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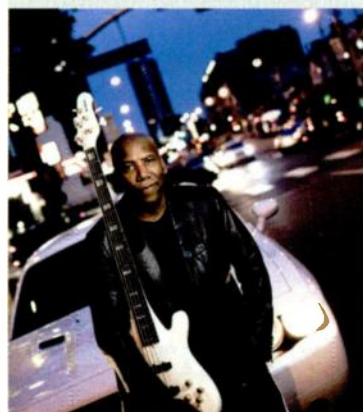


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On the Cover: Chris Mara, owner/engineer of Nashville's Welcome to 1979 studios, with family and friends in the 1,200-square-foot, MCI-equipped control room. **Photo:** Elizabeth Streight.

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From the Editor

A COUPLE DAYS IN DENMARK

I've been at *Mix* for 25 years, and last month I went on my first real junket. I have no moral objection to journalists accepting trips from sources or advertisers. None at all. I know that travel writers stay in Bali for free, that fashion writers are flown to Paris, that tech writers don't foot their own bill for retreats in Aspen. It's all part of the dance, at every level of the media, especially the trade press.

So I went on my first real junket and I'm writing about it in the Editor's Note. It was that good.

DPA Microphones flew eight pro audio journalists—from England, Canada and the U.S.—into Copenhagen in late March for a two-day tour of the company, a few facilities they partner with, and Danish life in general. It was truly eye-opening, but not strictly from a manufacturing point of view. It was more about how Danes approach life, and how quality and care are seemingly built into their DNA.

Yes, DPA has a reputation for making great microphones, and the d: line has proven quite successful for them. Miniature capsules now account for roughly 80 percent of the company's business. They have dedicated assembly and quality control in-house, in bright, modern, stylish headquarters (just north of Copenhagen) and factory (an hour west). Research and development is emphasized; working with engineers and organizations in the field completes the feedback loop.

But this wasn't about their products. As far as I could tell, DPA was taking the opportunity to show us what they do, and how they do it. The company wasn't launching a specific new line, and there was no hype attached to our visit. There was a critical listening demo in their own studios, detailing the differences between miniature omni and cardioid capsules, in terms of rejection and noise. And there were stunning surround DXD

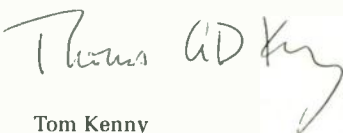
demos of recordings an affiliated engineer, Mikkel, had made with the New York Philharmonic in Avery Fisher Hall and the Danish National Orchestra in Danish Radio's stunning concert hall, of course using lots of DPA mics.

I'm not naïve enough to think that hosting doesn't bring its own rewards, but I do avow that everyone at the company seemed just as excited to show off Denmark as they did the new necklace mic. Our trip began with an early Sunday walk through the Danish Design Museum, just me, Kevin Becka, DPA CEO Christian Poulsen and marketing manager Anne Berggrein. Lunch at a snaps house, then early evening jazz at The Standard, on the canals.

The next day we visited the factory, had lunch at a castle, then came back to Copenhagen to visit the stunning Danish Radio facilities. Dinner, then a DJ spinning classical music back at the hotel. The next day brought a visit to HQ, with listening events showcasing the noise and directional characteristics, followed by the lush, full sound of an orchestra at 24/192, in surround.

Kevin Becka and I stayed a couple more days, to speak at the Rhythmic Music Conservatory, visit the National Gallery of Art, and take advantage of a more personal tour of Danish Radio by the amazing Niels Erik Lund. Everywhere we went, whether the focus was on music, machines or architecture, the Danes emphasize quality. They support quality. And the arts are as much a part of their life as bicycles zipping along the canals.

After just a week in town, it was clearly evident why Denmark is home, at least by one recent rating, to the happiest people on Earth.


Tom Kenny

CORRECTIONS

Metadata Omission

In the April 2014 issue, backpage columnist Kevin Becka penned an insightful piece called *MetApeel*, looking at the importance of accurate metadata from a consumer/artist perspective, and how that effort truly begins during the production process. It's a good column.

Soon after it was released, however, *Mix* received several calls pointing out the nearly 10-year push by the Recording Academy's Producers & Engineers Wing for visible credits, along with recording-based metadata collection and transmission standards that will help drive those credits. The P&E Wing, representing producer, engineer and other music creators' interests, has also been actively supporting DDEX efforts in creating standards for the digital supply chain.

We thank our columnist, Kevin Becka, for writing a topical piece, and we salute the P&E Wing and all other organizations fighting for proper credit and payment to music creators.

Uranus Recording of Tempe

In our Regional Southwest Sessions news, with regard to Uranus Recording of Tempe, engineers "Weil" and "Fearless" should have read "Jon Weil" and "Mike Fearless." *Mix* regrets the error.



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NAB Audio 2014

While the National Association of Broadcasters' annual show, on the heels of Musikmesse and pre-InfoComm, isn't typically big on pro audio product launches, it is a huge convention, and there is plenty of pro audio, consolidated nicely, for the most part, at the foot of the Central Hall. Here are a few products that caught *Mix*'s attention when we visited Las Vegas from April 7-10.

It's a broadcast show, so much of the product on display is geared toward sound for picture and live event production. Yamaha took the opportunity for the debut of its new QL-1 and QL-5 consoles, with Rupert Neve Designs Portico EQ and compression, built-in Dan Dugan auto-mixer and iOS remote control. In a booth within the booth, Yamaha/Steinberg was showing the Nuage version 1.5 update.



Sound Devices, a fixture in film/TV production and news gathering, made the trade show debut of its new 633, a 6-input, 10-track recorder, with three mic/line XLR and three additional line-level TA3. It records at 24-bit/48kHz uncompressed stereo to CompactFlash and/or SD cards.

SSL, besides showing updates to its broadcast console line, was featuring its IP audio network, incorporating "Dante right now," as they said. Also, the MADI Bridge to Dante and a new StageBox to accompany the SSL Live Console.



Lectrosonics, an Albuquerque company, threw an awesome "Breaking Bad" party after hours, while on the floor they had a lot of attention on their new Digital Secure Wireless system, which features AES-256 advanced encryption for government and other security-conscious applications.



DPA has expanded its d: line with introductions of the new d:screet Omnidirectional Miniature Necklace Microphone, coming in black, white and brown and

in lengths of either 18.3 or 20.9 inches.

While **Roland Systems Group** showed its new S2416 digital snake, the surround field recording package was equally noteworthy. Using the USB out of the company's video/audio field mixer, Roland showed how with a

Holophone mic, recordists can monitor an 11.2 surround output utilizing DTS Headphone:X technology.

Merging Technologies, makers of the high-end Pyramix 9 DAW, had it paired with the company's new Hapi mic networked audio interface, which they bill as "son of Horus," as it includes the same Ravenna/AES67 connectivity and high-quality components.

At the **Harman** booth, JBL was showing its 3 Series to broadcasters, but Soundcraft had a big presence surrounding its Vi3000 all-in-one console, with optional UAD package, as part of the Infinity series rollout.



Sennheiser used NAB to launch its new MK 8 multipattern large-diaphragm condenser microphone, featuring a 1-inch, dual-diaphragm capsule, precisely spattered with 24-carat gold and elastically mounted. A three-position filter allows the user to either eliminate low-frequency noise below 60 Hz (-18 dB/octave, low-cut position) or introduce a softer roll-off effect from 100 Hz down to compensate for the proximity effect in close miking (-6 dB/octave, roll-off position).

Neumann, meanwhile, same booth, launched the KH 120 D, a digital studio monitor equipped with an additional BNC input for AES/EBU or S/PDIF formats (24-bit/192 kHz).



Speaking of speakers, **Dynaudio** held the U.S. debut of its new speaker line, the BM5, BM6, BM12 and two new subs.

Tannoy was showing the new models in the Reveal line, the 402, 502 and 602.

Fostex made some noise by "re-entering" the higher-end studio world, celebrating 30 years in business with the all-new PX-6 and PX-5 near-fields, as well as a true update of its legacy 630SL monitor.

And **Genelec** had its first U.S. showing of the new 1238A Smart Active Monitor—a three-way 15-inch with DSP, based on the popular 1038.



Beyerdynamic is celebrating 90 years (!) in 2014, and introduced a new stereo shotgun mic for DSLR mounting, as well as announced its return to wireless with a new 2-channel system, including a mic line with five interchangeable capsules.

And finally, **RTW** showed the ultra-compact TM3-Primus for level and loudness metering. As part of its TouchMonitor line, Primus features an advanced USB hybrid mode for integrating with DAWs and having metering points appear onscreen.

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On the Cover

By Tom Kenny // Photos by Elizabeth Streight

WELCOME TO 1979, NASHVILLE STYLE



The upstairs control room, centered around a restored 1978 MCI 11428 console.

It doesn't take much sleuthing to find out the basis of Chris Mara's recording philosophy. It's right there in the name of his Nashville studio, Welcome to 1979. It's in the MCI tape machines that ring the control room awaiting restoration and sale, in the lathe he purchased recently because he wanted more consistency in his vinyl releases, in the layout of his 7,000-square-foot, band-first facility, and in the Recording Summits and Tape Camps he hosts. Of course he has Pro Tools, but he's a decidedly, unabashedly analog-tape kind of guy.

But his is not some all-consuming nostalgia story, or some analog purist tale. The emphasis on tape-based tracking/mixing was originally borne of necessity as much as ideology. Later it became a selling point. Mara doesn't eschew

the sound of digital recording or ignore its benefits. But, he says with a laugh, "We do unhook our tape machines to hook up Pro Tools."

THE ROAD TO 1979

Mara arrived in Nashville as a 19-year-old in 1995, having grown up in very-small-town northern Wisconsin ("the nearest stoplight was 15 miles away") and cutting his teeth in live sound as a 16-year-old running live sound for a rock band. The nearest big city was Minneapolis. He did sound and lights for opening acts in small clubs, and wanted to learn more about touring. He enrolled in studio recording courses at a community college to glean what he could about live sound, then tagged along with a roommate to Nashville, where he found himself "amazed by

the number of studios, so unlike Minneapolis."

He got an internship right away at The Recording Club in Berry Hill, and soon was working sessions as an assistant. He met a couple of engineers and producers, and began working at studios all around town. The 1990s were a different time, very busy for assistants. He credits that time as his school. So many teachers, in so many environments.

"Marty McClantoc was one of my mentors," Mara recalls. "I'd say about 80 percent of the techniques I learned from him I still use today. He came from Muscle Shoals, so the people who taught him essentially taught me. I was lucky to be last in line of a very good gene pool there. How to do a B3, a piano, this matters, this doesn't matter... Marty was real hip on staying in your role in a ses-



At a Welcome to 1979 Producer/Engineer Summit, panelists, l to r: Mitch Easter, Todd Robbins, Neal Cappellino and Larry Crane.

sion. If you can't be a good assistant, then you won't stick around to be a good engineer. I learned how to behave, how to maneuver a session."

After three years of strictly freelance assisting, Mara began engineering about half the time, going out to find rock bands and convincing them to work with him because he was fast and had access to studios for decent deals on weekends, late at night, pay as you go.

"I'm engineering everything I can," Mara recalls. "Taking anything. Actively seeking more independent rock bands and having some luck with it. But I'm losing more and more work to the money issue—I had to go in and rent a studio and get my rate on top of it, when a band could go to someone's home studio for half the cost. A few years of that go by and I start to think, 'If I had a studio, what would I want?' I want a lot of square footage. I want ground-level load in. I want a big control room. At this point we have a two-year-old boy, my wife is pregnant, and I say, 'Honey, I want to get a studio.' [Laughs]

SPACE AND VIBE

He had already been thinking about a name and a philosophy. He shied away from "Tape" or "Analog." When he said, "1979," it had a ring, and he liked the word "Welcome." Later he would get calls and emails raving about that year as a hallmark of recording. At the time, it just sounded good. And his philosophy? He priced out a fully-blown Pro Tools HD rig and simply couldn't afford it. Plus, he had a solid MCI tape machine and a couple racks of gear. He would be analog. He still didn't have a studio.

If it sounds that innocent, it's because it is. Much of Mara's, and his studio's, development has been unplanned, driven by both experimentation and a frugal business sense of working with what you have. While on the way to his bank one day, Mara passed a building with a For Sale sign, as he had many times before. This time he contacted the owner, and over the next six months talked him into a two-year lease on the front 7,000 square feet, arguing the financial benefits of leasing to a studio owner in a down real estate market. Seven years later, he's still there.

"All the wood was here," Mara says. "It was built in 1954 as a record pressing plant.

Gorgeous wood. Two stories with lots of rooms. A perfect floor plan. Originally I thought I would be building out into the warehouse, but a band came in and said, 'Wait, this feels good down here on the floor. Why don't you go upstairs for a control room?' It was perfect. It's a little weird, but it was a fast avenue toward making money and it sounds great!"

Over the ensuing months, Mara continued engineering by day and night, wiring and painting and imagining his new place in his off-hours. When it came time to move in equipment, he traded a band studio time for grunt labor, hour for hour. The band got two days of recording. Mara got his fridge, piano and old-new console moved into the upstairs, 1,200-square-foot control room. In what has become a theme, Mara stayed within his means, purchasing an MCI JH-428 console from friend and confidante Randy Blevins,

unrestored. Mara would do the restoration.

His first gig was a rock band, so he made sure that he bought five sets of headphones and mic stands and 15 mic cables. That gig would finance the next purchase, the next set of headphones. "I think bands get that," Mara says. "My rates are fair, my overhead is low, because of the sweat equity."

Over the years he has enlisted the help of friends and experts in listening to the room and making improvements. Acoustician Steven Durr has been a key consultant from the beginning, a couple of years ago helping him with isolation and transmission issues in the main tracking room ceiling. But by and large, the space has a sound, a vibe, a unique character, one he d.dn't have to mess with.

GROW AS YOU GO

Mara knew from the beginning that there was no business in booking time alone: there are simply too many good facilities in Nashville at all levels of the food chain. He charges a single day rate, same for all customers, regardless of how long a booking. It has helped him and hurt him, he admits, but he's sticking to it. He believes in his fair rate. Then again, he has other revenues; from the beginning, Welcome to 1979 was meant to be more than just a studio.

"I had always wanted to have a tape camp," he says. "You get 10 people in for a weekend who pay x amount of dollars, make it affordable, get a band in and just talk about tape and the differences between tape and digital. And how they are more similar. Show people how to comp on tape. Then record a band and have fun doing it. We did that the first year, and we've now done dozens of them, even in other cities."

Also in year one, Mara started an annual Recording Summit. Having been to a number of national conventions and regional events, he wanted to present his take, without trade show booths or apparent conflicts of interest. It sells out every year, with a max 60 people gathering over a weekend in November. Hand-picked



A few of the MCI tape machines, 1978-87, restored by Mara Machines.

Continued on p. 73



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Music



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BIG STAR
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RODNEY CROWELL

'Tarpaper Sky' Follows Grammy-Winning Duets

By Barbara Schultz

I felt like we were making a record that lived someplace between Memphis and New Orleans," says engineer Justin Niebank about Rodney Crowell's new album, *Tarpaper Sky*. "It was a Delta record to me. I felt the humidity and the groove. Everything was carved out of that."

Niebank recorded almost all of the tracks on Crowell's first solo record since *Old Yellow Moon*, the singer/songwriter's Grammy-winning album of duets with Emmylou Harris. *Tarpaper Sky* is a beautiful collection of new country-soul songs—some are gospel-flavored,

some rock 'n' roll, some a little Latin.

"Rodney approached me about getting a crew of people in Sound Emporium and doing it all live, with no headphones," Niebank recalls. "That's a big thrill for me, because I love recording that way. Ever since working on blues records [for Alligator Records in Chicago] back in the '80s, it's always been about sightlines and being in a circle and performances and interaction."

Niebank approaches live tracking dates like Crowell's with care to harness the potential gifts of leakage. "We set up for live, but we also set up in such a way that any leakage hit

the mics from a certain distance," he says. "For example, we blocked Stuart Smith's amps off a little bit, but I didn't want them so far away that the time delay felt weird. I wanted them just far enough away so the leakage gave us a sense of space."

"Or, when you have a singer with the drums in the room, you can't get the drums so far away that whatever leakage there is, it's so ambient that it loses the pocket," he continues. "We moved things around until we got the perfect little spot. And the piano was open; my favorite piano sounds are from old '30s records, where



the leakage of the piano and the other mics was the piano sound.”

Niebank recorded to Pro Tools, through the studio's 48-channel Neve VRP console and some of his own “funky harmonic-generating” outboard gear. “I used a UAD clock to run the session, which is one of my favorite things,” he says. “They made a box called a 2192; it was a converter, but I use the clock from it because it makes everything sound more ‘analog.’”

Niebank says he close-mikes the pieces in Eddie Bayers' kit, but that the drum sound relies as well on the leakage of the drums into guitar, bass and piano mics. “I always also put up some interesting mic that I can play with to give it a more old sound or a different sound,” he says. “I have a Beyer M88 that I think has an unusual bottom end to it, so when I distort it or overcompress it or get wild with attack and release times on compression, it holds its own; it doesn't get too thin or too sizzly on the top end, and it gives some power. Sometimes I'll have that underneath the kit, or I'll put it over the kick as if you were recording the drums with one mic at home when you're 16 in your bedroom—that sound.”

Michael Rhodes played electric and stand-up bass, and some parts were on an Ernie Ball Earthwood acoustic guitar-style bass, which Niebank captured via an AEA 92 ribbon. “I love that mic for acoustic bass,” he says. “You get in close, and the side rejection is great.”

