdale plays through a 220V Marshall Plexi 100-watt head and a 110V Vox AC30 head, "meaning that we have to be running a transformer of some sort no matter where we are." Stockdale's pedalboard comprises a Boss TU-2, Radial Tonebone, Fulltone Clyde wah and Supa-Trem, an Electro Harmonix Microsynth and Small Stone phaser, AC Booster and DigiTech Whammy. All are patched into a true bypass looper/switcher array and powered by a Voodoo Labs Pedal Power 2+. "A guitar tech's best tools are a combo of intuition and inventiveness," he says. "As a friend once said, 'Repairing gear onstage is triage, not surgery.'"



Guitar tech S. Dwayne Bruner



Nemeth's Vox AC30 and Peres' Ampeg amps



David Ward/
WRITER/DIRECTOR
Sleepless in Seattle,
The Sting



Dezso Magyar/
ARTISTIC DIRECTOR
No Secrets,
Summer



John Badham/
DIRECTOR
Saturday Night Fever,
WarGames

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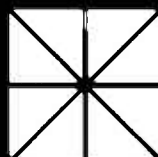
Lawrence Paull/
PRODUCTION DESIGNER
Back to the Future, Blade Runner



Paul Seydor/EDITOR
White Men Can't Jump,
Barbershop II



Bill Dill/CINEMATOGRAPHER
Dancing in September, The Five Heartbeats



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ROBERT BASSETT, DEAN



By Mel Lambert

'Lost,' The Final Chapter

MIXING MOVIE-STYLE SOUND AT DISNEY POST PRODUCTION

It's mid-morning in Walt Disney Post Production Service's Room Six, and the sound editorial team for ABC-TV's *Lost* is taking notes from executive producer Bryan Burk on an opening episode from Season 6. "We need to make the traffic sounds more frantic, with more horns," they hear over a Polycom Internet link from Burk's office in Santa Monica, Calif. "When the cab leaves, I need a lot more car horns."

The hour-long drama series first came to TV in September 2004 and was an instant success for co-creators

Damon Lindelof, J.J. Abrams and Jeffrey Lieber. Produced by ABC Studios, Bad Robot Productions and Grass Skirt Productions, *Lost* has now reached its final season, as it follows the lives of plane-crash survivors on a mysterious tropical island somewhere in the South Pacific. The series has developed a large cult following and earned a well-deserved reputation for intricate sound editorial. The crew is now focusing on Season 6—including the two-hour opening to air on February 2.

"We'll cut some alternatives,"

agrees *Lost* supervising sound editor Tom de Gorter in response to a quick glance from Scott Weber, sound effects re-recording mixer, currently seated at the Avid Digidesign ICON D-Control console that dominates Room Six. "Let's move on to audition some of the music cues," offers music editor Alex Levy. Composer Michael Giacchino's music cues are recorded weekly using a 20-piece orchestra.

Under de Gorter's supervision, sound effects are edited by Paula Fairfield and Carla Murray at MHz Sound



Lost audio post-production crew (from left): Frank Morrone, Alex Levy, Paula Fairfield, producer Ra'uf Glasgow, Carla Murray, Scott Weber and Tom de Gorter

Design; both sound designers joined the show at the beginning of Season 3 and have worked together for 12 years. “*Lost* is an extremely busy TV show,” Murray says, “with sound-designed moods and signature textures,” including The Island disappearing at the end of Season 4 and the flash-forward sequences initiated in Season 5.

Fairfield works primarily on backgrounds, vehicles and ambiences, while Murray looks after hard effects; they both work on sound design elements. “The show is wall-to-wall effects,” Fairfield stresses. “We like to offer lots of options for the re-recording stage; we put together everything we can think of, although they may be dropped later. We also carefully catalog everything so that the same sound signature will be used.”

The sound designers deliver two Pro Tools sessions: one of mono/stereo (and occasionally 5.1-channel) hard effects; and backgrounds in 4, 5.1 and 3-channel/L/C/R formats. “We have standard templates that we worked out with Scott [Weber],” Fairfield offers, “so that the materials are delivered in a consistent format for each show. For most episodes we might deliver up to 150 tracks; for the Season 5 two-hour finale—and the opening episode for Season 6—we produced close to 500 tracks; there were a lot of late decisions on those shows!”

ICON Control Surfaces

Weber is joined by dialog/music re-recording mixer Frank Morrone at the D-Control console, which features 16 on-surface faders for dialog/music and 32 for FX/backgrounds/Foley. Each section has custom faders that can be used in one of three modes: Custom Groups, for which faders can be arranged and built in any order and configurations recalled with a single button push; VCA Master and Spill, in which the VCA group masters can be spilled into the slaves within a defined section; and Custom Fader Plug-In for mapping controls of favorite plug-ins onto faders.

of the mixers for L/C/R, plus the room's subwoofers and surround units.

“Our overall stem masters are actually multichannel aux faders that are used to build an entire submix,” Weber explains. “For instance, on my section I have an aux fader as a 6-channel effects master that receives the effects mix before it routes to the recorder. Here I put a brick-wall limiter set at -2 dB to keep the input from clipping on loud effects; this also gives me a trim on every channel. That is followed by a 3-band Massenburg EQ and then an ML4000 compressor/limiter. I start the mix with only the limiter active, and insert EQ and compression as I need them” to minimize the DSP load. “I do the same with reverb and sub sends.

“On a typical session,” Weber continues, “all effects are routed through a 5-channel master chain that has an L1 limiter, Massenburg EQ and sends, set to a ceiling of +18 dB for the effects stem. As well as a 5-channel chain, I also have a stereo chain to spread things into 5.1 using a combination of Dolby Surround Tools, Waves PS22 Spreader, delays and some stereo reverbs. I can call up the stem masters on a custom fader bank, just as I would my reverb returns or guide tracks. The VCA-style faders control groups of pre-assign tracks from the [Pro Tools] editor. For example, my basic 64 effects tracks are controlled by eight VCA masters in groups of eight tracks.”

One of the effects mixer's biggest challenges is maintaining detail within a very dense and complicated soundtrack. “When we are asked to make the scene be music-driven, have the effects play at a ‘10’ and still be able to clearly hear every line of dialog that is a tall task! It's a dance, and we are getting better at taking things out to make room for other things to play.”