As for Crowell, his voice was captured live with the band via a Fred Cameron-modified U 87 and an M 49. Most of the vocals that went

down live with the band were keepers, although Niebank says he sometimes edited in a word or two from a different take, or punched in a word or phrase if Crowell—a songwriting perfectionist—decided to alter a lyric.

A few elements on *Tarpaper Sky* were made in Crowell's home studio, which includes a Soundcraft Ghost-equipped control room where the artist does his writing, a small tracking room, and tielines to a larger living area for band tracking.

“We cut background vocals for half a dozen songs and a couple of keyboard parts—some harmonium—with Tim Lauer in Rodney's house,” says Crowell's longtime studio and live engineer Donivan Cowart, who also recorded *Old Yellow Moon*.

Crowell also brought engineer/producer Dan Knobler—his future son-in-law—into the fold. Knobler, an observer during the sessions at Sound Emporium, helped Crowell cut the final version of the bittersweet ballad “Famous Last Words of a Fool in Love” at home, as well as several other songs that Crowell plans to save for a solo album to come later.

“This project actually went on for about three years. Some of the songs were finished early and put away, and then some were thrown out and replaced. Every day, Rodney is writing, and he'll just keep going until he feels it's right,” Cowart says. “His favorite song is always the song he just finished.”

Read some of Dan Knobler's observations about working with Rodney Crowell at mixonline.com. ■

CLOUD CULT STRIPS DOWN FOR 'UNPLUG'

For their tenth album, the eclectic Minneapolis-based indie band Cloud Cult, led by the extraordinary singer and songwriter Craig Minowa, decided to try something new: They recorded live in the small (220-capacity) Southern Theatre in their hometown, and performed a selection of tunes from the group's earlier albums acoustic, sans amplifiers, electronic loops and such; hence the title, *Unplug*. To people who know



the band, this makes complete sense—after all, the sextet's instrumentation includes guitar, bass, drums, keyboards, violin, cello and various horns, so taking

more of an intimate chamber music approach to their rich catalog of songs felt completely natural. (Additionally, two “visual artists” who create paintings during Cloud Cult performances add their voices to the band's complex harmonies.)

For the three shows at the Southern, Cloud Cult's front-of-house mixer for the past seven years, Jeff D. Johnson, doubled as a recordist, using a Pro Tools rig. As the shows were being shot for a summer 2014 DVD release, Johnson chose unobtrusive clip-on pickups and mics wherever possible.

“We had an LR Baggs DI on violin, an Avalon D5 DI on cello and a Fishman DI on guitar,” he says. “We also had DPA 4099 [clip-on mics] on strings, guitar, trumpet and banjo. French horn and accordion were Audio-Technica PRO 35s, and the trombone was an A-T 3500.” The baby grand took Earthworks piano mics, while vocals were captured with Neumann KMS 105s. The minimal drum setup utilized just a Sennheiser 421 on the top of the floor tom, an Audix D6 on the bottom, and Josephson C42s as overheads. Room mics were important, too—Johnson used two AKG C414s in Blumlein above the audience, and a pair of Sennheiser ME66 shotguns from the stage.

Johnson mixed the project, too. “Picking takes from the three nights ended up being a huge part of the collaborative process,” he says. “There's no [comping] from other nights. It's clean and totally live.”—Blair Jackson

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THE OLD 97'S 'MOST MESSED UP'

The Old 97's new album, *Most Messed Up*, is a raucous, debauched rock-on-the-road concept album. Yet, the band recorded in a private, light-filled villa near Austin. Texas Treefort Studio is home to retired aerospace engineer Jack Rock's jazz label, Viewpoint Records, and his constantly expanding collection of rare vintage and hand-built equipment.

"People come here and they don't even recognize some of this esoteric broadcast and military stuff," says the Old 97's engineer, Jim Vollentine. "They'll go, 'That's a 1-channel mic pre? It's as big as a microwave oven!'"

Vollentine and producer Salim Nourallah recorded live to Pro Tools in Rock's living room, with its wall-of-glass view to the hill country. Though guitarist Ken Bethea will sometimes overdub additional parts, those live recordings—including Rhett Miller's vocals and acoustic—were keepers.

"Rhett's vocal chain was a [Shure] SM7 through a broadcast mic pre and one channel of Jack's Fairchild 670," Vollentine explains. "For his acoustic, I had a long-body Telefunken U47, and then an M582, an East German version of Neumann's KM 54. The U47 went through a Telefunken V76 pre, and the 582 to a Collins Broadcast amplifier."



On electric guitars: "Ken's main amp is an amazing-sounding Matchless, but Jack also has an old Gibson Les Paul amp from the '50s, plus piles of other small vintage amps—Magnatones, Fenders—so normally I have two or three amps going through old Unidyne 57s and RCA BK5 ribbon mics. I will blend those together on the fly to one or two tracks.

"Jack doesn't like many engineers coming in because it's all antique stuff, but he knows I'll take care of it," Vollentine says. "He lets me put his M 49 on the kick drum, which is really nice of him!"—Barbara Schultz

COOL SPIN DOLLY PARTON: BLUE SMOKE (SONY MASTERWORKS)



Dolly Parton has put out a whopping 42 studio albums since her 1967 debut, and to her credit, she's still giving her all—her voice is the fantastic instrument it's always been, and she has not lost her knack for writing strong, heartfelt country songs. On her

latest, she wrote or co-wrote eight of the 12 songs, which run the gamut from down-home mountain tunes to gospel rave-ups to rock-ish crossover numbers. No matter what side of Dolly you like, you can find it on this diverse album. I like the more sparsely produced songs such as "Unlikeley Angel," "Banks of the Ohio," "If I Had Wings," the heartbreaking "MissYou-Miss Me" and her fine version of Dylan's "Don't Think Twice." Emotional duets with Kenny Rogers and Willie Nelson are also standouts. Lots of top Nashville players lend tasteful instrumental support throughout.

Producer: Kent Wells. Principal engineer: Patrick Murphy. Additional engineers: Steve Marcantonio, Todd Tidwell, Kyle Dickenson, Michael Davis, Butch Carr, Drew Bollman, Mark Needham, Justin Niebank. Principal Studios: Kent Wells Productions (Franklin, Tenn.), Blackbird Studios (Nashville). Mastering: Steve Marcussen (Marcussen Mastering). —Blair Jackson

KATIE HERZIG AND CASON COOLEY 'WALK THROUGH WALLS'



Photo: Heidi Ross

Katie Herzig's *Walk Through Walls*—her third project with producer/engineer Cason Cooley—blends acoustic and electronic sounds that grew from a process the pair have developed using Cooley's personal studio and key matching equipment.

"[When we were making] the record before this one, we tried to get mirrored rigs," Cooley says. "We're both running Pro Tools, the same Blue Kiwi mic, and a UA 6176 pre—various tools. It makes it easy for either one of us to start something and the other can continue it."

As song ideas developed, Herzig and Cooley mocked up electronic arrangements. "We'll take it as far as we can that way, and then at some point it starts needing some flesh on it—some air and depth," Cooley says. "Then we'll open up the process to real players. We went to Buckley Miller and Will Sayles' studio, The Trophy Room, and we got Will to drum and Butterfly Boucher to play bass. Then we put live strings on; we started replacing some of the sampled elements. Once we started cleaning out what began as placeholders for real instruments, some of that fake stuff started to seem unique and cool. So it ended up being a blend."

Herzig cut vocals in Cooley's studio, St. Cecilia (to a 57, via a Brent Averill 1073 and an LA-3A), where the pair then pre-mixed the album with engineer Justin Gerrish, using Cooley's Universal Audio Apollo interface and UAD plug-ins. Finally, the project moved to Blackbird's API Legacy-equipped Studio B for Gerrish to finish mixing.

"The approach we like to take in my studio, and by having mirrored rigs, is unhurried but not unlimited," Cooley says. "You want to have enough time to try some things and fail on your way to something cool."—Barbara Schultz

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Classic Tracks

By Blair Jackson

Radio City Big Star



"SEPTEMBER GURLS"

Big Star

When most of us think about Memphis music, we probably conjure the country blues singers and jug bands of the late '20s and '30s, or, even more likely, the immortal Stax and Hi Records soul acts of the '60s and '70s—Booker T., Otis Redding, Isaac Hayes, Rufus and Carla, Ann Peebles, Al Green, et al; it's quite a list of certified hitmakers. It's always been a music town.

The early '70s Memphis power-pop band Big Star never had anything close to a hit record, yet here we are writing about them in Classic Tracks. Why? Because Big Star was a great band whose influence and importance have grown tremendously through the years. They were both the classic "band ahead of its time" and also "record-business victims." At a time when rock was dominated by prog bands and '60s holdovers enamored of endless guitar solos, Big Star played lean, economical pop-rock inspired by mid-'60s British Invasion bands (The Beatles, The Who, The Kinks), as well as American groups ranging from The Byrds to the Velvet Underground.

Sadly, it wasn't until well after Big Star broke up that they were "dis-

covered" by the new wave of rock bands that popped up in the late '70s. Listen to Big Star's first two albums—*#1 Record* (1972) and *Radio City* (1974)—and you'll hear music that presaged such bands as Tom Petty & the Heartbreakers, Dwight Twilley, The Romantics and so many others who hit the charts once the "power pop" genre came into vogue, and directly influenced later indie and alternative groups like R.E.M., The Bangles (who faithfully covered "September Gurls"), The Replacements, The Posies and many others.

The Replacements even cut a song called "Alex Chilton," after one of the leaders of the original Big Star. However, you might know Chilton's name from his teenage success as lead singer of the Memphis blue-eyed soul band the Box Tops, who had two ubiquitous hits in the late '60s—"The Letter" and "Cry Like a Baby." Chilton quit the Box Tops in 1970 and went to New York for a brief period, but soon came home to Memphis and joined a trio of local musicians who were calling themselves Icewater—guitarist/singer/songwriter Chris Bell, bassist Andy Hummel and drummer Jody Stephens. Bell worked occasionally as an engineer at John Fry's Ardent Studios in Memphis, and he and Chilton had talked about working together for some time. When Chilton joined the others in 1971, they named their new band Big Star, and in the fall of that year went into Ardent to record their first album for Fry's Ardent Records label, which, beginning in 1972, would be distributed by Stax. "At the time it seemed like the greatest opportunity in the world," Fry says.

Fry had originally founded Ardent in his Memphis home when he was just a teenager, but opened a proper commercial facility in a storefront on National Street in 1966 (when he was 21), and it quickly became a magnet for many local producers, songwriters and bands. It also attracted considerable work from Stax Records.

"People often mention the British Invasion bands when they talk about Big Star," comments drummer Stephens, who has been the marketing manager at Ardent Studios since 1987, "but the whole Stax thing was also a huge influence on us and affected the way we played music. Certainly [Stax drummer] Al Jackson had a profound effect on me." That said, Stephens does cite Brits Ringo Starr, Keith Moon, John Bonham, Charlie Watts and Procol Harum's B.J. Wilson as primary influences.

Ardent moved to its current location on Madison Avenue in Memphis a couple of days after Thanksgiving in 1971, so Big Star's *#1 Record* was completed and mixed at the new purpose-built studio facility. It included two good-size rooms—Studio A was 25x40x18, Studio B 25x30x18. A gear-head from way back, Fry had equipped his studios with some of the finest equipment of the day. At the heart of both control rooms were custom Auditronics consoles built by Welton Jetton (who died in March 2014) using Spectrasonic amplifiers and equalizers. Studio A's board had 24 inputs, Studio B's 20. Besides using the console's excellent pre's and EQ, Fry and other engineers who worked at Ardent availed themselves

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Time Title: September Girls STAX RECORDS MASTER NO. 1869
 Artist: _____ TRACK PRODUCTION WORK LOG
 Producer: _____

TAKES	1	2	3	4
1		Guit	Bass Drums	Snare
2				
3				
4				
5	Overhead	Floor Tom	oor	Bass
6				
7				
8				
9				
10				
11	Voice	Voice	Drum OD Voice	Drum OD
12				
13				
14				
15				
16	Drum OD	Guit.	oor	Andy Voice
17				
18				
19				
20				
21				
22				
23				
24				

COMMENTS: _____

Stax track production work log.

of various outboard pieces, including Pultec EQ and a range of compressor/limiters such as the UA 176 and some early models from the British company Audio & Design Recording.

The studio also had three live echo chambers and three EMT plates (two with vacuum tube amplifiers, one solid-state). "I'd hog the echo," Fry says with a chuckle. "I'd probably have all six of those things at least on standby when I mixed. I'd usually set one EMT short, one medium and one long; same with the chambers. Then we'd also often use predelay. In those days, if you wanted to do predelay on the echo, guess what—you had to roll another tape machine, because there was no such thing as a delay line yet."

During Big Star's early '70s heyday, Ardent had 3M M56 16-track recorders "and we had Dolby A for the multitracks and the 2-tracks," Fry says. "I guarantee you, those Big Star recordings, especially some of the acoustic stuff, would not be as quiet without the Dolby."

There were two iso rooms off each of the two studios, though Big Star always recorded basic tracks with all the musicians in the same room, rather than isolating the drummer or vocalist—in fact, Fry says that Big Star would never lay down scratch vocals when they were cutting basics, "so I would never have any idea what any of the songs were about until later, when they'd do the vocals. But just hearing the tracks I could tell they were great songs." Did he isolate the drums on the floor? "No, but we might put the guitar amps baffled off to the side. We've gone back to some of the Big Star mul-



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titracks for reissues, and I was really surprised how little bleed there was.”

For mics in that period, Ardent had “lots of Neumann condensers—M 249, U 64, U 67, KM 84—and a good range of dynamics: some Beyer models that were very durable, like the 201, and also [Electro-Voice] RE20s and [Sennheiser] 421s.” Without mentioning specific models, Fry says he always used four mics on drummer Stephens: “kick; snare, which also got the hi-hat; an overhead that would get the [mounted] toms; and one for the floor tom that would also get the ride cymbal.” Guitar amps would take a single mic—usually an RE20 or a 421—and bass would get two tracks—miked amp and DI. Fry says his favorite vocal mics were the M 249 and the U 67.

For *#1 Record*, Big Star was a solid quartet, with Bell and Chilton co-writing all the songs except one, and alternating lead vocals. According to both Fry and Stephens, however, Bell was the driving force in the band during those sessions at Ardent in terms of production and arrangement ideas (not surprising, considering his extensive studio experience). As Stephens notes, “Chris was an engineer and really knew the studio well. He would hang out there for hours, trying things. I think that’s part of how he got those brilliant guitar sounds. But both Chris and Alex spent a lot of time working on their guitar parts and sounds.”

Despite containing several brilliant songs (the best-known of which is probably Chilton’s “Thirteen”) and garnering enthusiastic reviews and predictions for success, *#1 Record* was a commercial failure, doomed by Stax’s inability to distribute the album, even after they signed a distribution pact with larger Columbia Records. Bell quit Big Star in the fall of ’72, and the group very briefly disbanded before reforming as a trio (without Bell) for their second album, *Radio City*, which is the source of this month’s Classic Track, “September Gurls.”

“Chris and Alex had written some songs together for the second album before Chris split,” Stephens remembers, “but ‘September Gurls’ was Alex’s. He brought it in finished, and it was pretty much realized by the second or third time we went through it.” As on the first album, the basics were cut live—“I don’t think we ever went beyond three takes on either album,” Fry says. “They were always well-rehearsed and knew exactly what they wanted to play.”

Not surprisingly, Chilton carried more of the load in terms of both songwriting and production on *Radio City*, though in general it has a rougher, less-produced quality. “I think Alex was brilliant to really

Continued on p. 61

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MASTERING NO. STXS-0933		MATRIX NO. AS-01550		RECORD NO. ADA-2912		SIDE A	
ARTIST BIG STAR		TITLE "SEPTEMBER GURLS"		TIME 2:41		DATE 7-26-73	
BASE PITCH 250	EQ TO 1	NOISE DOLBY	BAND -	SEC. 30	MA 15	HT 80	HT 80
MASTERING ENGINEER L. NIX		FUNCTION		LIMITER		REMARKS C-5 C-5	
OUT ON REPL.	1 SP MM	RV 70	EE 70	LO 100	EQ 14	HI 14	REMARKS
1	S	-2	-	+3	+2	X	X
2							
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4							
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6							
NOTES:							
SR-10 MERCURY/MEPHIS							

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FITZ & THE TANTRUMS

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SUPERSTAR QUARTET,

THE SOUNDS

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Fitz & The Tantrums appeared at Uptown Theatre Napa in Napa, Calif., in April as part of the city's Live in The Vineyard series.

FITZ & THE TANTRUMS

Soul Meets Synth Pop on the Summer Circuit

By Barbara Schultz

Beginning with select spring concerts and TV appearances, Fitz & the Tantrums are ramping up to take their upbeat soul/synth pop show on a summer tour of theaters, sheds and festivals, including Bonnaroo, Governor's Ball and Lollapalooza. In April, the band played the Fox Theatre (Oakland, Calif.) before heading to Napa's intimate Live in the Vineyard series, and then a sold-out show at the Palladium in their hometown of L.A.

Fitz & the Tantrums are carrying microphones, in-ear systems and consoles provided by Clair Global. Manning an Avid SC48 at front

of house is Aaron Glas, who recently moved over from monitors. Glas joined Fitz's production a year ago, after touring with Flogging Molly, Gogol Bordello, Adam Lambert and others.

"Fitz" is a name used to refer to the band or to lead vocalist Michael Fitzpatrick, who founded the group in 2009. The rest of the lineup comprises co-lead singer Noelle Scaggs, drummer John Wicks, bass player Joe Karnes, keys/synth player Jeremy Ruzumna, and multi-instrumentalist James King, who moves between baritone and tenor saxes, flute, keys, and occasional guitars.

To replicate the bright soul and '80s pop-

style rhythms of Fitz's latest release, *More Than Just a Dream*, Glas' Avid board offers a range of processing options. "I'm in love with the Waves CLA bundle," he says. "The C6 really feels like a paintbrush to me. It has so many parameters to tailor the sound of an instrument or vocal. I can really fine-tune different frequency ranges more than I could with an EQ or compressor alone."

The musicians are captured via a Shure microphone package, including KSM9HS vocal mics on the lead singers and on keyboardist Ruzumna's backing vocals. Karnes and King also sing backup, and their vocals are to a Beta 58 and SM58, respectively.



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Photo: Steve Jennings



Front-of-house engineer Aaron Glas at the Avid SC48 console.

Photo: Steve Jennings



Monitor engineer Grace Royse mixes on a Soundcraft CL1 console.

"Right now I'm all digital, and when I'm mixing this way, I love to use the Waves CLA-2A [compressor/limiter plug-in] into the C6 on Fitz and Noelle's vocals," Glas says. "I get a fantastic, colored, compressed sound out of the CLA-2A, and then I can refine the minute details with the C6. My favorite components of the C6 are the two extra bands of bandpass compression. I still sometimes use an analog vocal chain, which includes an A-Designs Ventura, home-built tube opto comp, and BSS 901 MkII."

King's brass forms a big part of Fitz & the Tantrums' sound. Glas mikes those horns, and King's occasional flute part, with an SM7. "It gets an especially beefy sound out of the bari," Glas says. "I also use a CLA 1176

2013, there were still wedges onstage, but the bandmembers are now all on Shure PSM1000 in-ear systems with Sensaphonics earpieces.

"I'm proud to take credit for moving them from eight wedge mixes onstage to all in-ears," Glas says. "It makes for a more consistent sound, and more control at front of house, too. I chose Sensaphonics because they make their earpieces out of silicone. So, not only do they sound great, we feel they're able to isolate much more than the plastic or acrylic pieces, and the band finds them more comfortable to wear for a whole show. Also, we get a great level of support from Sensaphonics, which is a huge factor."

Grace Royse, a nine-year touring veteran who has worked with Pennywise, Cypress Hill, Sublime with Rome and others, has taken over monitor duties from Glas. "When I'm working in the rock and punk world, the singers want a lot of guitar and heavy drums in their mixes," Royse says. "But in this pop world, they are really focused on their voices, so there isn't a lot else going on their ears. I make it ambient with a little reverb, but it's mainly their vocals."

"John, the sax player, is a different story," Royse continues. "He has a ton of everything. His mix is big and full and sounds like the record."

Royse uses all onboard effects and processing within her Soundcraft CL1 console. Also a Soundcraft fan, Glas says, "I was recently impressed with the new Soundcraft Realtime rack. I'd love to try touring with a Vi console along with that. It has a whole host of Universal Audio plug-ins that can be controlled with a touchscreen; pretty slick!"

The show Mix attended, however, was, to quote Royse, "big and full and sounded like the record," and it was mixed on an Avid Profile, through the Fox's Meyer Sound P.A., which comprises MICA, MSL-4 and M'elodie loudspeakers.

"The Fox is possibly the most amazing remodeled venue in the country," Glas says. "Mixing in there could be an acoustic nightmare, because it's so reverberant, but they have the Meyer system tuned so well, it is really a fun place to mix." ■



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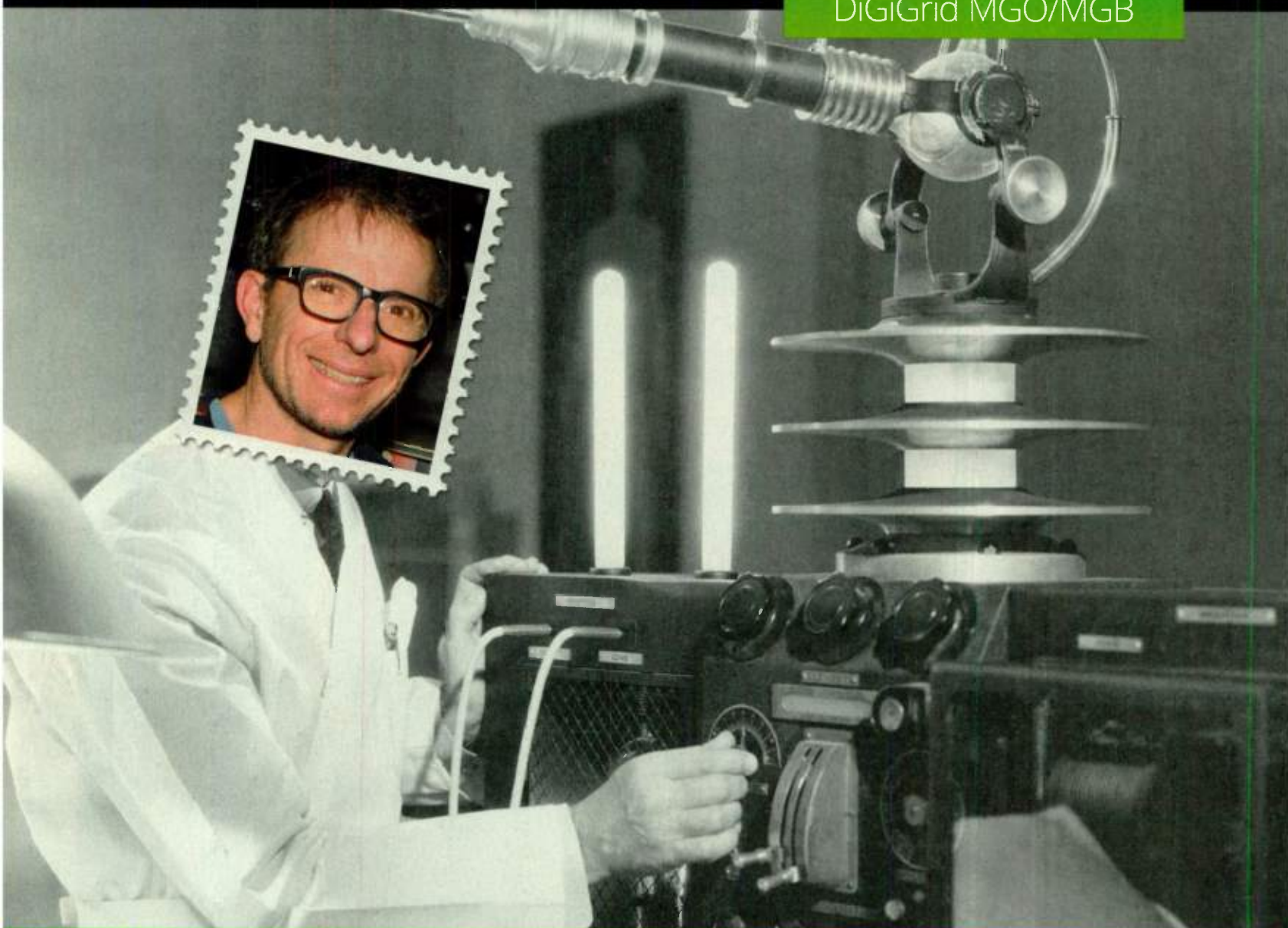
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Photos and Text
By Steve Jennings

EMPIRE OF THE SUN



Empire of the Sun—Luke Steele, vocals, guitar, keys; Tony Mitolo, drums; Surahn Sidhu, guitar—played to two sold-out nights at the Fox Theatre in Oakland, Calif., in early April. The band is making use of local P.A., in this case the house Meyer Sound system.



"I mix on an Avid Profile; as we do so many festivals this is the best and easiest console for that purpose," says Empire **FOH engineer JonBoyRock**. "I decided at the start to use plug-ins from the basic packs. I didn't want to mess around with authorizations and loading plugs at festivals. I use Impact, Echo Farm, Reverb One and Revibe. Auto-tune is the only exception. I used to carry a Pendulum PL2 and TK Audio comp, but now just use the plug-ins."

We run 8 channels of track, so I mix with the intention of combining the live elements—drums, guitars, vocals—with the tracks to make a bigger overall sound. As an example, the acoustic kit and the track drums are molded and compressed so they add and work together. If we were to lose or mute one of the elements, that would result in a loss of energy and excitement. We are certainly making no attempt to hide the fact that the show runs to a backing track with visual sync. We like to blur the lines around the playback.



"I'm mixing the band on a Yamaha PM5D," says **monitor engineer Sam Jones**. "I cut my teeth on this digital console—it's solid and so reliable that I've stuck with it. I don't use any external plug-ins, everything I use or need is on the board, though having an external clock is always a great addition to the 5D."

"I do a mix of both in-ear monitors and wedges for the band. Luke is on IEMs, Tony the drummer is on IEMs and wedges, and Sid is just on wedges" he continues. "Luke and I use Ear Monitors Australia Quad Drivers. We use all Shure microphones. Luke's two main vocal mics, one black and one gold, are KSM 9 wireless—transmitters are UR2, receiver is a UR4D—with a KSM 9 wired on effects vocal."

"The core of our track-playback system is two MOTU V4HDs," he adds. "One is our primary playback machine and one is solely for backup. We use a Radial SW8 switcher to interface these. The V4HD was chosen for its ability to spit out our 8 tracks of audio plus HD video. We also split Luke's vocal, running one of the splits through a Radial Tonebone. This becomes our vocal distortion channel, which is good for adding a touch of edge to the vocal mix when needed."

Guitarist Luke Steele

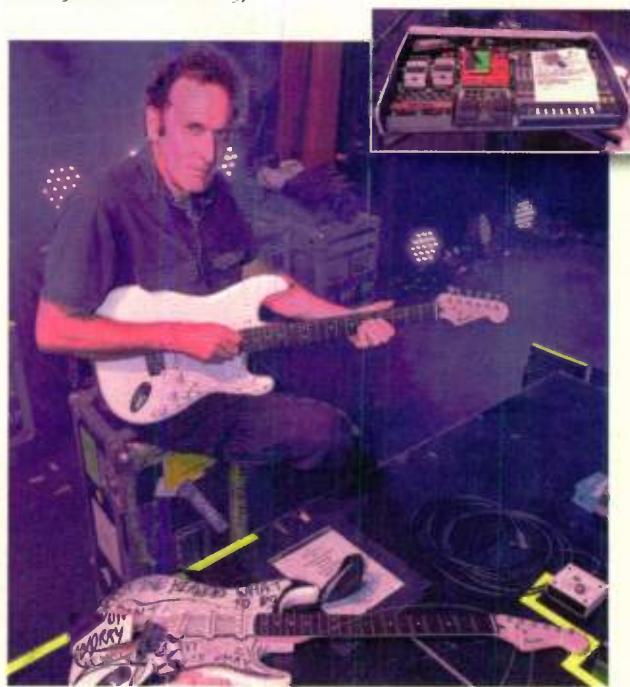


Drummer Tony Mitolo, with a Shure B91 on kick (inset), B98s on toms and KSM141s on cymbals.

Guitarist and keyboardist Surahn Sidhu, with his keyboard and stage setup.



"On Luke's stand, he has a Soundcraft EFX8 mixer that runs a chain of FX pedals," explains **guitar tech Casey Hilliard**. "Pedals include a Digi Wammy, Boss EQ, Boss Digital Delay, Eventide Harmonizer and Boss Space Echo. For Luke's Fender guitar cabs we have a Shure KSM 32 and a Shure SM 57."



SMART MICROPHONE SELECTION

WHAT TO GRAB AND WHY // By MICHAEL COOPER

There's good reason why the putative majority of top tracking engineers choose a Shure SM57—a \$99 Everyman's mic—to record snare drum. These pros have access to the world's priciest transducers, but they know expensive isn't always better. Creative whims aside, a mic's inherent physical, acoustic and electrical properties are what determine whether it's the best choice for a given application.

This month, *Mix* takes a look at the advantages and disadvantages of using different types of microphones for various recording applications in music production. To be sure, there are no absolutes; a superbly designed dynamic mic might outperform a second-rate condenser in an application where the latter should've ruled by virtue of its breed. To avoid repeating "all other things being equal" ad nauseam, we'll assume it's understood our story is presented here using broad strokes. We'll begin with recording percussive instruments.

Photo 1: Small diaphragm condensers such as the DPA 4011 excel at making detailed recordings of plucked and struck instruments.



HOW MUCH DETAIL DO YOU WANT?

When you want to bag gobs of high-frequency detail in a recording, think small. Small-diaphragm condensers excel at recording plucked and struck instruments. Their relatively tiny diaphragms have so little mass, they respond faster to transients than the membranes used in large-diaphragm condensers, assuming

equal thickness. While ribbon mics also feature an element with very low mass, other factors typically make its transient response less prominent than that for a condenser, whether SDC or LDC. Moving-coil dynamic mics are far less responsive to transients than any type of condenser or ribbon mic.

To fully understand why mass is such a big

factor in determining transient response, consider the physics of sound. Transients are essentially made up of high frequencies, which have very short wavelengths and are highly vulnerable to air-transmission loss. They're practically over and done with by the time a heavy mic diaphragm—such as that used by a moving-coil dynamic, with its attached wire—overcomes its inertia to respond to them and move. The mass of a condenser mic's diaphragm is only about one-thousandth that of a moving-coil dynamic mic's, which is why condensers generally offer far greater transient response and more extended high-frequency response.

The element in ribbon mics responds quickly to transients. However, a ribbon mic's inherently bi-directional polar pattern tends to soften transients slightly due to phase cancellation of very high frequencies arriving at both the front and rear of the mic. (Bass frequencies, with much longer wavelengths, are far less prone to cancellation.) The figure-8 (bi-directional) mode for a condenser mic exhibits the same phenomenon and virtually always produces a less-extended high-frequency response than its other modes, such as omni and cardioid.

Aficionados argue that, despite their inherent attenuation of very high frequencies, ribbon mics offer a smoother, more natural-sounding transient response than condensers. They point out that condensers actually hype transient response due to a phenomenon called overshoot that's inherent in the design of their diaphragms. A condenser mic's circular diaphragm acts much like a drum. (The edges of the membrane are secured to what's essentially a hoop.) When responding to a transient spike in signal level, it tends to briefly produce higher output before its diaphragm settles down. This overshoot tends to cause ringing somewhere in the range between 3 and 15 kHz. The exaggerated but ephemeral bump in high frequencies can sometimes make a recording made with condensers sound a bit glassy.

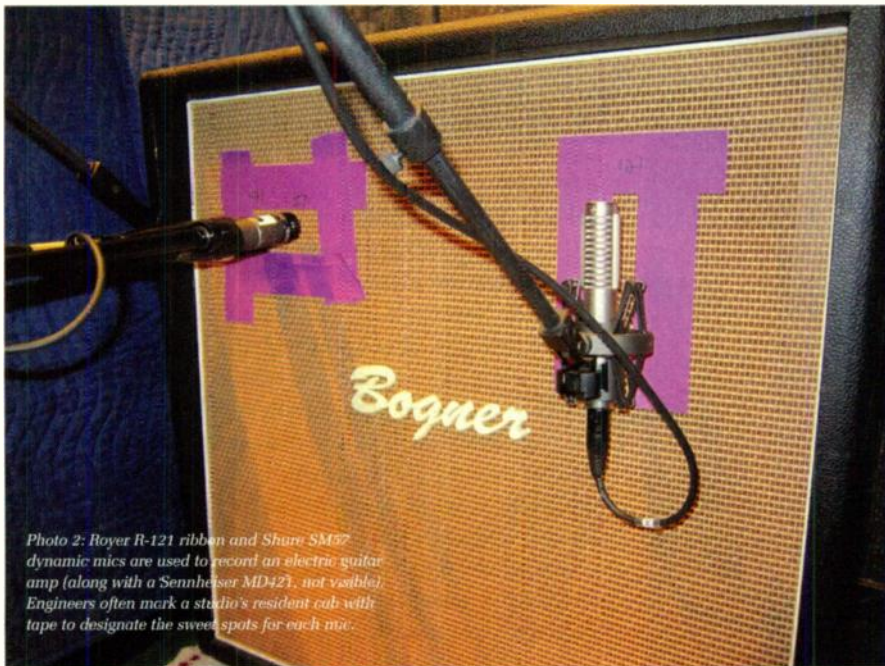


Photo 2: Royer R-121 ribbon and Shure SM57 dynamic mics are used to record an electric guitar amp (along with a Sennheiser MD421, not visible). Engineers often mark a studio's resident cab with tape to designate the sweet spots for each mic.

Ribbons exhibit negligible overshoot. But that doesn't make them the best mic for all recording applications. It depends on how much detail you want to capture for a particular track; more isn't always better. Theory aside, recordings made using condenser mics usually sound more detailed than those using ribbons. When capturing detail is paramount, reach for an SDC. The superior transient response makes it a great choice for recording plucked and strummed string instruments, hand percussion, cymbals, snare drum and rack toms—especially when these instruments will need to cut through a dense mix (see Photo 1).

All that said, ultra-highlighted detail is not always a good thing. For recording an exposed solo performance or simply where a slightly softer high end and less pronounced transients are desired, an LDC or ribbon mic might be a better tool. Many engineers prefer to use LDCs or ribbon mics on cymbals. Ribbons provide excellent tonal balance—especially when paired with a Shure SM57—for recording electric guitar cabinets: just enough detail, without edginess or glare (see Photo 2). And while most condenser mics sound way too edgy and brittle on brass instruments, ribbon mics deliver a relatively soft and more balanced tone on trumpets, trombones and the like (see Photo 3).