“My dialog processing chain within Pro Tools,” Morrone says, “comprises a McDSP ML4000 routed into a Massenburg EQ, followed by a McDSP de-esser and then into a NJ575 Notch

Filter, as necessary, and finally into a Waves LZ limiter to hold everything back to the ABC/Disney delivery-reference level. I set up the custom faders as dialog master, ADR master, group master, music master and overall master for dialog, ADR, group and music, and finally reverb return master. That way I can easily control the submix stems on a single fader or then spill them out across the same 8-channel bank to refine individual front-channel and surrounds for the 5.1-channel submixes and final. We print stems of music, dialog, foreign dialog, ADR, Futz and principal effects, plus a group stem, which streamlines the preparation of M&Es for foreign-language versions, which we develop after print mastering.

“Although I try not to EQ the music tracks, I have a Massenburg [Pro Tools] plug-in across the music master that I use to roll-off or brighten the tracks; I sometimes use a McDSP Futz filter to mimic a source cue being replayed on a radio, for example.

“Since we don't get the luxury of a premix on dialog,” Morrone continues, “while Scott [Weber] does a pass on effects—or vice versa—I am premixing tracks via headphones.” The mixer's biggest challenge is cleaning up production sound and eliminating noise on the tracks. “Our production mixers do a great job,” he concedes, “but, unfortunately, they can only do so much with some of the locations they have to work with. Getting the production to work on the beach is always a challenge because certain characters don't project, and then dialog is tough to pull out of the backgrounds.”

As the review session continues in Room Six, Burk is commenting on sound effects for a critical scene within a large temple and pool. “We need deeper bubbles,” he offers. “And can we take out the low end so that it doesn't sound so much like a Jacuzzi?” Weber makes a note and huddles with de Gorter. “We have three stereo pairs of water sounds,” the supervising sound editor advises. “Can you make the drips louder?” Burk queries. They hear the result. “It sounds better,” Burk agrees, “but keep out the rumble. And it sounds too ‘drippy’—maybe we can back off the drips?” The team concludes that the material they have will need to be recut to offer more options, so a call goes out from de Gorter to the sound designers to prepare some alternates that will be available the next day for review. “We need separate elements to fulfill the producer's requirements,” de Gorter confirms. The mix continues. ■

Mel Lambert heads up Media@Marketing (www.mediaandmarketing.com), a full-service consulting service for pro-audio firms and facilities.

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Sound Devices' (www.sounddevices.com) 552 (\$2,895) integrates a portable mixer and recorder that features five Lundahl transformer-balanced microphone inputs with a wide dynamic range. Each input offers front panel gain control of mic/line sources and has an LED indicating phantom-power status, a sweepable highpass filter and pre- or post-fade direct output. The integrated 2-track, 24-bit/96kHz digital audio recorder writes Broadcast WAV files or MP3 files to SD and SDHC media, and allows the user to assign either the outputs or combinations of inputs and outputs as record sources. The 552 also allows for stereo linking of input pairs 1/2 and 3/4, offers sunlight-viewable 21-segment peak/VU meters with Zoom mode, and is equipped with a voice-driven setup and option menu. Four AA batteries or an external 10-18 VDC can power the unit.



How Low Can You Go?

ADAM Sub7 Subwoofer

The Sub7 (\$550) subwoofer from ADAM Audio (www.adam-audio.com) is designed for use with ADAM's A5 self-powered desktop monitors. It comes in matte-black, piano-black and piano-white finishes; and is equipped with balanced XLR and unbalanced RCA I/O connectors. Other features include a polarity switch, 85Hz highpass filter and a wireless remote control for adjusting both the volume and the crossover frequency from the sweet spot.

Super-Clean Gain Module

TRUE Systems PT2-500

A descendant of the TRUE Systems (www.true-systems.com) Precision 8, the PT2-500 (\$650) mic preamp is a 500 Series module featuring up to 70 dB of gain, switchable phantom power, an 80Hz highpass filter and polarity reverse. Other features include a DI input, DI Thru for amplification and effects, and a promised frequency response of 1.5 to 600k Hz (-3 dB).



Feel the Xynergi

Fairlight XE6 Extension Module

Fairlight (fairlightau.com) has introduced a new 6-fader extension module that adds tactile mixing control to the Xynergi hardware platform. The XE6 Fader Extension (price TBA) works with the Xynergi tactile controller to create a desktop production system that places moving faders and basic channel functions at the user's fingertips. The Xynergi runs on the FPGA-based CC-1 digital media engine in all SD and HD file formats.



Easy Tuner

BIAS PitchCraft EZ

PitchCraft EZ (\$149) from BIAS (www.bias-inc.com) is a pitch-modification plug-in available for Mac/PC hosts supporting VST/AU and RTAS/AudioSuite formats. Promising an easy-to-use interface and pro-quality results, its features include pitch correction and scale conformation across a variety of scale types that can be customized using a mouse or MIDI keyboard. PitchCraft EZ also offers independent formant and transposition controls for creating both natural and artificial effects, such as changing gender or "resizing" a vocal.

Handy Hardware Leveler

JDK Audio R22

Formerly the brand known as Arsenal from creator API, the JDK Audio (jdkaudio.com) R22 (\$1,195) is a 2-channel rack-mount compressor with linkable stereo operation. Features include RMS power summing, a patented Thrust circuit for chest-hitting low end, LED gain indicators and switchable analog

metering between the output level and gain reduction. There is switchable hard- or soft-knee compression, variable threshold, ratio and make-up gain, and balanced I/O via XLR or TRS connectors.



Sonic Seesaw

Tonelux TILT

TILT (\$2,450) is a single-rackspace, 8-channel tone control from Tonelux (www.tonelux.com; dist. by TransAudio Group, www.transaudiogroup.com) that rebalances a channel's high- and low-frequency content with a single knob. First featured on the company's MP1a discrete mic preamp module, TILT is centered on approximately 700 Hz and boosts high frequencies from up to 6 dB while simultaneously cutting low frequencies by the same amount when turned fully to the right. When turned to the left, low frequencies are boosted by up to 6 dB while high frequencies are similarly cut. Each channel features a rotary TILT control knob, in/out and polarity-reverse switches, and separate LED indication of signal presence and clipping. I/O is provided

via XLR connectors with a D-Sub multipin connector offering I/O access for all eight channels.