CAPTURING LOW BASS

A high-quality LDC such as the Neumann U 87A is an excellent tool when recording a percussive instrument that

produces low bass frequencies, such as floor tom (see Photo 4). Any type of quality condenser, LDC or SDC, will reproduce a drum's batter-head strike beautifully, but the LDC's larger diaphragm offers a bigger net for capturing the long wavelengths of very low bass frequencies. The larger diaphragm also captures more signal overall; for this reason, the best LDCs are inherently less noisy than SDCs. This is one of the reasons why you'll usually see an LDC used for ADR, narration (for books on CDs and the like) and quietly sung lead vocals.

But an LDC is often the best-sounding mic for any kind of vocal track. The lightweight diaphragm captures enough detail for vocals to sound articulate, yet the sound will usually be less edgy than what an SDC would produce. And unless a highly directional polar pattern is selected, an LDC will exhibit less proximity effect than a ribbon mic, allowing the singer to stand very close to the mic without blowing up the low end.

It may not be the appropriate setup for all productions, but there's nothing quite like the intimate sound of a close-miked singer (see Photo 5).

Again, there are no absolutes, and breaking the rules can lead to stellar results. The English pop group Right Said Fred used an SDC to record the lead vocal for their 1991 hit, "I'm Too Sexy." The SDC's hypersensitivity to transients no doubt contributed heavily to the highly articulate sound of that track, which was arguably critical to the record's success.

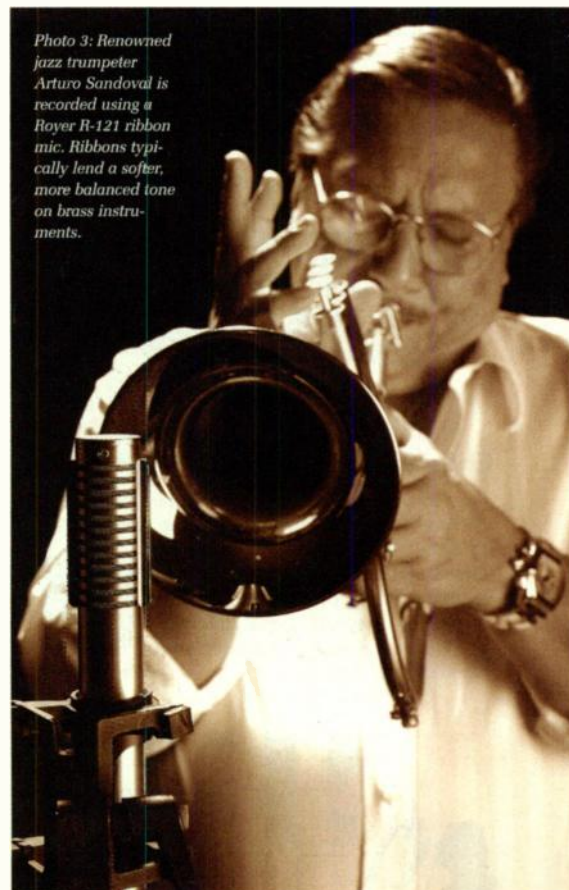


Photo 3: Renowned jazz trumpeter Arturo Sandoval is recorded using a Royer R-121 ribbon mic. Ribbons typically lend a softer, more balanced tone on brass instruments.

ENSEMBLE RECORDING

When tracking basics for a group or recording a large instrument with multiple mics, the mics' off-axis frequency responses take on added importance. That's because bleed into a mic with poor off-axis response will skew the timbre of the overall recording.

In theory at least, ribbon mics have an inherently superior figure-8 polar pattern—offering better rejection at its null points and smoother response off-axis—compared to that for a multi-directional condenser mic set to produce the same pattern. The reason is that a condenser mic produces its bi-directional pattern by using two diaphragms and subtracting the electrical output of one from the other; the subtraction is essentially accomplished by flipping the phase of one diaphragm's output 180 degrees. Any imprecision in this process will cause a somewhat frequency-dependent polar pattern, wherein cancellation at the null points (90 and 270 degrees off-axis) isn't perfect across the spectrum. A ribbon's

Photo 4: A Neumann U 87A is placed on a floor tom and set to bi-directional mode. The mic's null point is aimed, as much as is practical, toward the ride cymbal to reduce cymbal bleed into the mic.



construction, on the other hand, creates a figure-8 pattern mechanically. Sound originating at either of the mic's null points wraps around to front and back faces of the same element and cancels out perfectly. Its excellent

off-axis response makes ribbon mics a great choice for tracking multiple instruments in the same room.

For mics that produce polar responses other than figure-8, SDCs—pencil-shaped mics in particular—generally offer the best off-axis response. The SDC's smaller diaphragm, usually mounted in a slimline head capsule and mic body, imposes a smaller obstacle to high frequencies arriving off-axis. That is, the high frequencies' short wavelengths have less difficulty wrapping around an SDC's slim mic body and small head capsule to reach the diaphragm. An LDC, on the other hand, creates a relatively large acoustic shadow for off-axis signals, typically resulting in progressively reduced response as frequency and angle of incidence increase.

You might think this superior off-axis response makes an SDC the unquestionable choice for recording ensembles and large instruments. However, in many cases you'll want to use an LDC's poorer off-axis response to your advantage. When miking toms with an LDC, for example, cymbal bleed is reduced by the mic's relatively greater attenuation of high frequencies arriving off-axis (see Photo 4). That allows you to apply more high-frequency EQ boost to the toms (to emphasize the stick attack) without cymbal bleed ripping your head off.

SDCs are a great choice, however, for recording instruments such as

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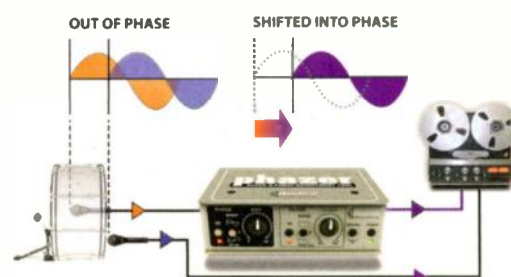
Add realism and depth to every instrument! The Phazer is an analog tool that let's you adjust the phase relationship between two sources such as two mics in a room so that the fundamentals arrive at the same time. Think inside and outside the kick drum, top and bottom of a snare, or near and far with an acoustic guitar.



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acoustic guitar, harp and timbales—percussive instruments that produce dissimilar timbres from different parts of their bodies and with varying playing techniques. The SDC's superior off-axis response tends to accurately capture all the frequencies emanating from multiple vibrating surfaces, smoothly integrating the composite sound into a coherent whole.

PROXIMITY EFFECT AND PLOSIVE CONTROL

A mic's polar response largely determines the strength of its bass-proximity effect. As the directionality of the polar pattern increases, so does this effect. The figure-8 pattern produces the strongest bass-proximity effect. This is the reason why close-miking with a ribbon mic or an LDC in bi-directional mode can result in a sound that's too bass-heavy. (Some ribbon mics are electronically altered to produce a less-directional response than figure-8.)

An omni mic exhibits no bass-proximity effect; you can place an omni



Photo 5: A Korby Audio Technologies KAT Blue HRS (a multipattern large diaphragm tube condenser) is set to omni mode to close-mic lead vocals for an intimate, highly detailed sound free of proximity effect.

mic virtually right on the sound source without any increase in bass response. Position an omni only an inch or two away from a singer, and the sound will be completely devoid of the blurriness and boomy bass a cardioid or more directional pattern would impart at that distance to the source.

That said, bass-proximity effect is sometimes a very good thing. Some female singers, for example, sound too thin when using an omni mic. By gradually progressing from omni through cardioid to hypercardioid or bi-directional mode with a multi-

pattern LDC that offers continuously variable polar patterns, you can dial in the perfect amount of bass and lower-midrange boost to make a paper-thin vocalist sound fuller and bigger. A multi-pattern LDC gives you the most options for shaping the timbre of a track.

Unfortunately, as a mic's directionality increases, so does its vulner-

Continued on p. 71

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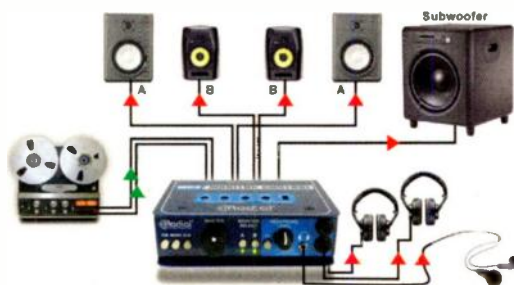
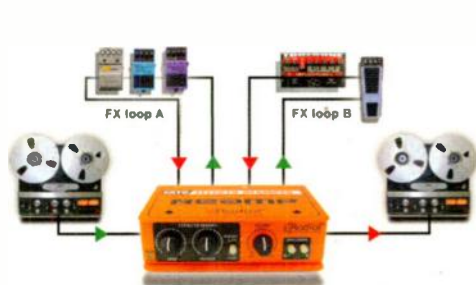


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NATHAN EAST

Bass Monster Steps Out With Solo Debut

BY BLAIR JACKSON

Bassist Nathan East has played on literally hundreds of albums by musicians of every stripe over the course of an extremely successful career that dates back to his teenage years, when he played as part of Barry White's Love Unlimited Orchestra. The San Diego native established himself as a top L.A. session bassist by working tirelessly and flexibly in whatever genre was required. So his name has popped up on albums by such diverse artists as Stanley Turrentine, Jeff Lorber, Kenny Loggins, George Benson, Randy Newman, Rickie Lee Jones, Michael Jackson, Aretha Franklin, Eric Clapton, Manhattan Transfer, Eurythmics, Ry Cooder, Bob Dylan, Quincy Jones, Patti Austin, Justin Timberlake, Whitney Houston, Herbie Hancock, Stevie Wonder, Daft Punk (he's all over their recent Grammy-winner, *Random Access Memories*), as well as dozens of film soundtracks and, of course, his mega-successful smooth jazz band of the past 23 years, Fourplay. He's also written or co-written songs that have been recorded by a number of top acts, and been an in-demand live bassist, touring for many years with Eric Clapton, and also playing with George Harrison, Andrea Bocelli, Toto, Phil Collins and many more. The guy's a really good singer, too.

Yet 2014 is a watershed year for East: This spring marks the release of his self-named first solo album, co-produced by the bassist and Chris Gero, who heads the Yamaha Entertainment Group label. (East has been playing, endorsing and designing basses for Yamaha since the early 1980s.) As you might expect, the songs on the Nathan East album are all over the map stylistically (after all, no one has ever successfully pigeon-holed him), and includes a killer crew of first-rate musicians and singers. There are a number of recognizable cover tunes, such as instrumental takes on Stevie Wonder's hoppin' "Sir Duke" (East plays the melody on ultra-funky bass) and "Overjoyed" (with Stevie on harmonica); Steve Winwood's "Can't Find My Way Home," featuring Winwood's Blind Faith bandmate, Eric Clapton; a startling big band version of Van Morrison's "Moondance," arranged by Tom Scott and sung by Michael McDonald in one of his most soulful performances; McDonald's own "I Can Let Go Now," with Sara Bareilles on vocals; a lovely version of "Yesterday" spotlighting East's young son Noah on piano; and a stirring and ambitious ar-

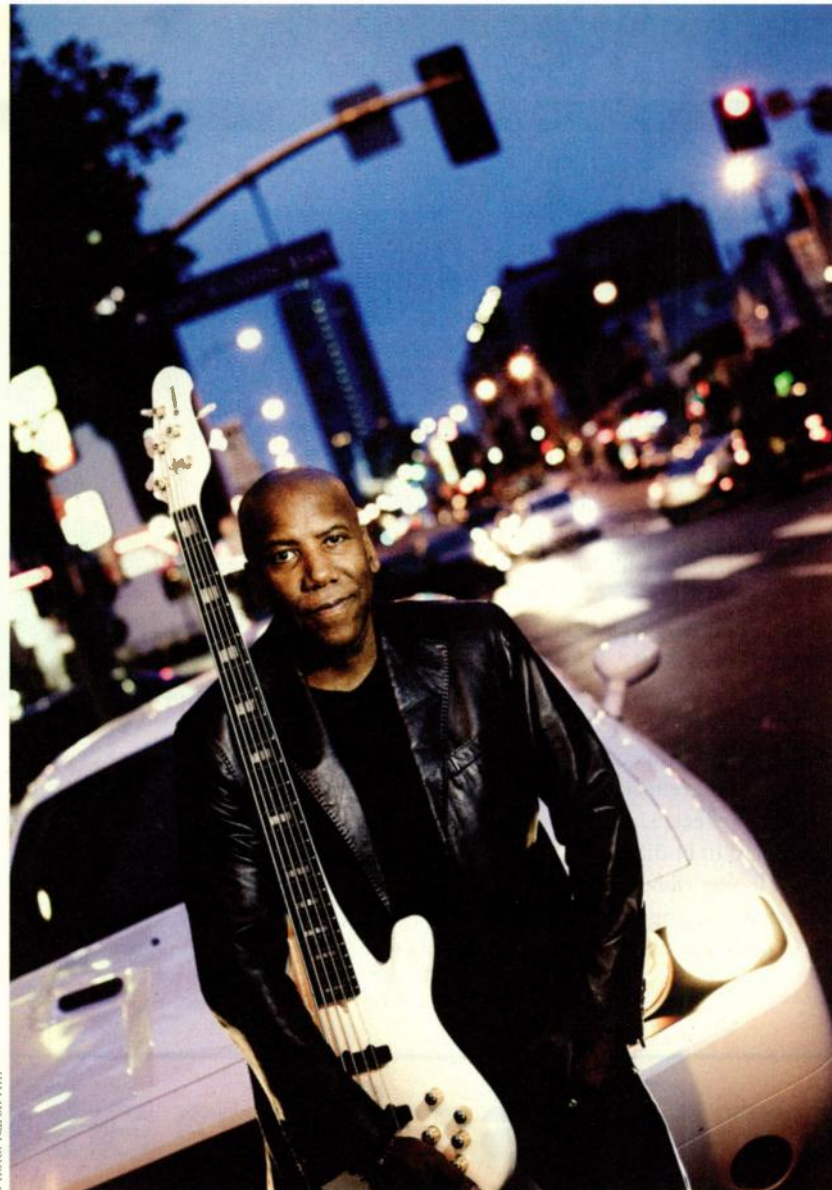


Photo: Karen Hill

rangement of "America the Beautiful." East also co-wrote three fine originals, my favorite of which is the breezy, Brazilian-tinged "101 East Bound" (though "Daft Funk" lives up to its title, too).

Among the many notable musicians helping out are Fourplay members Bob James (piano; he also wrote the album's superb jazz number, "Moodswings") and guitarist Chuck Loeb, keyboardists Jeff Babko, David Paich and Greg Phillinganes, guitarist Ray Parker Jr., percussionist Paulinho Da Costa and drummer Ricky Lawson, who died before the album was finished but played on most of the tracks. Producer Gero played guitars and keys and also worked heavily on the arrangements. Lendell Black was the string orchestrator and conductor. The principal engineer and mixer on the project was Bryan Lenox, who works out of the

Nashville area and has scores of impressive engineering, mixing, production, songwriting and musician credits, including Michael W. Smith, Elton John, TobyMac (whose *Alive and Transported* album earned Lenox a Grammy in 2009), Quincy Jones, Kirk Franklin and Sarah McLachlan. Because of East's crazy-busy schedule (talk about in-demand!), it took nearly 10 months to complete the album, which was recorded at a number of different studios.

"We started off doing preproduction in Nathan's personal studio in the Tarzana [L.A.] area," Lenox explains. "Then we did the main band tracking at Ocean Way in Hollywood using between four to six players at a time over a period of about seven days, so it would feel like a band and have synergy as a whole. Chris [Gero] would actually sit in the middle of the tracking room with the musicians



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New Ribbon Microphones

by THE MIX EDITORS

Once the mainstay of the film and studio industry, ribbon mics have ridden the roller coaster of being in favor, out, then back again. This relic revival is being led by small manufacturers who either get their stock out of China or small domestic shops. David Royer redefined the category with the first active ribbon, the 122, and others followed suit, bringing the range of types you can purchase to new highs. Wes Dooley of AEA concentrated on bringing legacy products like the RCA 44, KU3A and 77 into the modern era, with accurate and detailed reproductions of the stalwarts that defined an era. And now there's a whole new group of offerings from a range of manufacturers. The great news is that like speakers, condenser and dynamic mics, and 500 Series processors, these personality-packed transducers are more affordable and plentiful than ever. So check out our list of relatively recent introductions and consider adding to your production bag of tricks with a new ribbon mic.

Audio Engineering Associates states that its **KU4** ribbon microphone (reviewed in *Mix* April 2012) "is a re-envisioning of the legendary RCA KU3A, a unidirectional microphone originally designed for Hollywood movie studios. It combined the smooth ribbon sound of a [RCA] 44 with a unidirectional pattern, wide sweet spot and reduced bass proximity effect." AEA's KU4 is made of authentic New Old Stock RCA ribbon material, offering an anodized and nickel-plated finish, custom AEA transformer, neodymium magnets, field-tech replaceable ribbon assembly and a supercardioid pattern for excellent rear rejection.

The **N22**, which AEA introduced at AES 2013, is the first member of AEA's NUVO series and features the same Big Ribbon technology found in other AEA microphones. With phantom-powered

its lightweight low-tension 2-micron-thick aluminum ribbon provides for smooth, natural, extended low and high-frequency response and a wide dynamic range while accurately handling extremely fast transients. Said to handle sound pressure levels approaching 148 dB, it features a compact, rugged-body design with an integrated all-metal windscreen, and ships with an IMC-10 isolation shock-mount and heavy-duty aluminum case.

Audio-Technica offers two phantom-powered ribbon models with active electronics and figure-8 polar patterns: The company's handcrafted **AT4080** and **AT4081**, which include N50 neodymium magnets for a high output level and for maximum compatibility with preamps. Both models have A-T's MicroLinear ribbon imprint, which protects the dual ribbons from lateral flexing and distortion. Their dual-ribbon construction allows for increased sensitivity while ultra-fine mesh helps protect against ribbon damage. The AT4080 has a stated frequency response of 20 to 18k Hz, and its acoustic baffle system and extra large output transformer provide natural low-frequency response and extended dynamic range. The open acoustical environment of the housing assembly minimizes unwanted internal reflections, and a custom shock-mount provides superior isolation. The AT4081's low-profile stick design maximizes placement options for use on a wide range of instruments and guitar cabinets in recording studios and live-sound settings.

The active element of the ART **M-Five** is a thin, 2-inch long, 2-micron-thick corrugated aluminum ribbon mounted under low tension between the poles of a strong magnet. Although ribbon microphones are fragile by nature, the ART M-Five is designed to handle sound pressure levels approaching 148 dB. The asymmetrical figure-8 pickup pattern has an extended sweet spot on the rear face of the microphone, allowing the recording to accurately reproduce

JFET electronics and a custom German transformer the N22 is said to achieve optimal performance with a wide range of preamps including USB or FireWire audio interfaces. Its highly protected pure aluminum ribbon allows for using the N22 in live sound applications and vocal recording without the need for an additional pop filter.

The **Apex250** from Apex Electronics offers a figure-8 polar pattern, and



AEA KU4



AEA N22



Apex 250



Audio-Technica AT4080 and AT4081



ART M-Five

BEHIND GREAT MUSIC

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Stuart Brawley

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EXPOSÉ



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throughout this range the shape of the bi-directional polar response is maintained substantially constant both in the horizontal and vertical planes. Used as a pair with a stereo mount the microphones can be easily rotated through 360 degrees making them easy to mount in a Blumlein stereo configuration or any other configuration of choice. The 4030L microphone comes in a foam-lined rigid plastic carrying case with an adjustable universal stand mount.

The **R1 Active MKIII** from Golden Age Project offers the warmth of a ribbon and the stability of an FET buffer amplifier. Its active circuitry, which includes a bipolar/FET discrete low-noise amplifier, produces higher-than-expected output for a ribbon mic, allowing the R1 Active MKIII to be used with long cables and virtually any preamp featuring 48-volt phantom power. The ribbon in the R1 Active MKIII is 50mm long and 2 microns thick, and there is an internal shock-mount for the ribbon and magnet assembly. The mic is designed to provide fast and lifelike transient reproduction, and can handle sound pressure levels up to 150 dB SPL. A soft transport case and an XLR mic cable are included.

Incorporating a figure-8 polar pattern and a 1.8-micron aluminum ribbon, the **MXL Microphones R150** offers high SPL capability, outstanding side rejection and precise directivity while capturing a dark, warm tone with a rich midrange and a rolled-off top end. The compact MXL 860 side-address mic promises a warm sound with a robust low end and a full midrange, high SPL capability, and also has a 1.8-micron aluminum ribbon and a figure-8 polar pattern. It has a durable cast metal body and can be positioned virtually anywhere in a studio to record a wide range of instruments, including percussion. A wide fixed cardioid polar pattern picks up subtle sonic details.

The **Peluso R 14** is a passive ribbon microphone with a figure-8 polar pattern that employs a thin corrugated aluminum ribbon tensioned between two rare earth neodymium magnets. It uses the long-ribbon geometry of classic ribbon microphones of the 1930s. The R 14 has a stated frequency range of 30 to 16k Hz and handles SPL up to 149 dB. The microphone comes as a com-

plete system including: R 14 Microphone in a Wood Box, and a Shock Mount.

The latest addition to Royer Labs' long line of classic ribbon models, the **R-101** debuted in late 2010 and is a mono, passive ribbon microphone that is hand-built in the company's facility, and uses its patented offset-ribbon transducer and a low-mass 2.5-micron ribbon element. This proprietary arrangement gives the ribbon element more room to move within the prime magnetic field and maintain full frequency response during high SPL recordings. It also enables the R-101 to withstand 135dB SPL @ 30 Hz. The ribbon transducer's flux-frame and rare earth Neodymium magnets create a powerful magnetic field, which increases sensitivity while reducing stray magnetic radiation. The R-101 incorporates an advanced multi-layered wind screen for superior protection from air blasts and plosives; Royer's patented offset-ribbon transducer; an internally shock-mounted ribbon transducer system to provide greater isolation from shocks and vibrations; and reduced proximity effect.

The **sE X1R** is a passive ribbon and a hybrid of old and new ribbon technology from sE Electronics. Its ribbon element is enclosed by top-grade Neodymium magnets, and to provide a gentle HF lift, the company combined its traditional ribbon technology with some of the mechanical elements of its patented Voodoo microphone HF extension technology. The sEX1R does not offer the full frequency response performance of sE Electronics' Voodoo VR1/VR2 and sE Rupert Neve RNR1, but instead offers more versatility and ease of use. The sE X1R also draws on the chassis and design elements of the sE X1 cardioid condenser microphone.

ShinyBox 46 Series ribbon microphones are assembled by hand in the Pacific Northwest, precisely engineered using ribbon transducers that are cut from high-grade aluminum on custom-designed equipment. The 46U offers a high-quality, U.S. wound output transformer. The 46MXC has a classic Cinemag transformer, while the 46MXL features a Lundahl transformer for an extended frequency response. Each mic includes a spider shock-mount, hard shell flight case and leatherette mic bag. ■



Golden Age Project R1 Active MKIII



MXL Microphones R150



Peluso R 14



Royer Labs R-101



sE X1R



ShinyBox 46 Series ribbon microphone

The largest 500 Series selection anywhere.



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Versatility reigns with this new forward-thinking compressor

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SHADOW HILLS MONO OPTOGRAPH

Taking cues from its big brother, the fabled Mastering Compressor

GREAT RIVER MP-500NV

Bring a little 70s console sound to your 500 Series rack

MIX REGIONAL: NASHVILLE/MEMPHIS

HUMMINGBIRD AT OCEAN WAY



Bob Farnsworth

Ad music and sound design creator Hummingbird Productions has contributed original compositions to campaigns from Coca-Cola, Wrigley's and others, and often collaborates with popular musicians such as Band of Joy bassist Byron House and Taylor Swift drummer Dennis Holt. But for a recent campaign for Alabama Power, Hummingbird's original music was performed by an orchestral ensemble led by David Angel. Hummingbird CEO/founder/creative director Bob Farnsworth engineered the session, recording to Pro Tools HDX in Ocean Way Nashville's Neve 8078-equipped Studio A.

"It always blows us away when we are allowed the opportunity to compose original music for commercials employing an entire orchestra," Farnsworth says. "Our music for the new Alabama Power campaign is classical—it starts out mysteriously and slowly builds to a huge finish, ebbing and flowing along the way. When recording tracks using just electronics, the music tends to 'stair-step,' that is, the emotion within the piece of music isn't properly conveyed. When a person plays a real-life instrument, the music can rise and fall naturally and organically, like an ocean wave."—Barbara Schultz

Pony Boy with Cosmic Thug

There's a film noir-cool quality about the latest music from Pony Boy, aka Marchelle Bradanini. It's in her sultry vocals, some surf-style guitar reverb, and haunting keyboard sounds. This recent Nashville transplant made her EP *The Devil in Me* with Justin Collins and Adam



Adam Landry (left) and Justin Collins of Cosmic Thug

Landry, who call their production partnership Cosmic Thug.

"We like to consider ourselves part of the band," says Collins. "We do a lot of arranging, playing multiple instruments, and coming up with parts all across the board, as well as engineering."

Working in Landry's studio, Playground Sound, Landry (guitars, drums, bass, keys) and Collins (guitars, vocals) added Robbie Crowell (drums, bass, keys) and Carey Kotsionis (vocals) to the group. They tracked to an Otari MTR-90 tape machine.

"For her vocals, we used a Sennheiser 421 through an API Lunchbox mic pre through a Distressor," Landry says. "We rarely print effects while tracking; however, we do use it for monitoring purposes. We use a quarter-inch separate reel-to-reel for slap-back most often, and multiple reverb sounds. Effects always come later in the mix."

Collins says they mixed on Landry's TAC Scorpion console and printed the stereo mix to Pro Tools. "We never use plug-ins," he explains. "It's just a couple of compressors, a custom SSL mod stereo compressor, a reverb unit or two, and our favored slap-back TEAC quarter-inch tape machine, which is fondly named, 'Babydoll!'"

—Barbara Schultz



Photo: Elaine Reed

JEFF POWELL RECORDS YOU ME & APOLLO AT ARDENT



Pictured in the Ardent Studios atrium are (l-r) Lucas Peterson, assistant engineer; Tyler Kellogg, drums; Morgan Travis, guitar; Brent Cowles, lead vocals, guitar; Jeff Powell, producer/engineer; Dove Golebas and Jonathan Alonzo, guitar, vocals

Colorado band You Me & Apollo first visited Ardent Studios in Memphis to cut a two-song single with renowned producer/engineer Jeff Powell. However, following the success of that single—"I Don't Want to Be Loved" and B-side "Finding Peace"—the band recently returned to record its as-yet-untitled album, due out this month.

"Our experience with Jeff is hard to put into words," says lead singer and guitarist Brent Cowles. "We felt as a band that musically he brought out the best in us, and we were just blown away when we finished the album."

Powell, who started out at Ardent 25 years ago answering phones, is now an independent producer/engineer and considers Ardent his home base. "I recently spent a 10-day run at Ardent with You Me & Apollo," Powell says. "It all started with my one-day singles offer. If a band really has their act together, they can walk out at the end of the day with a two-song digital master and the lacquers for a seven-inch."

Some of Powell's credits include work with Bob Dylan, B.B. King, Tonic, Big Star, The Bottle Rockets, Stevie Ray Vaughan, Primal Scream, Lucinda Williams, Ryan Adams and The Afghan Whigs. His early years at Ardent landed him sessions working elbow-to-elbow with producer/engineer legends such as Jim Gaines, Glyn Johns, Rob Fraboni, John Hampton, Joe Hardy and Jim Dickinson. Getting the call to work with legendary Tom Dowd certainly was a career highlight.

"I got to do six records with Tom Dowd," Powell says. "He put me in the engineer seat for my first major label record all those years ago after having me assist several engineers on a couple of projects with Lynyrd Skynyrd and The Allman Brothers. He gave me my big break, really. Most of my recording is done at Ardent, so that's my family. I love those guys and I love the studio."

CARL TATZ-DESIGNED YELLOW HAMMER OPENS



Opened in February of this year, Yellow Hammer is a 630-square-foot, full-tilt custom Carl Tatz Design studio built from the ground up for film composer Justin Miller in the back yard of his Nashville home. The studio encompasses a CTD MixRoom, piano booth, computer closet and hall-of-shame foyer. It features the PhantomFocus System driving a Dynaudio M1 monitor/Bryston 4B SST amplification combo and a custom application of the Carl Tatz Design Signature Series acoustic modules by Auralex. It also features the new Carl Tatz Edition Dual 15K-L desk by Argosy Console.

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SESSIONS: NASHVILLE/MEMPHIS



SOUND STAGE STUDIO, NASHVILLE

Chuck Ainlay recently engineered and produced the Pistol Annies album *Annie Up* (nominated for a Grammy for Best Engineered Album, Non-Classical in 2014)...Ainlay and Donovan Cowart engineered Emmylou Harris and Rodney Crowell's *Old Yellow Moon* (which won a Grammy for Best Americana Album in 2014), assisted by John Baldwin...James Cotton recorded *Cotton Mouth Man* (which was nominated for a Grammy for Best Blues Album in 2014), with Jim Cooley and Nick Autry engineering...George Strait worked on *Love Is Everything*, produced by Strait and Tony Brown, recorded and mixed by Ainlay...Miranda Lambert worked on her upcoming release *Platinum*, produced by Frank Liddell, Ainlay and Glenn Worf, recorded and mixed by Ainlay.



Photo: Russ Harrington

Brian Setzer

GRAND VICTOR SOUND NASHVILLE (FORMERLY BEN'S STUDIO)

Guitarist/singer-songwriter Brian Setzer recently recorded new material to tape with all band members live on the floor, with Peter Collins producing and David Leonard engineering...Country band Asleep at the Wheel worked on new tracks, with Ray Benson producing and Sam Seifert engineering...Soul/blues/rock band Luella and the Sun was in the studio, with Joe McMahan producing and Leslie Richter engineering...Country singer-songwriter Hunter Hayes worked on new material, with Dann Huff producing and Steve Marcantonio and Tony Daigle engineering...Country singer Tayla Lynn worked on new tracks, with James House producing and Joe Costa engineering...Singer-songwriter/guitarist Jewel worked on new material (self-produced), with Jeff Balding engineering.



Producer Scott Hendricks, (left) and Blake Shelton.

OCEAN WAY STUDIOS, NASHVILLE

Country artist/judge on *The Voice* Blake Shelton worked on new material, with Scott Hendricks producing and Justin Niebank engineering, and Allen Parker and Drew Bollman assisting...Singer-songwriter Shakira was in the studio, with Busbee producing, Jeff Balding engineering and Matt Coles assisting...Country artist Kenny Chesney worked on new tracks, with Buddy Cannon producing, Tony Castle engineering and Nick Spezia assisting...Pop country singer Luke Bryan was in the studio, with Jeff Stevens producing, Derek Bason engineering and Chris Small assisting...Dierks Bentley worked on upcoming material, with Ross Copperman producing, Reid Shippen engineering and Spezia assisting...Singer-songwriter/multi-instrumentalist Beck worked on new material (self-produced), with Darrel Thorpe engineering and Joe Martino assisting.

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SESSIONS: NASHVILLE/MEMPHIS



Chris Isaak singing and playing acoustic guitar, Matt Ross-Spang playing electric guitar and Pete Pritchard on upright bass.

SUN STUDIO, MEMPHIS

Rocker Chris Isaak cut "That's All Right" and "Blue Moon of Kentucky" live to 1-inch, 8-track Studer A800 using vintage mics and pre's, with Scotty Moore producing and Matt Ross-Spang engineering (Curry Webber served as second engineer)...Producer/DJ Mark Ronson worked on new material for a solo project, produced by Ronson and Jeff Bhasker, engineered by Ross-Spang...Country/soul/rock/blues musician Elle King worked on new tracks for an upcoming record for RCA, produced by Bhasker and engineered by Ross-Spang. Ronson played bass and electric guitar and Patrick Keeler of the Raconteurs played drums...Singer-songwriter/guitarist J.D. McPherson was in the studio, with

McPherson and Ross-Spang producing and engineering...Indie-rock singer/songwriter Jake Bugg worked on songwriting/demo recording sessions, with Ross-Spang engineering, for recent Rick Rubin-produced record *Shangri La*...Country singer-songwriter/guitarist Dale Watson worked on his 45 rpm EP *iF yoU*, produced by Watson and engineered by Ross-Spang. Producer/engineer Jeff Powell cut to 7-inch 45 on the original STAX Neumann VSM 70 lathe.



Control Room A

SOUND EMPORIUM, NASHVILLE

Sound Emporium recently added Studio Z, a mix/overdub room (with 4 input channels for personal outboard gear)...Rockers The Alabama Shakes were in Studio A recording to 2-inch tape on a Studer A827 with producer Blake Mills and engineer Shawn Everett...Country legend Willie Nelson was in Studio A and B with producer Buddy Cannon and engineers Tony Castle and Derek Parnell...Rock band Rival Sons were in Studio A with producer Dave Cobb (who also engineered) and engineer Mike Stankiewicz...Producer Joe Henry is working in Studio A on a multi-artist project for Sony Masterworks, re-creating Johnny Cash's controversial 1964 album *Bitter Tears*. Ryan Freeland and Stankiewicz are engineering the project...Folk/Celtic rock band The Waterboys were in Studio A, with Mike Scott producing and Freeland, Chris Mara and Stankiewicz engineering.



Brandon Chase

THE RECORD SHOP, NASHVILLE

Country/pop artist Brandon Chase worked on his debut single "One," with Sean Giovanni producing and engineering...Country duo Big & Rich worked on the ESPN College Gameday Theme Song (the duo also produced), with Giovanni engineering. Big & Rich also worked on "Lovin' Lately" featuring Tim McGraw, with Big & Rich producing and Giovanni and Nick Brophy engineering...DJ Sinister is working on the Country Fried Mix Radio Show, with Charlie Pennachio producing and Giovanni engineering...EDM dance/pop band Electro Shyne, featuring Damien Horne, worked on "The Great Unknown," with Big Kenny and Chebacca producing and Giovanni engineering...Giovanni produced the daily online music show Balcony TV Nashville, with John Constable and Giovanni engineering...Country trio The Farm worked on new material with Pennachio, DJ Sinister, and Giovanni producing. Giovanni also engineered the material...Singer-songwriter/guitarist Tyrone Carreker (Nashville Independent Blues artist of the year) worked on "James Brown," with Giovanni producing and engineering.



Martina McBride and producer Don Was

BLACKBIRD STUDIOS

Country singer-songwriter Martina McBride worked on tracking/overdubbing/mixing in Studio A with producer Don Was, engineer John McBride and assistant engineer Allen Ditto...Country singer-songwriter Hunter Hayes, producer Dan Huff, engineer Justin Niebank and assistant engineer Drew Bollman worked on mixing/overdubs in Studio F and E...Singer-songwriter Conor Oberst did tracking/overdubbing in Studio A with producer Jonathan Wilson, engineer Bryce Gonzales and assistant engineer Ernesto Olvera...