Near Your Ears

Akai RPM8 Studio Monitors

The RPM8 (\$499 each) studio monitors from Akai (www.akai.com) are two-way, active, bi-amped (80W/40W) near-field speakers featuring an 8-inch woven Kevlar LF driver and a 1-inch silk-dome tweeter. Weighing 32 pounds and measuring 17.5x11x13.5 inches (HxWxD), the magnetically shielded MDF cabinets offer dual front ports and an optimized waveguide for control of directivity and reduction of early reflections. Other features include bicolor LED clip indicator, balanced XLR and 1/4-inch TRS inputs, and playback up to 113dB SPL with a frequency response from 39 to 20k Hz. ■



Celemony Melodyne Editor

The Dawn of Polyphonic Pitch Correction

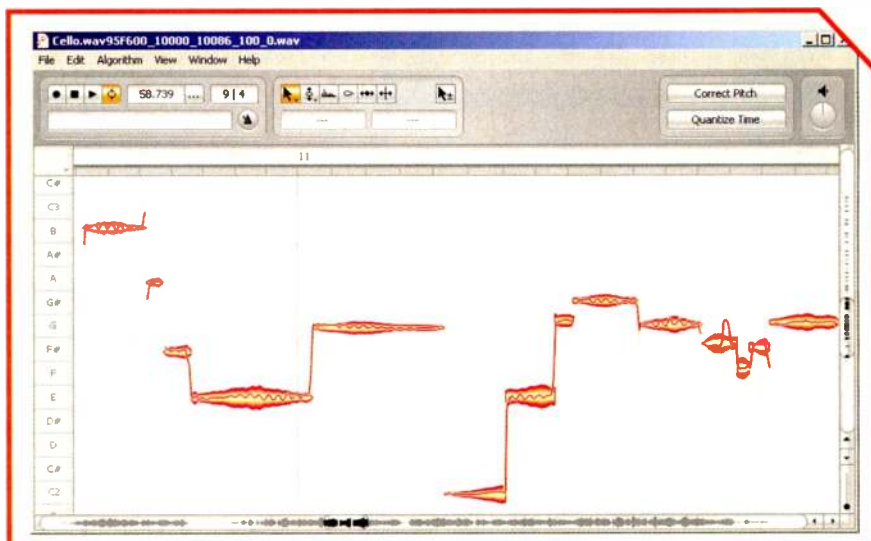
The new Melodyne Editor from Celemony is ideal for wrestling wayward notes up or down microscopically in pitch without affecting the rest of the performance. But the big news in this release is the debut of Direct Note Access (DNA) technology. Until now, pitch correction has only been practical with monophonic music tracks. But with DNA, you can literally reach into a chord and nudge a single note up or down in pitch, adjust its start time or amplitude, or mute it entirely. This feature has some fairly stringent limitations as you'll read below but, yes, it really does work.

Currently, DNA is available only in Melodyne Editor, not in the higher-priced Melodyne Studio, which records and edits multitrack sessions. I installed the Editor version in my WinXP PC (also available for Mac OS) and encountered only one trivial technical problem: To transfer audio reliably from a DAW into the plug-in, I had to crank up my ASIO buffer size to 1,024.

Back to Basics

Melodyne can operate either stand-alone or as a plug-in, but it's not a real-time processor. In plug-in mode, you transfer a track (or a portion thereof) into a slave instance of the Melodyne Editor by clicking the Transfer button and then playing back the track. Thereafter, the plug-in's output replaces the audio coming from the track, but only in sections you've transferred.

Once audio is loaded, the program takes a few seconds to analyze it and then displays it as "blobs" on a piano-roll grid. The first stage in editing is to go through the file and make sure that the analysis found all of the correct notes. You'll sometimes need to split or combine blobs. Depending on the source material, this process may be quick or may take a few minutes. With a



Melodyne Editor lets you edit the pitch and timing of audio with pinpoint precision.

cello track, for instance, I sometimes find that a half-step mordent (a quick upward ornament) is analyzed as a pitch fluctuation within the main note. Two quick clicks with the Note Separation Tool split the ornament apart so that I can adjust each note separately.

You can edit single notes or select a group. Two dialog boxes—Correct Pitch and Quantize Time—are available for group edits, and all of the tools used for individual note edits will also work on groups. These dialog boxes both have percentage sliders so you don't need to end up with a robotic-sounding track. You can adjust note pitches up or down, either in half-steps or microtonally, as well as adjust the amount of pitch modulation (vibrato) or pitch drift (a "tilt" between the beginning of a note and its end). The pitch glide from one note to the next can be made smoother or more abrupt. Note amplitudes can be adjusted; notes can be shortened or lengthened and moved back or forward in time.

You can drag a note's formants up or down without affecting its base pitch. The formant tool seems to work best with vocal material rather than with instruments. Notes that are greatly lengthened sound synthetic, but small rhythmic adjustments sound natural. Singers' vibrato

also embodies amplitude and formant changes, and removing the pitch modulation in Melodyne will have no effect on these dimensions of the sound, so you'll still hear some "vibrato."

Melodyne has a separate algorithm for analyzing rhythmic material. I tried loading a few drum loops and found it easy to add swing or adjust the timing of individual notes. Melodyne won't import groove templates, but it will export an analyzed file (either pitched or rhythmic) as a MIDI file. With this feature, you can extract the groove from audio and use it elsewhere, double a recorded sax solo with a MIDI synth track, or trigger a replacement kick or snare.

The plug-in syncs to the host's bar-line map and responds to the host's transport. You can also start and loop playback directly from within the plug-in, which is useful for editing.

Polyphonic Audio Editing

With polyphonic tracks, the process of editing Melodyne's analysis so as to identify the right notes can be quite fiddly—and it's easy to see why. After analyzing the frequency content of the audio, the plug-in has to decide which sine wave partials belong to which notes. The software will sometimes think that prominent overtones are separate notes or will skip notes

PRODUCT SUMMARY

COMPANY: Celemony
WEB: www.celemony.com
PRODUCT: Melodyne Editor
PRICE: \$349

PROS: Pitch and time correction, formant editing, vibrato and glissando control. Seamless plug-in operation.

CONS: Polyphonic audio requires homogenous source and hand-editing.

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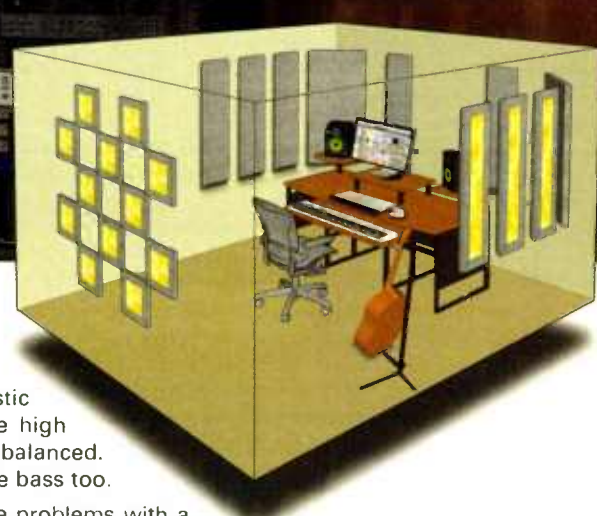
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because it thinks they're overtones. It can also interpret small artifacts as the beginnings of new notes or miss low-level areas within a long note, turning it into two separated notes.

Two sliders help you with the analysis: One adds more "possible" notes (grayed out) to the display and the other changes the threshold that turns possible notes into actual detected notes. Notes can be activated or deactivated (returned to the "possibles" category) by double-clicking. As you mouse over a region, a gray haze indicates sonic energy that Melodyne didn't even consider a possible note. You can turn this into an analyzed note by double-clicking. Once the analysis is complete, you proceed to the normal editing process, changing note pitches and so on.

For an acid test, I tuned a steel-string acoustic guitar carefully and then deliberately tuned the G string flat and strummed four sustained chords. About five minutes of hand editing were needed to guide Melodyne to all of the notes in the chords—and that was with an audio clip less than 15 seconds long. Hand-correcting the analysis of a three-minute guitar track with lots of strumming would take literally hours.

I then attempted to correct my out-of-tune notes. Dragging them up to concert pitch was easy, but the result didn't sound pleasant or natural. My theory about the difficulty is this: Even though I told Melodyne where the fundamentals of the out-of-tune notes were, it was still identifying certain overtones within those notes as belonging to other notes, which meant that it didn't move the overtones when I moved the fundamental. With a guitar chord, one string is likely to be doubling another string at the octave, so this type of confusion is almost inevitable. The note that sounded best after editing (the G sharp in an open-position E major chord) was one that wasn't doubled at an octave. (You can hear the results at www.mixonline.com.)

Perfect Pitch

Melodyne Editor is my go-to software for fixing pitch problems in monophonic audio. It's easy to use, has powerful tools and sounds great. DNA could be very useful in a few situations, such as fixing a flubbed note in a piano track, but it's not magic. In many cases, you'll probably get better results (and just as quickly) by having the musician do a punch or re-record the track. Still, this is the roll-out of an entirely new technology. The future of DNA looks very promising. III

Jim Aikin is a regular contributor to Mix and EM.

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Steinberg Cubase 5 Advanced Production System

New Plug-Ins, 64-Bit Operation, Advanced Live and Studio Tools

As robust and full-featured as modern digital audio workstations can be, every year or two it seems there's a fresh new upgrade promising features that any self-respecting studio owner simply can't live without. Although it's always wise to take this sort of hype with a grain of salt, in Cubase 5's case, there's some real merit to the upgrade. There's a healthy crop of new plug-ins, a flexible new expression tool for scoring professionals and integrated pitch-correction tools that rival the best third-party solutions on the market. Couple this with additional enhancements that make everyday studio life easier, and you have an upgrade that's not critical by any means, but certainly compelling for many users.

Upgraded Toolkit

The most obvious additions to Cubase 5 are the new bundled plug-ins and audio editing tools. Version 5 builds on the successful tool kit included with earlier versions of Cubase and includes a bevy of brand-new and updated plug-ins that make the creative workflow smooth, easy and self-contained. In some instances, the upgraded tools are so convenient and comprehensive that they've reached functional parity with all but the most advanced third-party plug-ins, and in some cases they trump the competition in terms of usability and integration.

Cubase's new Vari-Audio tool integrates directly into the program's Sample Editor, and at first glance looks like a dead-ringer for Celemony's Melodyne or Antares' Auto-Tune. Vari-Audio is tightly integrated into the standard



Cubase 5 offers a variety of new plug-ins, plus tools for scoring and pitch correction.

Cubase Audio Editor, and gaining access is easy if you double-click any audio clip in the Arrange window and select the Vari-Audio tool from the editor's slide menu. A piano-roll-style display of notes is superimposed over the audio waveform, which can then be directly manipulated using Cubase's Select and Cut tools. The attack and decay portions of each note can be nudged up or down independently, allowing you to create realistic transitions between notes, and the length of each note can be adjusted to cover any elements of the original file that might not have been properly detected during the analysis procedure.

For those of you who are less inclined to get hands-on with individual note data, Cubase provides a Pitch Quantize function that locks detected note data to the nearest semitone, and the Straighten Pitch parameter smoothes out vibrato or other pitch variations inside each note. Both functions are adjustable, and I found that

judicious use of both yielded quick yet realistic results on male and female vocals, with unnatural robotic overtones creeping in only at the most extreme settings.

As a regular user of Auto-Tune, I found no need for the Auto-Tune plug-in when using Vari-Audio, and I preferred the direct integration between Cubase's Audio Editor

and the Vari-Audio tool. It's great having direct control over individual audio clips, and I didn't miss strapping a VST pitch corrector across an insert channel or exporting audio to an offline editing program. Vari-Audio's convenience is a real boon to workflow and keeps the creative juices flowing.

In those cases where a loose performance just needs a slight nip-and-tuck nudge to get into key, digging into individual note data with Vari-Audio can be overkill. The new PitchCorrect plug-in steps in here as the perfect quick-fix solution. Strapping it across a channel insert offers an easy way to auto-correct material to the closest minor, major or chromatic scale, and I actually found myself reaching for this plug-in more than Vari-Audio after awhile simply because it's so easy to use and produces great results.

New Life for Loops

As a producer who is heavily involved in the dance and DJ scene, Cubase's LoopMash put a smile on my face from the start. Up to eight loops can be loaded into the LoopMash plug-in, and after one loop is selected to serve as the master track, slices from the other seven can be automatically substituted for parts of the master loop during playback. The degree to which slave loops are mixed in is controlled by a fader to the left of each loop, and different loop

PRODUCT SUMMARY

COMPANY: Steinberg
PRODUCT: Cubase 5
PRICE: \$599.99 (new), \$199.99 (upgrade)
WEB: www.steinberg.net

PROS: Integrated graphic pitch correction. Top-quality convolution reverb. Creative new rhythm plug-ins. Native 64-bit support on PC. Batch-channel-export facility.

CONS: Built-in 32- to 64-bit plug-in adapter can be unreliable on some plug-ins.

"scenes" can be triggered using quick-access buttons at the bottom of the plug-in, making it a great tool for improvisation in live settings.

LoopMash might sound like a simple cut-and-paste plug-in, but under the hood it's quite a bit more. It analyzes each loop and seeks to replace slices in the master clip by loosely matching audio from the slaves so the plug-in's output maintains the same groove and dynamic feel as the master and the resulting audio doesn't degenerate into a cacophonous disaster. It's not a perfect science, but with a little practice and wise selection of source material, it's fun and easy to twist canned loops into something new and exotic.