Rock band JEFF The Brotherhood did tracking/overdubbing in Studio A, H and B with producer Joe Chiccarelli (who also engineered) and assistant engineer Olvera...Singer-songwriter James Bay was tracking in Studio D with producer Jacquire King, engineer Lowell Reynolds and assistant engineer Sean Badum...Blues-rock singer-songwriter Boz Scaggs was tracking in Studio D with producer Steve Jordan, engineer Niko Bolas and assistant engineer Badum.

Continued on p. 72

SOUTHERN GROUND STUDIOS

Zac Brown's Production Home on Music Row

BY BARBARA SCHULTZ



Photo: Southern Reel



Photo: Southern Reel

Mangano and Brown originally planned few changes to the facility. But that changed during a walkthrough with their builder, David Purvis, to discuss aesthetic improvements.

"The studio had 25-foot, fabric dropped ceilings, but there were a couple of little access holes cut into that ceiling," Mangano recalls. "If you shined a flashlight, you could see a little bit of brick. Zac said, 'We have to find out what's up there.' We bought some scaffolding and climbed up, and behind the fabric we saw huge 100-year-old pine beams, a beautiful brick archway, brickwork everywhere. We had to open it up."

One change led to another, and Southern Ground's studio renovation grew to encompass not only the restoration of the 100-plus-year-old sanctuary/tracking room, but also building out another partially developed space into a mix room, equipped with a 56-channel SSL 4000G console and ATC 300 monitors. Steven Durr helped tune the restored tracking studio, and designed the mix room acoustics.

"Steve does a lot of his work by feel, which was a big part of the spirit of this whole studio project," Mangano says. "A lot of what's right about this facility is because of his ears."

Mangano says the goal was to create a welcoming, musically inspiring space that would be large enough to accommodate live band tracking but also feel homey. They chose warm finishes and acoustical treatments made of natural materials, including wood from Taylor Guitars on the floors, and porous, acoustically flexible pecky cypress on the walls. There's a full kitchen run by chef and "studio mama" Rebecca Wood, who provides homecooked meals made to order.

And changes are still happening at Southern Ground: Mangano has left his job as studio director to play bass with three-time Grammy Award-winning Zac Brown Band, and Grammy-winning engineer Brandon Bell is now the studio director and chief engineer. There are also plans to begin making the facility available commercially to clients outside of the Southern Ground Artists label.

"The Wood Brothers with Buddy Miller producing were the first band to cut their record here from start to finish," Mangano says. "They did a lot of live-around-one-mic takes, and their engineer, Mike Poole, put room mics everywhere; he was really using the tracking room to its fullest potential. If you listen to it, that record is really what our studio sounds like."

When Zac Brown and producer/engineer/musician Matt Mangano began searching for a studio base for Brown's Southern Ground Artists label, they envisioned purchasing and converting a small house. Mangano trolled the Nashville real estate listings, and occasionally sent Brown a link to consider.

"One day I accidentally forgot to put a price parameter in the search, and I found the listing for what used to be Masterlink Studios at the foot of Music Row. I sent it to Zac as a joke: 'Why don't we buy Masterlink? Haha.' But apparently he took it seriously, and we started looking at the place."

The former Masterlink facility came with a lot of advantages and history. Built in 1903 as a Presbyterian church, the structure was first used as a studio in the late '60s by Fred Foster's Monument Records. Several years later, Chip Young and Scottie Moore bought and renamed the facility Young 'un Sound. Then in the '80s, Al Jolson Jr. acquired the studio.

"He modernized it, and that's when the studio took on its current form," Mangano says. "It was immediately apparent that it was going to be perfect for us."

Mangano and Brown saw the 7,000-square-foot facility as a plug-and-play opportunity: The studios were well-equipped with a 60-input Neve V3 console, Otari, Ampex and Studer analog machines, Pro Tools, a full mic cabinet, loads of vintage outboard gear, plus extras like three EMT plate reverbs and a workshop full of audio treasures.

"There were probably 40 years' of audio parts left from different incarnations of the studio," Mangano says. "We spent a lot of time on inventory, figuring out what was there, what still worked. And the answer was, almost everything was in very good working order."

RobairReport

AVID'S BIG ADVENTURE



By Gino Robair

Exactly a year after introducing its Avid Everywhere strategy at the 2013 NAB show, Avid was back in Las Vegas to unveil the first phase of its plan to create “the most fluid end-to-end, distributed media production environment in the industry”—the Avid MediaCentral Platform. The news was announced during Avid Connect, the inaugural pre-NAB meeting of the newly founded Avid Customers Association, whose board and advisory councils are made up of leaders from major media operations ranging from Disney, Fox, ESPN, Turner, Berklee and Universal Music Group to Al Jazeera, ITV, Sky, the CBC and Germany’s ZDF.

The creation of an entity such as the ACA suggests that Avid intends to listen to its customers very closely: The organization is meant to provide a source of awareness of customer needs. For example, the ACA’s Standards and Practices Advisory Council will work toward setting industry standards for, among other things, digital rights management and metadata taxonomy.

Another part of the council is charged with “providing feedback on insights into the product roadmap and product releases, as well as addressing other technical challenges facing the industry.”

THE PLATFORM

At the heart of it all is the MediaCentral Platform, which is designed to integrate all of Avid’s products—from creation to monetization, delivery and storage, with a major emphasis on cloud-based collaboration. Of course, cloud-based collaboration and an integrated tool set are nothing new; one can look to the Adobe Creative Cloud and Google’s toolset as models. However, Avid wants to take it further by integrating aspects of the platform directly into its apps. For example, you will be able to add metadata to a file that will follow it through its production life and add value in later stages; there will be the opportunity to stream a project over the Internet and to mobile devices for collaborative purposes; and the updated apps will have a direct link to the Avid Marketplace, where you can sell or license your work—publicly or through private transactions—and the platform will provide a secure environment for making the transactions (including payment) and sharing the media assets.

With a single sign-in, the MediaCentral Platform will provide access to four modular application suites (though only three are pictured above): the Artist Suite includes the tools used for audio, video and live-sound work; the Media Suite is for managing, distributing and repurposing assets; the Storage Suite encompasses online and nearline storage; and, later, a suite of tools for Monetization will be available, including encryption, reformatting



and distribution through both the public and private marketplace. The MediaCentral | UX will provide a unified, cloud-based user experience whether you’re working locally, over the Web or on a mobile device.

Hernandez admitted to me that Avid “has never had this many new things come out at once—this amount of code, this much integration,” adding that more news would follow in the months ahead. Announcements for the next phase will include plans for the integration of third-party products into the platform, some of which will be by companies that would normally be considered Avid’s competition. Here again, Avid promises a new level of openness that could theoretically benefit everyone involved.

Despite being designed with the needs of major media organizations in mind, independent producers and artists can also take advantage of what the platform offers. Hernandez explained that there will be a number of entry points, allowing users to grow into the platform and scale it the way they want, choosing modules and options that match their needs—encryption, distribution, analytics and so forth.

THE CHALLENGE

Ambitious? You bet. But the hard work put into the platform so far was evident from the success of the demos I attended during Avid Connect.

Still, there was a wait-and-see attitude among a portion of the 1,100 attendees. I was button-holed by several investors who asked me, before and after the platform was unveiled, whether I thought Avid products such as Media Composer and Pro Tools could survive the pressures being put on them by the competition. At the very least, it’s going to require the launch of a virtually bulletproof product line before Avid can begin to regain the trust of many of its users, let alone capture new ones.

But if the newfound interest in its customers’ needs is any indication, Avid does have a very good chance of successfully reshaping how we create, deliver and profit from our work. ■

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AUDIENT ASP880 PREAMP

8 Channels with A/D Conversion

The ASP880 from Audient (\$1,399) features eight of Audient's console mic preamps, two JFET DI instrument inputs and A/D converters that can operate either inline or

as stand-alone. Other features include variable impedance switching per channel, sweepable highpass filters and balanced inserts with direct access to the converter. Each channel of the single-rackspace unit has confidence and peak level LEDs, switches for polarity, phantom power and A/D in and out.

STUDIO TECHNOLOGIES LIVE-LINK SYSTEM

Mini Audio-to-Camera Interface

Live-Link Mini Remote Camera Interface System from Studio Technologies (starting \$6,490) is a highly integrated and powerful camera extender system with a choice of two IRU truck units and a compact camera unit that weighs only 3.6 pounds. Live-Link Mini features SDI, IFB, comms and program audio, with one SDI path in each direction, supporting a wide range of SD, HD and 3G video signals. The system features integrated party line and 4-wire intercom support, line-level "dry" and powered "wet" talent cueing (IFB) and is fully compatible with SMPTE standards. The camera and truck units interconnect through one single-mode fiber for quick and reliable field deployment, and incorporate standard optical, video and audio connectors.



DYNAUDIO BM MKIII SERIES SPEAKERS

Four Near-Fields and Two Subs

Dynaudio Professional has released four new near-field monitors, mounting solutions and two new precision subwoofers. The new near-field monitors include BM Compact mkIII (\$629.99), BM5 mkIII (\$729.99), BM6 mkIII (\$899.99) and BM12 mkIII (\$1,229.99), and on the subwoofer side, the BM9S II (\$999.99) and BM14S II (\$1,849.99). Each model includes an automatic standby mode, as well as XLR and RCA input connectors. The BM6 mkIII and BM12 mkIII have been re-voiced and now include Dynaudio Professional's waveguide, which promises precision when distributing high frequencies. Each of the new BM mkIII near-field monitors comes bundled with a dual-branded IsoAcoustics monitor stand.



TSL PRODUCTS AVB1 AND AVB2

Audio Solutions for Broadcast

The new AVB1 and AVB2 from TSL Products (prices available upon request) are designed to sit within a hybrid environment where multichannel audio connectivity linking router, console and comms is over an AVB network. The units offer extensive audio confidence/loudness compliance monitoring, with features including dual OLED/LCD displays, video monitoring screen and 16 bar graph-type meters. Units display data, metadata and loudness information. In addition to AVB I/O, each unit offers two HD/SDI, four AES and two analog pair inputs, with outputs including line level (fixed/variable), AES (fixed/variable), re-clocked HD/SDI, composite video, down-converted video, headphone and integral loudspeakers.

SSL DUENDE PLUG-INS

New Trio of Processors

These three new plug-ins from SSL complement the company's existing range with two (X-Saturator and X-ValveComp) designed to bring some analog saturation and distortion emulation to a DAW and the third (X-Phase) delivering high-precision frequency-specific phase correction. X-Phase (\$329) is an all-pass filter plug-in that offers manual control and benchmark audio quality for applying phase shift at a specified frequency within a signal. X-Saturator delivers a range of analog-style distortion effects (\$85). The X-ValveComp (\$85) is a fully featured mono or stereo channel compressor with a full set of classic channel compressor controls and an added valve emulation stage, which sits after the compressor in the signal path and adds a variable degree of primarily second-order harmonic saturation and distortion that thickens and colors the sound.



SOUNDMAGIC NEO PREAMP

Software Personality Processor

The Neo Preamp from Sound Magic (\$70) offers clipping shape and Non-Linear Dynamic Response flavor controlled from a plug-in. Features include internal 64-bit, double-precision floating-point processing; six variable flavor controls; two clipping types; low CPU usage; and both Tube Metering and Volt Meter for users to monitor the working states.

MYRINX MICRO-PHONES

Taking High End Higher

Myrinx specializes in optimizing microphones by completely replacing the internal and external wiring, as well as the housing, with their proprietary developments; the capsules and printed circuit boards remain unchanged. The new/old mics have been in development for three years and are completely made of wood, and the capsule is protected by a unique, naturally grown structure with outstanding acoustic properties. The first models, now being tested by Mix, are a repurposed and retooled Brauner VM1 and Brauner Phantom Classic. The company says that it can rebuild any mic with prices starting at \$1,780.



EAR TRUMPET LABS MABEL

Three Patterns and Style

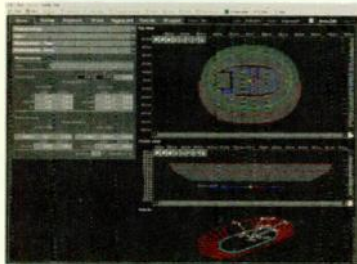
Ear Trumpet Labs' Mabel (\$1,000) is a hand-built multi-pattern condenser microphone using two cardioid 26mm capsules. Mabel features a unique copper-ringed head basket with brass grille work held in a pivoting mount in a stainless-steel yoke and a copper-and-brass body with a pivoting head for easy positioning. Other features include a transformerless FET design with fully balanced output, internal Sorbothane shock and vibration damping, high quality metal film resistors, polypropylene and polystyrene capacitors, and individually tested, hand-matched and biased transistors and JFETs.



New Sound Reinforcement Products

D&B ARRAYCALC VERSION 7.6 SIMULATION SOFTWARE

Planning Tool for System Design



The d&b ArrayCalc Simulation software is a tool for electroacoustic design, performance prediction, alignment, safety parameters and rigging plots. ArrayCalc upgrade Version 7.6 provides improved room data input to define listening planes in three dimensions for the d&b xC-Series column loudspeakers, as well as the D8o amplifier, along with export functions into the new d&b R1 Remote control

software V2. The room input control enables the user to create a representation of the audience areas in a given venue in three dimensions. Up to 14 flown arrays or subwoofer columns can be defined in a project file.

ROLAND S-2416 STAGE UNIT



32x24 I/O Digital Snake

The Roland S-2415 (\$TBA) is a new digital snake stage unit offering a 24-input x 16-output analog and 8-input x 8-output digital, for a total of 32 input and 24

output channels. Additionally, the S-2416 has two REAC ports for cascading an additional snake or for a fully redundant, zero-loss audio backup solution. The analog connectors are Neutrik, and the inputs have three-colored lights that indicate phantom power, clipping and signal presence at a glance. The AES/EBU ports on the rear panel are 25-pin D-Sub types for direct connection of speaker processors, amps or other digital devices. The S-2416 supports 24-bit, 96/48/44.1 kHz when switched to clock master mode. Word clock input and output enable a master clock signal to be connected when using AES/EBU. Mic preamps can be remotely controlled using any V-Mixer, R-1000 or S-4000R connected by RS-232C or by using the S-4000 RCS remote-control software on a computer (Mac or Windows) connected via USB.



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Elliot Scheiner, Grammy Award Winning Recording & Mixing Engineer

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Frank Filipetti, Grammy Award Winning Producer

I noticed immediately a clarity in the stereo image and the frequency response that had been missing in my NS10's... The IsoAcoustics generally made them more enjoyable to listen to, no small feat as I am sure you know...

Vance Powell, Grammy Award Winning Chief Engineer, Blackbird Studios



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CERWIN-VEGA P1000X LOUDSPEAKER

Compact, 10-inch, Full-Range Box

A more compact version of the original Cerwin-Vega P1500X loudspeaker, the P1000X (\$699) is suited for a variety of sound reinforcement applications, from concerts to public speaking. Featuring many of the same controls as its predecessor, the P1000X Powered Loudspeaker is a two-way, bi-amped, full-range bass-reflex speaker that employs a 10-inch woofer and high-frequency compression driver. Powered by a custom 1,500-watt Class-D amp, the P1000X has a proprietary hemi-conical horn that provides enhanced sound clarity over an even and wide coverage area. A built-in mixer with multiple channels and I/O connections allows for simple and fast setup, while enhanced EQ, Vega Bass boost and highpass filter controls promise exact tuning and exceptional performance.



YAMAHA QL SERIES CONSOLES

Full-Featured Desk for the Mid Market

The new QL Series consoles from Yamaha features all-in-one mixing, processing and routing capability for small- to medium-scale tour sound, house of worship installations, corporate A/V and speech applications. Yamaha QL1 and QL5 consoles feature 16/32 built-in Mic/Line Analog Inputs, 18/34 faders, 8/16 built-in Analog Outputs, 32/64 + 8 Stereo input mixing channels capability, and 16 Mix + 8 Matrix (or 24 mix total) + Stereo + Mono Outputs. Other features include onboard Yamaha VCM technology, Rupert Neve Designs Portico 5033/5043 EQ and Compression, and integrated Dan Dugan Sound Design automatic mixing. Built-in R Series input/outputs can patch any input port to any output port, so the QL console can function as a remote I/O device for any other QL or CL. The QL also supports remote control via an iPad with Yamaha StageMix as well as online/offline QL Editor Software for MAC and PC. Yamaha QL is compatible with Nuendo Live (sold separately) and feature Nuendo Live Control, MIDI/GPI Control Ports, and 2-track direct to USB and multitrack recording playback capabilities. Prices are \$8,499 for the QL1 and \$16,499 for the QL5.