Reverence

Convolution reverbs are nothing new, but Cubase has always been light on good reverbs, so the new REVerence plug-in is a welcome addition. REVerence includes more than 70 impulses that cover a wide assortment of sonic spaces, including genuine real-world locations and sampled rack gear.

REVerence's controls are, as with most convolution reverbs, less flexible than a standard reverb plug-in. Five parameters—including early reflections, pre-delay and size—are the only real adjustments available, although a 3-band EQ provides additional tonal shaping. Limited controls notwithstanding, REVerence produces outstanding results on par with any third-party convolution reverb, and the beautiful GUI makes switching presets quick and easy—very much like working with rack gear and far simpler than working with some other convolution plug-ins. The ability to import additional impulses makes REVerence a long-term keeper with plenty of potential for expansion and exploration.

Forward Thinking

Sixty-four-bit operating systems are steadily gain-

ing market share, and large, multi-gigabyte, high-sample-rate libraries are demanding more of the increased memory space offered by these systems every day. Though it's unlikely that desktop computers offering the maximum 1 TB of memory that 64-bit operating systems offer will arrive anytime soon, Cubase 5 is nonetheless fully capable of using as much RAM as you can stuff into your PC, and if you're trans-

itioning to 64-bit platforms, you'll enjoy complete backward compatibility with older 32-bit VST plug-ins. This means that studios heavily invested in legacy plug-ins won't be left with an arsenal of outdated tools. In relation to this, after talking with some Cubase 5 users who have moved to 64-bit, I heard about and then confirmed an issue in using Cubase's 32- to 64-bit wrapper for older VST plug-ins. However, this issue can be fixed by purchasing a third-party wrapper called JBridge, which is in some cases more reliable than Cubase's built-in wrapper.

Apple's OS X platform is still getting up to speed with native 64-bit capability, and as a result Cubase for Mac is still a 32-bit application. But Steinberg is slowly laying the groundwork for the 64-bit push by porting Cubase's underlying framework to the new Cocoa programming system. It won't impact the end-user experience anytime soon, and although compatible hardware is not yet available, Steinberg is planning for the inevitable transition.

Export Enhancements

One of the least conspicuous but most useful workflow updates I enjoyed in Cubase 5 is the channel batch-export facility in the Audio Mixdown menu. With little fanfare, Cubase 5 has quietly simplified creating track stems into a simple point-and-click procedure that can be done in minutes with what once took hours. The Track Export dialog now displays an explorer-style tree of tracks in the current project and a checkbox to select Channel Batch Export.



LoopMash allows comping and live playback of loops.

Batch exporting allows some or all of the project's discrete channels—including group, effects and ReWire tracks—to be exported to individual files in one fell swoop. All of the standard export dialog options, such as BWF tagging, channel splitting and project-import features, are still available in this mode. This will make life easier for anyone tasked with creating audio stems.

A True Value

Cubase 5 isn't a revolutionary upgrade. Instead, it's focused on adding extra value to a proven platform. The new version leans heavily on a batch of new plug-ins that often duplicate functions currently provided by third-party plug-ins, so if you have an overlapping stable of VST tools, you might not realize the same benefit in upgrading as someone who relies purely on Cubase's bundled plug-ins.

There aren't any absolute "must-haves" in Cubase 5's arsenal, but for many users there are compelling reasons to consider the upgrade: The addition of Vari-Audio is an outstanding feature that largely does away with the need for third-party tuning plug-ins; the REVerence convolution reverb is a top-notch addition to Cubase's reverbs; and the new rhythm plug-ins are an absolute blast to work with and make wonderful starting points for musical explorations.

Combine these features with numerous workflow optimizations, native 64-bit PC support and the wonderfully convenient Channel Batch Export, and you have a package that adds solid value and improves this DAW's already impressive game. III

Jason Blum's current endeavors are focused on commercial mixing and mastering in his Los Angeles studio.



REVerence is a new convolution plug-in that's straightforward.

Sonnox Oxford Restore Plug-In Suite

High-End Restoration Tools Offer Easy GUI, Great Results

The Restore restoration suite from Sonnox is the result of 18 months of research into developing new tools that exploit recent advances in computer and software technologies. This Native suite comprises DeClicker, DeBuzzer and DeNoiser, which are available in RTAS (for Pro Tools HD, LE and M-Powered systems), Audio Units and VST formats for Mac and PC.

Completely unrelated to the old Sony Restoration Tools and offering no backward compatibility, each plug-in uses a two-step methodology, with a detection section for pinpointing problematic and unwanted noise and a removal section that determines the desired level of repair while minimizing collateral damage to the original audio. Each plug-in offers common functions, including an output section with enable in/out, output level adjust, threshold and sensitivity settings, and a Diff (or Difference) button for monitoring the removal of the targeted noise.

DeClicker

DeClicker is divided into three sections, each of which is designed to remove impulse noises predicated on duration. DePop is for noises lasting up to 10ms long, DeClick for 3 ms, and DeCrackle for 0.4 ms. Each section in DeClicker has a mini-display that shows the noise floor and a threshold line with the impulses either above or below it. There is a larger, clever X/Y graphic display that shows each individual noise spike as a color-coded bubble: DePop events are green, DeClick events are blue and DeCrackle noises are white, with unrepaired noises glowing red. In the event that DeClicker removes important harmonic content such as percussive transients or the brightness of a brass section while otherwise repairing well,



there is the Exclude Box feature.

Rather than simply bypassing or changing the threshold setting for that particular piece of the audio that would affect the rest of DeClicker's repair, you can use your mouse as a "lasso" around a grouping of bubbles that represent the impulses you want and exclude them from repair. Because the Restore Suite plug-ins' parameters are all automatable, you can move Exclude Boxes and toggle them in and out invisibly.

Unique to DeClicker is the Dialog mode, in which one threshold is set for processing background noise when dialog audio is present and there's another threshold setting for when it is not. The Dialog mode GUI has a histogram of the dialog audio over time with two adjustable horizontal threshold lines. When the dialog audio exceeds the top threshold, it is processed according to the controls labeled Above. When

dialog has stopped and falls below threshold, the plug-in switches over to repairing according to the controls labeled Below. If required, the Sidechain mode adds an adjustable band-pass filter to further differentiate the frequencies of dialog audio from background noise.

DeBuzzer

DeBuzzer detects and accurately measures the fundamental and harmonic frequencies of buzzes, hums, whines and whistles, and passes this information on to the removal section. Using an FFT (Fast Fourier Transform) display that accumulates data over time, a peak profile is created and shown in a small display above a large rotary frequency adjust knob.

In Manual mode, turning this knob will set the fundamental frequency of the buzz over any of the three frequency ranges: LF, MF or HF. Any buzz or hum that is consistently pres-

PRODUCT SUMMARY

COMPANY: Sonnox Oxford Plug-Ins
PRODUCT: Sonnox Restore Restoration Suite
WEBSITE: www.sonnoxplugins.com/restore
PRICE: \$1,995 MSRP or \$1,495 Exchange

PROS: Sophisticated tools with new powerful features.

CONS: High latency and CPU usage.

ent will stand out on the main FFT display with its three dominant peaks marked with red arrows. Clicking on any of these arrows will reset the fundamental for the removal section to recalculate the coefficients for the comb filter to remove it and its harmonics.

When you insert DeBuzzer into your session, it defaults to Auto mode where the detector continuously “hunts” either side of the fundamental to check for drift in frequency; the removal filters will follow. Freeze mode turns off this hunting process and is the best way to dial in whines or whistle noises in the MF or HF areas.

In addition to the comb filter, DeBuzzer also offers the Para-EQ mode. Generally, the narrow and deep notches of the comb filter do less damage to high frequencies and are the best for harmonically rich buzzes. But if you have only one or two harmonics to remove and the fundamental is above 2 kHz—such as a loud whistle—the Para-EQ might sound better.

DeNoiser

DeNoiser automatically looks at the audio’s dynamics and frequency changes to detect and remove broadband noise. It scans the audio spectrum for signals that are consistently always present. A noise profile is then derived and used to remove components of the frequency spectrum that are below a predetermined threshold. Auto mode compensates for dynamics in the desired audio by always keeping the removed noise a fixed number of decibels below the desired audio level; even if the audio dips near the noise floor, it will not be removed with the noise.

Freeze mode grabs the current noise profile from Auto and uses it to remove the same amount of noise at all times. If the desired audio gets louder, removal is less destructive, but as the audio gets quieter, you’ll start to hear it being removed with the noise.

An experienced restoration engineer could use DeNoiser’s third mode, Manual, to lock in a specific noise profile. Because all controls are automatable, this may be the most meticulous way to ensure the best restoration throughout a widely varying audio program.

For additional manual control over the noise threshold profile, there is a Threshold Bias Curve colored red in the GUI that offers 17 frequency steps. These curves with handles allow for frequency-dependent threshold settings on critical frequencies. You can raise

threshold in the more important midrange frequencies of a vocal track and lower threshold in the less-important high and low frequencies for more removal.

Likewise, the removal section also has a 17-step Noise-Reduction Bias curve that is colored in yellow. The experienced audio restorer can produce more musical results by reducing noise in frequency areas of less impact to the fidelity of the overall audio program, thus respecting its character and ambience.

DeNoiser finishes with a DeHisser section—an aggressive lowpass filter that’s good for rolling off bright tape hiss or surface noise in dialog or old film recordings. The Warmth control adds richness to the sound otherwise lost due to noise reduction. This feature is subtle but good.

Install and Rejuvenate

I installed Restore into my Pro Tools HD3 Accel system running Pro Tools Version 7.4 on a quad-core Mac PowerPC and found all three plug-ins’ real-time processors. You can insert and use them in multitrack sessions like any other plug-in. However, they use a considerable amount of CPU resources, depending on their settings, and require that you set Pro Tools’ DAE buffer at 1,024 samples. They

also exhibit latencies that are generally beyond the capabilities of Pro Tools’ Automatic Delay Compensation engine.

There are no set rules concerning which noise(s) to remove first; this decision is part of the educable craft and experiential art of audio restoration. Most restorers “climb the highest mountain first” by removing the loudest noises first so as to unmask lower-level background trash.

I found it was best to use AudioSuite or record each plug-in’s processed audio to a new track. In general, I found that the default settings were very close to exactly what I needed, and if they weren’t, there are many presets that can get you into the “sweet spot” quickly. You can hear examples of the restorations I am about to describe at mixonline.com.

Cleaning Up My History

My first job was cleaning a narration track for an oral history with my 97-year-old mother. For the most part, the recordings are clean with minimal background noise—until the air conditioner started. In addition to the broadband noise of rushing air, there was also the steady whining sound of the motor.

I first used DeBuzzer to find and remove the whine at 258.750 Hz, plus components at approximately 417 and 460 Hz. In Auto mode,



Troubleshooting Live

Pay Attention to the Geek Stuff Behind the Curtain

Live recording—in studio or onstage—is an adrenaline rush like no other. Compared to tracking one instrument/source at a time, interacting musicians add much more to the mix than the sum of the tracks. Live recording is the ultimate multitasking experience and allows no retakes.

Training Ground

Even in a “controlled” environment, problems can arise. Sharing mics is an everyday occurrence at live gigs, where front-of-house and onstage monitor consoles require independent control of the mix. When simultaneous recording is part of the equation, the extra gear is like an invasive species, stressing each piece of gear in the chain, from the microphone, through each connector and cable to preamp and converter.

The distance between the source (mics) and multiple destinations (preamps) in multiple locations (FOH, monitor mixer and remote recording rig) from various power sources will “find” problematic gear. In addition to power-related hum and buzz, proximity to broadcast transmitters increases the possibility of radio frequency and television interference (RFI/TVI). Once an urban issue, “wireless” problems now seem to crop up everywhere.

Off the Shelf

As in every other aspect of our biz, technology booms and budget cuts in remote recording inspire a D.I.Y. approach. The beginning of this yellow-brick road is a mic splitter. Recording engineer Tom Garneau uses four 8-channel Whirlwind splitters. There are four versions of this splitter box; the one Garneau uses is the most spendy because it has the most useful features. The Whirlwind SB08P11G (about \$560) has two sets of eight outputs—one set has a hard-wired mic loop-thru; the other set is transformer-isolated and includes a ground lift switch. A schematic of a basic, single-channel mic splitter is shown in Figure 1.

Who Said, “Easy as One Two Three?”

Properly implemented, balanced gear in a fully balanced system should work out of the box with standard cables and minimal fuss. But as anyone with enough audio gear knows, as soon as the system requires multiple power outlets in multiple rooms, something in the system is likely to have a power-related hum and/or buzz. There are also an assortment of other potential noises, from computers—video monitor and hard drive hash—and cell phone chirps, all of it a sign that “someone” is not with the program.