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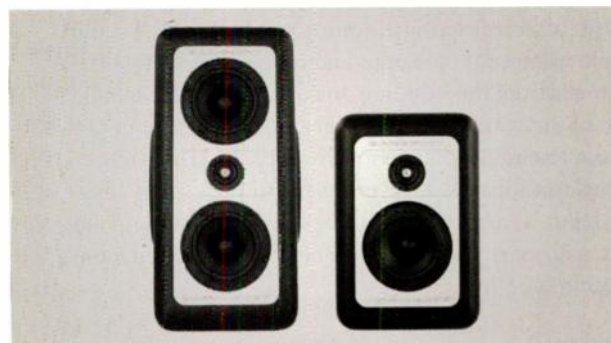
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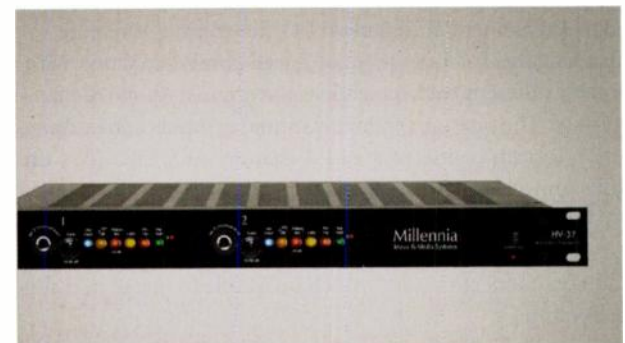
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UNIVERSAL AUDIO APOLLO 16 AUDIO INTERFACE

Portable I/O with UAD DSP and FW or Thunderbolt Connectivity



Two Apollo 16s can be ganged for 32x32 operation

My first introduction to Universal Audio's Apollo came two years ago at Winter NAMM. I was thrilled at the idea of having a single-rackspace unit that provided so many options for 8-channel, high-resolution recording with UAD plug-ins. This past year, UA introduced the Apollo 16, which is directed at the pro audio user looking for an alternative I/O solution. There is plenty to love about the new unit, including the ability to expand to 32 channels, Thunderbolt I/O, flex routing and more.

Unpacking the Apollo 16 revealed a well-constructed unit with a noticeably different back panel than the original Apollo 8-channel interface. The new unit connects 16 analog inputs and outputs via DB-25 Tascam connectors and 2-channel AES/EBU I/Os on two XLR connectors. Other I/O includes coaxial word clock, optical MAD1 for connecting two Apollo 16s, stereo monitor outputs (XLR), two FireWire 800 ports, and a slot for the user-installable Thunderbolt connection card, which I was able to install in just a couple of minutes.

I connected the Apollo 16 to my new Mac Pro Tower via the Thunderbolt cable, four DB-25 cables for my 16 channels of I/O, and XLRs into my speakers. Powering up the unit illuminates the familiar UA logo on the front panel. The button on left side of the unit determines which signals, either input or output, are displayed by the channel meters. Also on the left, you can check connectivity, clocking and sample rates (up to 192 kHz). The right side of the panel houses the monitor knob, which, like all Apollo units, is surrounded by a light green ring that gets lighter as the volume is increased. This endless rotary dial is easy to use and is a great way to control the gain. Pushing the knob turns the ring red and mutes the signal to the speakers.

The Apollo/UAD software was a snap to install and allowed me to get both the Apollo console software and UAD plug-ins quickly ready for use. The review unit came with four SHARC DSPs, and you may also add an additional UAD Satellite processor to your setup for maximum plug-in power.

Apollo 16 comes equipped with the Analog Classics bundle, and many more plug-ins are available for demo and purchase through the UA Website after registering the unit. Once registered, I could place multiple instances of preamps and compressors across the console channels from the Realtime Analog Classics Plus Bundle plus the rest of the optional plug-ins generously provided by UA for the review. Having 16 channels of Neve 1073s, Helios 69s or APIs in a single-rackspace wherever I want to track is an absolute godsend. But it's not just about tracking; having the Apollo 16 onboard to add more processing on a mix allows for even more flexibility within the DAW.

STUDIO SESSION

I first used the Apollo 16 on a multitrack session for Nashville-based rock band Showbaby. My plan was to record all the drums, bass, guitars and vocals through Neve 1073s to give the band's sound a bit of vintage vibe. We planned to track live with minimal mics, so the Apollo's 16 channels were plenty. We decided on one monitor send to the band so they would all be hearing the same thing, so I set up a mix on the console, engaged the 1073s and

TRY THIS

Set up multiple mixes using the cue sends on the UA console and send to stereo returns via the DB-25 outputs. Dial in the mix to your headphone sends and hit "save as" under the console-recall section of the UA console to use for future session settings.



The Apollo 16's back panel includes word clock, MADI, analog, AES/EBU and FireWire 800 I/O.

started dialing in tones. We were all pleased by the amount of color the plug-ins provided, and the band was impressed by the clarity in the headphone mix. I saved the console setting for the initial tracking, thinking I would apply the same settings again for more tracking down the road.

The next test was to integrate multiple I/O sends when working off an analog console using the new Flex Routing feature. It is a new feature that allows for inputs to be routed to any hardware outputs, even headphone bus routing and aux sends, with optional mirrored monitoring. The UA console allows the user to monitor off of it as well and create mixes internally, without having to rely on the DAW's internal mixer. This in turn creates a high-quality mix to the musicians, with near zero latency.

Once the channels were set in place on the analog desk, I spent some time setting up the four independent mixes using the cues on the UA console. I also added a reverb return on one of the auxes in case the singer wanted to have some in his mix. The four mixes took a little bit of time to dial in to our liking, but once we were set, the musicians felt comfort-

able and ready to record. The reverb came in handy, as I applied an EMT 250 that lent lush-sounding warmth to the scratch vocal. Again, saving the settings for the console allowed me to save time when switching to the next song, where I could make minimal adjustments to get the mix sounding great in their headphones. Toggling between the cue sends also allowed me to set balances for each player very easily.

REMOTE RECORDING

I next used the Apollo 16 in a remote recording session while working with Chicago-based band The Future Laureates. I was able to set up quickly with my MacBook Air ported to the Apollo 16 via the Thunderbolt connection. For front end and connectivity I brought along my API Lunchbox with some preamps and DB-25-to-XLR snakes. In no time I was ready to record.

We had done basic tracks in a larger commercial studio, and did the overdubs at the band's home. The Apollo 16 allowed me to maintain a workflow

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I was happy with without sacrificing quality. For communication, I brought along a passive monitor controller for a headphone send and talkback to the musicians. Again, the band commented on how great the mix sounded in the phones, and the guitar player really loved using the Roland Space Echo on many of the guitar overdubs we did.

On occasion, I wanted to drag and drop a plug-in on the console in the same way that I apply them in Pro Tools, but there currently is no option for this on the UA console. I also noticed that when I tried stacking multiples of specific "un-sampled" plug-ins on the same channel, some latency would occur (the full list is on p. 38 of the UAD manual). My workaround was to apply the plug-ins later when mixing, where I used the Apollo 16 for extra processing on the back end. As I was using Pro Tools 11 on this particular session, the UAD 64-bit plug-ins behaved really well, and once I got to the mix stage, I was able to apply more processing than I needed. Using the UAD meter and control panel allowed me to always keep an eye on how the DSP inside the Apollo 16 was being affected.

APOLLO IS A GO

The converters in the Apollo 16 stood up well against the other I/O boxes I use on my projects, and my remote recording setup using the Apollo 16

PRODUCT SUMMARY

COMPANY: Universal Audio

PRODUCT: Apollo 16

WEBSITE: www.uaudio.com

PRICE: \$2,999 with Thunderbolt card

PROS: Pro-quality I/O. Real-time UAD-2 plug-in processing. Linkable for 32-channel operation.

CONS: No drag and drop of plug-ins on the console. Monitor sends will take a bit of configuring between console and DAW if using multiple outputs.

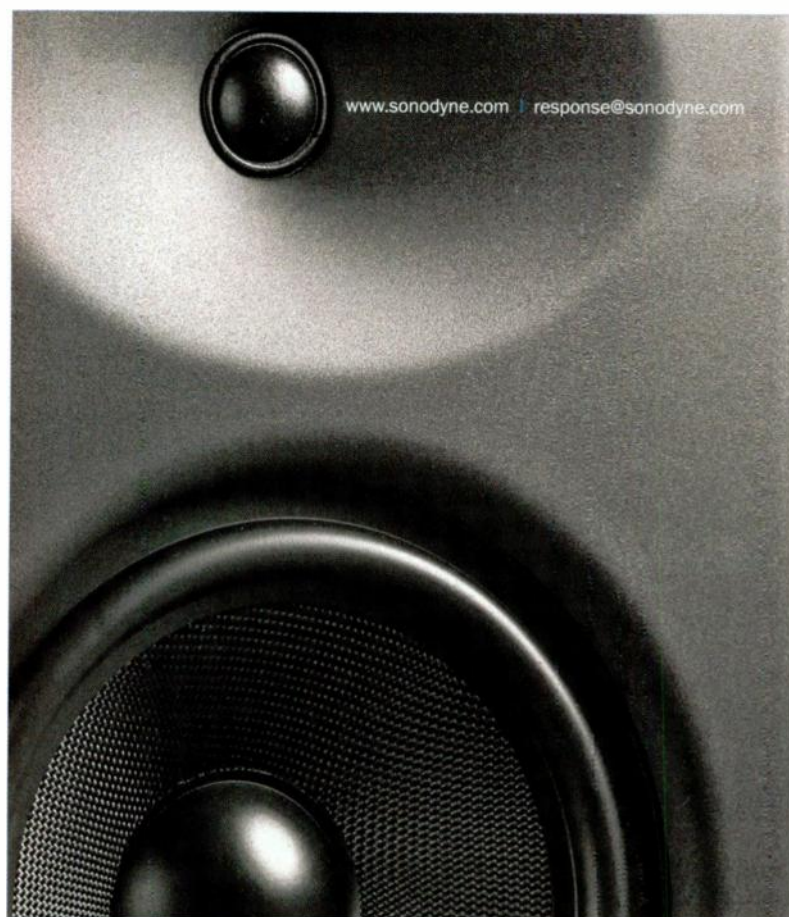
is now closer to my normal studio configuration. I own the UA 2192 2-channel clock and converters, and I can attest that the Apollo 16 converters are of the highest quality and transparent across the extended frequency range. Against my 2192 I only noticed a minor difference in the bottom end and high end above 12 kHz.

The Apollo 16 converters had a very similar sound to my 2192—clear, tight and punchy. The main difference I noticed was in the suboctave below 60 Hz and also on the top end above 12 kHz. The Apollo 16's sound was not quite as well defined as the 2192's converters. I also bounced a few

current projects at higher sample rates to reference, and the differences in these frequency ranges were a bit more apparent at 88.2, 96 and 192k.

That said, the differences I found were not a deal breaker by any means. If you want to set up your I/O at a new level, the Apollo 16 is worth considering. It provides high-quality sonics, flexible routing with analog hardware, and Universal Audio's versatile and great-sounding UAD plug-ins. The only thing I can imagine better than one Apollo 16 in my setup is two of them. ■

Chris Grainger is a producer/mixer/engineer and owner of Undertow Studio in Nashville.



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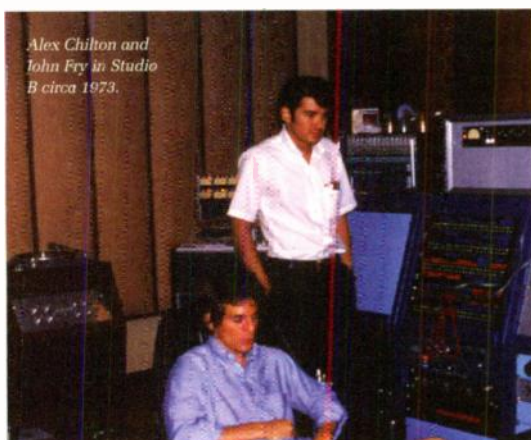


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Continued from p. 23

Photo: Andy Hummel



understand what a three-piece band was, and *Radio City* is very much a three-piece record," Stephens adds. "It's not full of overdubs and lush harmonies like *#1 Record*. Chris was definitely more into production, and Alex was maybe a little bit more into spirit—into the base feel of things."

"September Gurls" does have two Chilton guitar parts on it—the chiming main Fender rhythm part and overdubbed Vox Mando-guitar line. Stephens' whomping drums have a visceral Keith Moon feel to them, and Hummel's bass is solid with some nicely ornamental moments. Chilton's high, clear lead vocal has an almost wistful quality, and the harmonies a touch of Byrds-ish beauty. It's power-pop magic in under three minutes. As Fry says, "I sure did think at the time that if we were going to have a radio hit, that would be it. But it wasn't. That's part of the marksmanship of the music industry. All the difficulties Stax was having were becoming very evident, and whatever marketing and promotion efforts we had were in shreds by the time the record came out."

Distributor Columbia all but ignored *Radio City*, too, when it was released in February 1974, so once again Big Star was left wondering what had happened. "We'd done what we could as a band," says Stephens philosophically. "The rest was up to everybody else." By year's end, Big Star had disbanded.

Chris Bell was killed in a car wreck in 1978, the same year EMI released a double-record set of the first two Big Star albums, to great critical acclaim. Chilton and Stephens formed a new Big Star with two members of The Posies in 1993, and they built a good head of steam touring periodically until Chilton died of a heart attack in 2010. Four months later, original bassist Andy Hummel died of cancer. Stephens and John Fry are still working at Ardent and helping maintain Big Star's still-growing legacy. Cool band. Check 'em out if you haven't. ■


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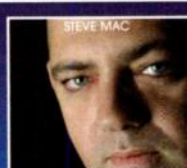


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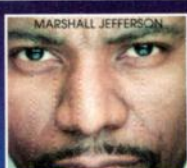
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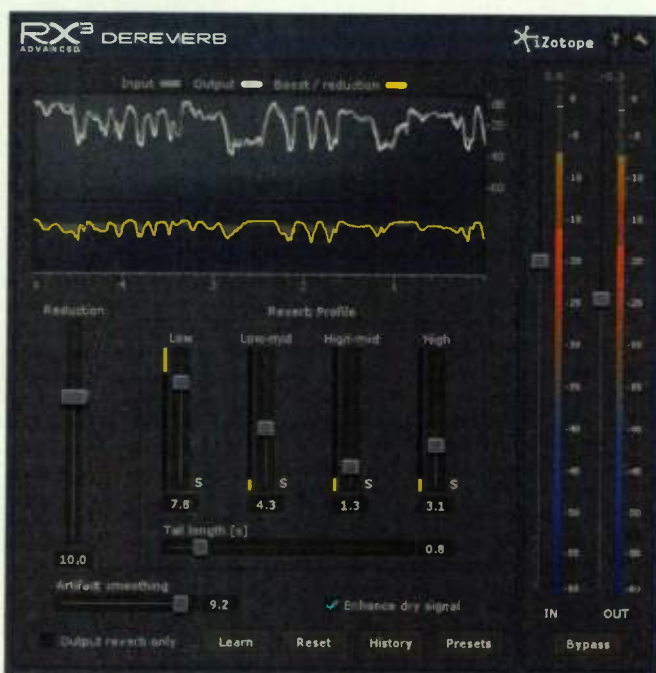


Fig. 1: The new Dereverb plug-in reduces reverb and room tone in four frequency bands.

I've been a huge fan of iZotope RX 2 Advanced since its introduction more than three years ago, consistently using the comprehensive suite of noise-reduction software on all my post-production sessions. Now a major update brings new modules, comprehensive metering, and augmented and optimized algorithms to the mix.

RX 3 Advanced includes a stand-alone application and a bundle of plug-ins in AU and VST formats, operable in 32- or 64-bit mode. I reviewed the AU plug-ins for RX 3 Advanced Version 3.02 in Digital Performer V. 8.06, and the stand-alone application, using an 8-core Mac Pro running OS X 10.8.5.

As in its preceding release, six of RX 3 Advanced's processing blocks—Declicker, Declipper, Decrackler, Denoiser, Hum Removal and Spectral Repair—are available both as discrete plug-ins and in the stand-alone application. Together, they attenuate or eliminate clicks, clipping distortion, crackling noises, broadband hiss, electrical hum and complex sounds such as

chair squeaks in program material. The stand-alone application includes other welcome holdovers from RX 2 Advanced: the Deconstruct module (which adjusts the relative balance of a sound's noisy and pitched components), phase rotation, cross-mixing of stereo channels, automatic azimuth realignment (useful for tape restoration), time-stretching, pitch-shifting, dither, sampling-rate conversion, parametric equalization, a spectrum analyzer, gain normalization and fades, third-party (AU and VST) plug-in hosting for Spectral Repair, and a time-stamped log.

WHAT'S NEW?

Dereverb and Dialogue Denoiser plug-ins, which are configured as modules in the stand-alone application, and iZotope's previously released Insight metering suite are now included in the bundle. When you click its Learn button during playback, Dereverb creates a reverb profile—an analysis of the wet/dry ratio in your signal across the frequency spectrum—and automatically attenuates the reverb (see Figure 1). You can subsequently edit the amount of reverb reduction independently in four frequency bands; attendant meters show the reduction amount in each band. Use the global Reduction slider to adjust the amount of reverb overall. The Tail Length control modifies the decay time for the processing. Checking the Enhance dry signal box boosts the level of direct signal.

Dialogue Denoiser has very few controls: threshold and reduction sliders and, in manual mode (which is more suited to treating music tracks), six nodes that can be dragged to independently edit the threshold in different frequency bands (see Figure 2). Dialogue Denoiser is not simply a stripped-down version of the control-laden Denoiser; the processor incorporates a completely new adaptive algorithm that automatically analyzes noise embedded in a track and sets hidden multiband thresholds.

All the plug-ins and modules sport new GUIs, and many of RX 3 Advanced's preexisting processing blocks have been updated with improved or totally new algorithms. For example, the overhauled Declipper offers independent declipping thresholds for repairing asymmetric waveforms

TRY THIS

If Dialogue Denoiser's Auto mode isn't reducing noise enough in a specific frequency band, switch to Manual mode. Use the Learn button to capture a noise profile. Adjust the reduction and global threshold sliders for the best tradeoff between signal-to-noise and fidelity. If noise still sounds relatively prominent in one area of the spectrum, drag a threshold node in the offending frequency band higher until the noise is attenuated to an acceptable level.