Over the years, a variety of tricks have been conjured up to sooth the weak links. There are wiring Band-Aids like “flying shields,” use of ground adapters as “ground lifters,” wooden rack rails, etc. The true fixes are few. For example, much time, effort and money has been invested in external ground distribution systems, but it’s all for naught if the gear itself is flawed. Within the gear, internal ground distribution is critical, and as engineers are inclined to use all varieties of vintage gear, it’s important that all of it be diligently inspected and made compliant. And recognizing

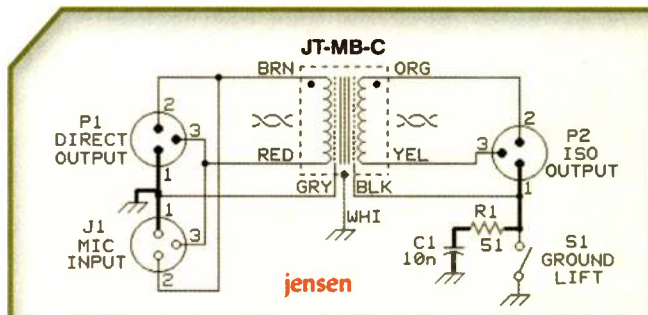


Figure 1: Single channel mic splitter schematic, courtesy Jensen Transformers. Note separate shields for each transformer winding, and the ground and lift paths in bold.

flawed gear isn’t always so obvious because compliant gear will often look like the problem child rather than the peacemaker.

Step 1, Pin 1

The so-called “ground loop” is often blamed for unwanted noises. The actual cause is noise currents flowing in the cable shield between two pieces of equipment, at least one of which is internally flawed. In the realm of “normal,” the shield takes a lot of abuse, all of the time. No two electronic devices will ever be at the exact same ground potential, especially when not in the same rack or power strip. The shield also absorbs radiated noise (induction from power transformers) and acts like an antenna for RFI/TVI.

True differential (balanced) inputs reject induced noises by way of the Common-Mode Rejection Ratio (CMRR), but the other “noises” can creep into gear electronics via poorly implemented “pin 1 issue.” Though not exclusive to the XLR connector, noise current in the shield can and should be safely escorted away from the audio signal path. To accomplish this, cable shields must be connected at the point of entry—aka, the chassis—or what I like to call the “noise Firewall.” This is not always the case, leading to the many Band-Aids that have been conjured up over the years.

To ensure that a good circuit design is not compromised, manufacturers in the know use connectors that make an automatic pin-1 to chassis connection. This is done using the shortest, lowest-impedance connection possible that must also be mechanically reliable to ensure long-term performance. It’s admittedly simpler to execute than understand, but with the help offered on Rane’s Website, I’ve borrowed a few examples.

When Is a Wire No Longer a Wire?

A piece of wire is an illusion of sorts because its behavior is environmentally dependent. We can all agree that a short piece of wire, even a thin one, should have pretty close to zero-ohms resistance at DC (when using a multimeter). At audio frequencies (AC), the quantity formerly known as resistance becomes *impedance*—still measured in ohms, but not with a standard multimeter. The name change implies that we may be in for surprises.

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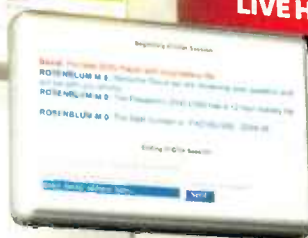
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as the resistance of wire now changes with frequency from zero ohms at DC to several ohms at radio frequencies. What was thought of as a simple piece of ground wire can become a Trojan Noise Horse, infiltrating the electronic Firewall and delivering both power-related hum and buzz, as well as transmitted noise into the high-gain inner sanctum of condenser mics and mic preamps.

Out-of-Body Experience

Just when you thought it was safe to blame the receiving end of your recording gear, the source and its connectors can also be suspected. Inside

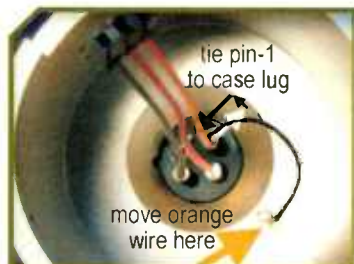


Figure 2: Inside a mic, the black pin-1 to chassis wire is close to zero ohms at audio frequencies, but not at radio frequencies. The solution is to tie pin-1 to the XLR's chassis lug and relocate the audio circuit's orange ground wire.

the microphone in Fig. 2, the length of innocent black wire from pin 1 to chassis allows it to have an inductive reactance of 4 ohms at a frequency of 56 MHz (TV channel 2). The noise is both inserted into the signal ground and radiated into vulnerable, high-impedance circuitry.

Another microphone in Fig. 3, with a thin 1cm wire between the XLR's chassis lug and pin-1, yields 2 ohms

of inductive reactance at 60 MHz, inserting RF noise into the signal ground. The green arrow indicates how the signal ground might be relocated to the lug to take the wire out of the equation. (Note: The author-annotated illustrations in Figs. 2 and 3 are based on images courtesy of Jim Brown, Audio Systems Group, Rane and ©2003 Syn-Aud-Con.)

These days, digital snakes and mixers, high-speed networking and fiber-optic interconnects solve (or hide) some of the common problems that plagued analog audio for years. But analog has a lot to teach us if only we listen. Digital audio can be affected by similar problems but can manage to function until the data errors can no longer be concealed, a condition sometimes referred to as "falling off the digital cliff." But that's a topic for another day. III

Eddie's live remote experience includes Live Aid, Farm Aid, Joe Jackson and Luciano Pavarotti on the following remote trucks: Record Plant, Remote Recording Services and Le Mobile. Eddie thanks Jim Brown, Rane, Syn-Aud-Con and Jensen for their informational generosity.



Figure 3: Pin-1 ties to the XLR connector's chassis lug through a thin wire. Here, the screw locking the XLR to the mic body must be clean and secure.

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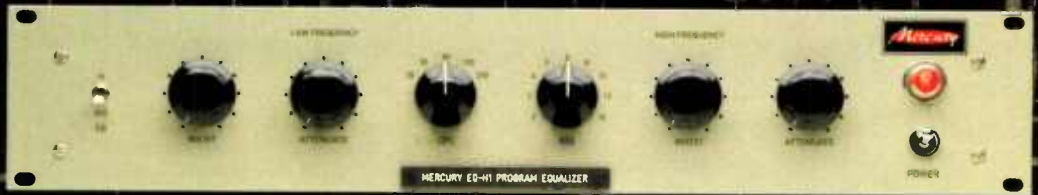


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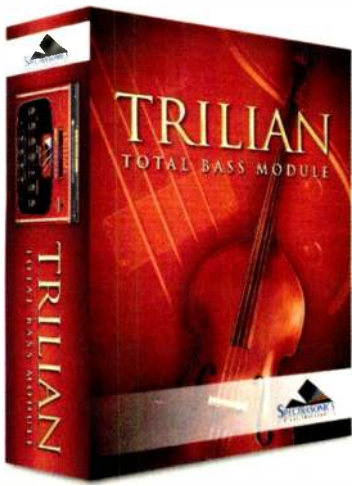


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Spectrasonics Trilian

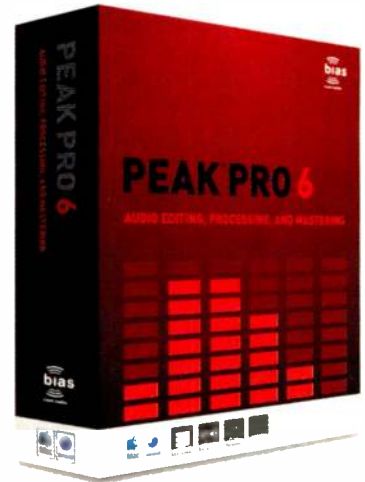
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Neumann TLM 102

Sweet little microphone — huge Neumann sound

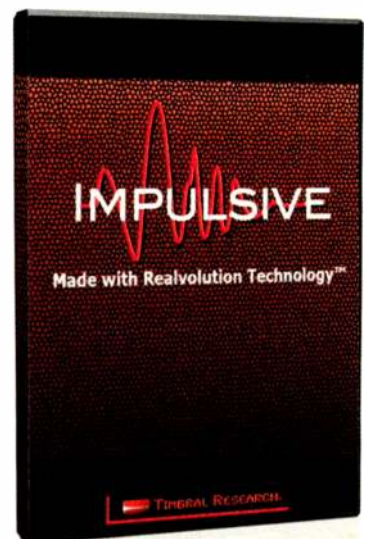
Don't let its small size fool you — only 4.5" tall — the new TLM 102 large-diaphragm microphone makes a perfect addition to any studio, from project to professional. Featuring transformerless circuitry, a foam-lined grille to reduce 'p' and 's' sounds and an SPL rating of up to 144 dB, the TLM 102 brings the legendary Neumann sound home at a price everyone can afford.



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Guy Charbonneau

Le Mobile's owner adapts to the new realities of the remote recording business

How do you survive in this type of economic climate, where the whole country's in a downturn, and so is the remote business because of other factors, too?

That's a good question. It's hard to survive. The economic climate is a big part of the change, as well as the technology allowing different ways to record music. You now have an unlimited number of tracks, and a laptop does weigh much less than Studer 24-tracks. *You mean people bringing little rigs to record shows instead of using a truck like Le Mobile?*

Yes, so we have to change the way we work, keeping in mind today's budget constraints.

Le Mobile is well-known; people like it. Nothing sounds like the good old Neve [8058], and I love to combine the new and the old. I use Pro Tools for recording and fixing things, but we go through the Neve; we come back in Pro Tools using Apogee converters. I think the combination is great. I won't go back to tape. Maybe the Studer 800 with Dolby SR at 15 ips for some special project.

But not every project needs to use Le Mobile so we've got other ways to help people. A couple of years ago, I built a portable fly pack system [Le Portable] that includes a Yamaha [DM2000] digital console, Grace [801] pre-amps, Pro Tools HD, Apogee converters. It fits in eight road cases and has everything someone would need to make a really good recording.

I am presently building a system in one box [Le Box]. I can rent that for \$2,500 per week—64 tracks of Nuendo. The band can record all their shows and do a quick balance mix, and upload onto the Internet. It's a great box with a lot of hard drive [space], an AMD computer and it should fit many budgets. If recording backup is needed, I can add a MAD



Inside Le Mobile are pop vocalist Michael Bublé (left) and studio owner/engineer Guy Charbonneau.

bridge, and then with a laptop you could have another Nuendo, Logic or even Pro Tools.

If the situation requires, I use a video truck control room, I engineer and take my full team with me. We are bringing knowledge to the project, and sometimes a few extra pieces of equipment from Le Mobile.

Three years ago, I also bought a beautiful building [in Carlsbad, north of San Diego], and I'm finishing a flexible control room. The idea is—it's not a full studio, but it will be a place where a video editor and I can work on a project as a team. (That's what I did back in the '80s; that's how I did the Montreal Jazz festival for 10 years.) I can use the room for preparing sessions for mixing or for 5.1 playback, or offer the room for a musician to write songs, or for doing archiving. I have these beautiful Studers well-maintained. This will give me another place and another way to work.

You've always been so quality-conscious. How do you change the mindset of musicians who will now accept audio that is less than perfect?

You cannot change that mindset. You can't

go back. Some artists will always want the best sound they can, and others will go for what they think is "good enough." There's nothing I can do to change those attitudes at this point, but a good mix and great music will always exist. So I have to be flexible and make everything we work on musically and sonically as good as we possibly can, no matter where and how it will be listened to.

Today, I'm not just selling Le Mobile, my fly pack or the box. I'm offering Le Mobile knowledge. I like to work on a full project from recording to delivering the master. You give me a budget and I will find the best way to achieve it. I've always said, if I need a pencil and eraser to do the project, great, that is what I'll use. But I will never compromise. I will give my client and the artist what they expect from me.

You sound remarkably cheery.

[Laughs] I have faith in the long-term and in change, as well. You have to keep looking forward and keep learning. III

Blair Jackson is the senior editor of Mix magazine.

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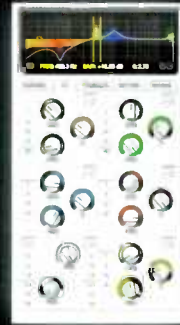
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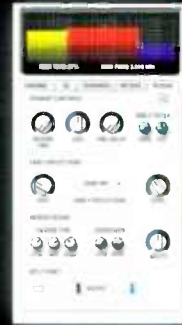
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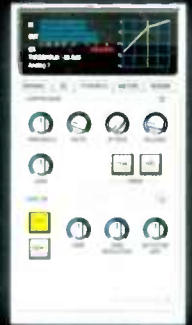
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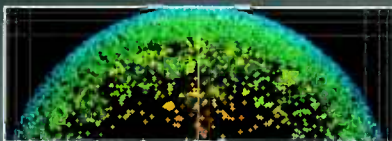


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