(that is, where clipping occurs only in the positive or negative phase of the waveform, but not in both phases). Declicker also includes a switchable peak limiter you can use to prevent digital overs after a waveform has been reconstructed. The revamped Declicker adds two new parameters to its control set: Frequency Skew pre-conditions the click detector to better recognize either low-frequency thumps or high-frequency clicks, while Click Widening adjusts the width of the region around each click that's processed.

The stand-alone application's Time & Pitch module can implement variable playback speed to correct pitch drift caused by wow on tape masters: In a display with pitch and time axes, you drag nodes around on a curve to raise the program's pitch (simultaneously speeding up playback) and lower it (slowing playback) over time. The Time & Pitch module also includes a new beats per minute calculator that makes time-stretching a snap: Simply enter the current tempo and the desired tempo in bpm, and click on the Process button. The Channel Operations module can now extract the center or side-panned content from a stereo file. Spectral Repair's spectrogram includes a new selection tool—Select Harmonics—that lets you limit which harmonics will be processed in the current selection.

RX 3 is also available in a standard version that costs less but offers

PRODUCT SUMMARY

COMPANY: iZotope
PRODUCT: RX 3 Advanced
WEBSITE: iZotope.com
PRICE: RX 3 Advanced: \$1,199; RX 3: \$349; upgrades available (\$TBC)
PROS: Unmatched power, versatility and ease of use in cleaning up audio. New processors and updated algorithms. Includes Insight metering suite.
CONS: Denoiser plug-in's GUI (advanced settings) is partially obscure. Plug-ins cause large CPU spikes in DP8.

a lot fewer features. Both versions of RX 3 have been optimized to use every core available in a multi-core computer, letting you work faster and get higher-quality results. Both editions can also save your work in the new RX Documents format, which archives your original audio data along with markers, all your edits, an unlimited undo history and your most recent selection and view states.

PRESCRIPTIONS FOR NOISE

I got terrific results using Dereverb to dry up a male voice-over track that had been miked from a distance in a reverberant room. I clicked the plug-in's Learn button, and the reverb and room tone all but vanished! The processed voice-over sounded slightly choked and phase-y at first. Lowering the tail length from 3.2 seconds to 0.8 second totally nipped the artifacts in the bud. Clicking the Enhance dry signal checkbox made the track sound a tad more present and articulate, at the expense of boosting the plug-in's output a bit. Even with the box unchecked, however, I felt like I was missing a little of the chesty timbre that had made the unprocessed voice-over sound warm and full, if a bit too resonant. The solution was to lower the reverb profile's low-frequency control just a tad, restoring a little bottom-end room tone. I own other plug-ins that attenuate reverb. But using Dereverb, I could achieve

eclipse



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- Wm David Atkins - Dir. of Design

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greater reduction of short-lived resonances (as in boomy room tone) without degrading the release portion of the track's natural envelope. I'm sold!

Treating voice-over tracks alternately with Dialogue Denoiser and Denoiser for comparison purposes, I got excellent results using each. Dialogue Denoiser got great results faster, while Denoiser was more effective at reducing noise in the upper-bass and lower-midrange bands. Dialogue Denoiser also tended to thin the voice-over's timbre in the upper-bass band just a little—not always a bad thing

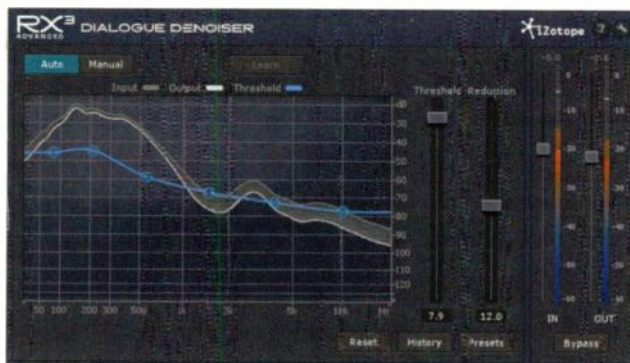


Fig. 2 Dialogue Denoiser uses an all-new adaptive algorithm, and sports controls set to rid VO tracks of noise posthaste

well when treating other types of clicks and pops. But for really problematic noises, the new Declicker definitely had the edge.

Using the Channel Operations module in the stand-alone RX 3 Advanced application, I could extract center-panned content from a stereo music mix. Unlike with mid-side processing, this preserved the stereo image of everything that was hard-panned—a plus for servicing karaoke singers. Adjusting the strength of the processing, I could remove almost all of the dry lead vocal, kick drum and bass without introducing phase-y artifacts.

The new GUIs are prettier to look at than the old. My only objection is with the Denoiser plug-in's interface for its advanced settings, in which the curves for noise profile, whitening thresholds and so on are hazily displayed behind and greatly obscured by overlaid controls. (The stand-alone application's Denoise module doesn't suffer this hindrance.) Because of this, I found it much harder to visually gauge the effect of my whitening adjustments with respect to the noise profile.

The plug-ins all caused brief CPU spikes in DP—roughly four-fold increases over baseline levels—when playback was initiated. I've seen this issue with plug-ins from a couple other manufacturers.

GOOD MEDICINE

Of all the great updates included with RX 3 Advanced, the standout is Dereverb; there's nothing else quite so effective and transparent for taming boomy room tone. Time-pressured audio-post engineers racing to accommodate ridiculous budgets will also greatly appreciate how quick and easy it is to use Dialogue Denoiser, with great results. Declicker and Declipper are more versatile and powerful than ever, and there are a lot of other beneficial refinements throughout the software suite. Simply put, anyone working in post-production, restoration or audio forensics should own RX 3 Advanced. ■

Mix contributing editor Michael Cooper is a recording, mix, mastering and post-production engineer and the owner of Michael Cooper Recording in Sisters, Oregon.

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COLES ELECTROACOUSTICS 4030L MICROPHONE

Great-Sounding, Affordable Ribbon Transducer



The Coles 4030L uses a ribbon of the same composition as the Coles 4038 microphone.

Since 1964, Coles has been manufacturing microphones and OEM speaker components for broadcast, studio and other uses. The 4038 is the company's most popular and recognizable product, sporting its frying pan-styled head and magnets strong enough to pull in passing cars. Kidding aside, the 4030L's ribbon is the same size and material as the 4038, but the mic employs different magnets that help tame the stray magnetism of the 4038. The 4030L is priced to bring Coles sound and quality to an affordable level. For this review, I had a pair of the 4030Ls and used them on a variety of applications.

SWEET DESIGN

The 4030L's sporty lollipop design and light weight are what I first noticed when taking it out of the box. It comes in a plastic case with a sturdy stand mount that makes the Coles easy to place. The mic is open at both ends sporting a figure-8 pattern, as you'd expect. One side of the mic has the blue Coles logo and the other a red badge. There was little documentation in the package or on the company's Website, so I started using the mic with the logo side pointing toward the source and quickly found it to be out of polarity. A quick Galaxy cricket check confirmed that I was wrong and the red side is the front of the mic. I found this to be counter-

TRY THIS

When recording with passive ribbon mics, it's always a good idea to match the mic and preamp to get the best results. Some preamp manufacturers make units with a ribbon mode that does a number of things. First, the ribbon mode provides more gain, which is always good when using a ribbon. Second, the phantom power is disabled so you can't accidentally damage the mic. And third, it ups the input impedance so the mic always stays in the optimal impedance area below the input impedance of the preamp.

PRODUCT SUMMARY

COMPANY: Coles Electroacoustics

PRODUCT: 4030L

WEBSITE: www.colectroacoustics.com

PRICE: \$1563

PROS: Thrive in high-SPL environments.

Great for recording close drums and loud guitar amps.

CONS: Doesn't fare well for acoustic guitar or as a room mic.

intuitive but whatever is right is right.

For the first application, I used a pair of 4030Ls over a great-sounding, four-piece maple Craviotto drum kit. The mics were placed a stick's length above the crash and ride cymbal and presented the kit well just by themselves. The top frequencies of the cymbals were rolled off, as you'd expect from a ribbon, offering smooth transients without edgy spikes from the stick hits. The midrange frequencies, including tom and snare hits, were round and worked with the close-up snare and tom mics. Adding 4 to 6 dB at 10k from an API 550A added the top needed to make the 4030Ls a great pair of drum overheads. Later, we used one of the pair for a quick tambourine overdub and it again sounded great. The ribbon worked very well for hand percussion, exhibiting all the smoothness you'd expect.

The pair didn't fare as well when used as room mics about 4 to 5 feet in front of another drum kit in a Blumlein pair. I tried this application on two occasions using a Moon 3500MP preamp, then a Millennia HV-35 500 Series preamp in Ribbon mode. With this setup, I had plenty of clean gain and was giving the mics the best shot possible. In both sessions the sound was papery, lacking punch. We ended up swapping them for Coles 4038s, which had much more finesse in this situation, offering better punch and bottom end. Over time, I found that the 4030Ls thrive, and offer better outcomes, when they're challenged in very high-SPL applications.

LOW LEVEL, LOW-GO

Next I tried the pair with the Moon pre-

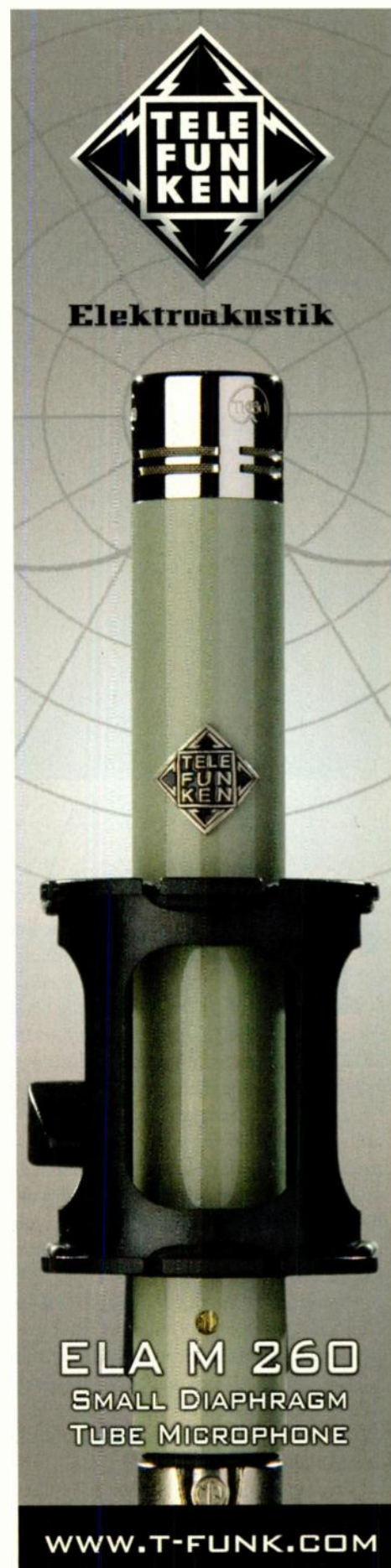
amp when recording an acoustic guitar. While the sound was good, the player's soft finger-style playing was hampering the mic's ability to produce enough level to push the mics to be at their best. The Moon, which has a ton of clean gain, was cranked and the meters on the tracks in Pro Tools still had plenty of headroom. This confirmed my feeling that these mics aren't the best choice for low-level sources like acoustic guitar.

However, in front of a screaming guitar amp, the 4030Ls were in their element. I used a 4030L in front of a 4x12-inch Marshall cabinet powered by a JCM800 head. On two sessions I used the mic as a companion to a Royer 121 and then a Sennheiser 421, with great results on both occasions. The 121 and 4030L were respectively powered by Millennia HV-35 and Grace m501 preamps, both in Ribbon mode. The Royer offered more edge in the upper mids while the 4030L had an attractive midrange growl and nice low end. Together they were stellar. I had the same experience when using a 421 as a companion.

Without saying much about my own feelings, I lent the mics to Nashville engineer Mark Hagen and producer/guitarist Brandon Hood for a guitar overdub and they both confirmed my experience. They used the 4030L with a dynamic mic, and they paired up nicely. By the way, this is where this pair has it over the 4038s, which can hang 5 feet back from a drum kit but will melt if placed directly in front of a guitar cabinet as I tried here.

When used in the right applications, the Coles 4030L dynamic ribbon transducers sound great. They thrive in high-SPL environments, offering solid sonics, round transients, growly midrange and nice low-midrange. At this price, these mics would be a great pick for recording hand percussion, loud guitars or placed as drum overheads. You'll need a quiet preamp with plenty of gain if you want to pull these back from a loud source or use them in a lower-level instrument recording application. The 4030Ls are a good and affordable choice for anyone wishing to have a Coles transducer in their arsenal of mics. ■

Kevin Becka is Mix's technical editor.



at the end user's DAC; this indicator should remain green at all times. If I had occasional reds, I would have to decrease the overall stereo bus level of my mix in Pro Tools. I found with lower bit rates below 128 kbps, there could be many bit-stream overs and peak levels should be reduced. Bit stream overs also occurred on overly bright or filtered mixes at any bit rate.

The NMR, or Noise-To-Mask Ratio, meter shows the frequency areas—LF, MF and HF—where differences between the codec output and the original audio might be audible. It is an estimate because not all NMR “hits” are hearable. Data compression is always a tradeoff between better audio fidelity/bigger file-size versus audible encoding artifacts/smaller file size.

In a general sense, when encoding MP3s and trying lower bit rates—say below 192 kbps—you may get more NMR hits. But I also found this is dependent upon the program material, the spectral tilt of the mix and your own expectations of the resultant data-compressed audio quality as reproduced on the playback device. Hearable artifacts when playing music on an iPhone or gaming console are much less noticeable than on studio monitors!

When the NMR is green, codec-induced noise should be inaudible—all lossy codecs have a very slightly different output from their input—but the nature of perceptual coding says these differences are masked. I found that the iTunes+ codec, which is locked at 256 kbps and VBR, is more consistent and more reliable-sounding for a wider range of music genres than a MP3 encoded at 256 kbps and CBR—yet file size is nearly identical.

Some codecs specify a particular sample rate for certain bit rates they support; the plug-in's Status Panel will show if it is working normally or has to up/down sample to accommodate the codec chosen. For example, the Apple codec will re-sample to 44.1 kHz when auditioning and encoding in AAC-LC at 256 kbps. Status will also show when real-time auditioning is not possible with certain codecs offered, such as HD AAC, a lossless audio codec with an optional lossy core.

Once I had adjusted the input level to the plug-in and was okay with NMR, I'd record my new (level adjusted) mix to a new stereo track and then export as a 24-bit interleaved file to a folder. If you bounce to disk, make sure to bypass Toolbox. Only interleaved files can be encoded—iTunes+ or any codec that doesn't support mono or surround will simply not show up in the list. If I wanted to encode immediately, I'd click on the plug-in's Launch Manager button and Codec Toolbox Manager would launch.

CODEC TOOLBOX MANAGER

The Codec Manager is a stand-alone application that has a large and dark GUI with folder Browser, File List, Encode-Decode, Audition and Metadata editor sections. I did not like the color and design of the GUI or the inability to hide or resize any of these sections.

My process would start by navigating a typical folder/file structure to locate 16-bit mix file(s) for encoding. Once selected, the file name shows up in the Input window. When batch processing, this same window shows how many files are in the batch.

The centrally located Encode-Decode section shows the sample rate, channel number, duration, bit depth, file size of the input file and the size of the encoded/decoded output file. I liked this quick peek for checking different codecs/bit rates if I were interested in small file size more than anything else. When encoding (or decoding), the path to the folder for saving new files is shown and you can save back to the original input folder. I liked using this feature to keep all associated audio files collected together in the song's Pro Tools session folder for archiving.

Turning on Clip Safe is a great time saver for automatic level reduction of audio files that have not passed through the Toolbox plug-in and been level adjusted. Clip Safe decodes to find “end user level” and makes the gain change automatically.

Manager also has a scan feature for locating viable audio files throughout your system. Files supported for encode/decode are M4A AAC (AAC-LC, HE-AAC and MPEG Surround), MP3, WAVE (Uncompressed) and AIFF (Uncompressed). If you select a supported compressed file, Manager

automatically becomes a decoder with a choice of outputting either WAV or AIFF files. A single song or looping multiple songs in a list sequence can be played directly in the Mac's Core Audio.

METADATA EDITOR

When encoding, the Metadata editor allows adding or modifying supported metadata entries in both ID3v2 (all versions) and iTunes m4a—except for Apple Lossless Codec (ALAC). The list of metadata tags changes predicated on the metadata specs of the particular codec format you've selected.

Many MP3 (ID3v2) tags are supported (see the manual for a complete

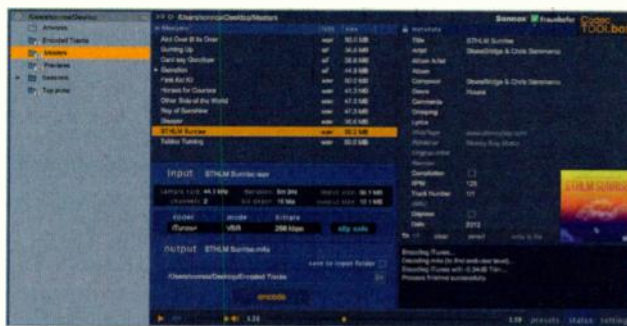
list). Tags not supported in iTunes are Web page, publisher, original artist, remixer and ISRC or International Standard Recording Code. You can write new data, edit existing entries and also lock out future changes to metadata.

AWESOME TOOLBOX!

I've been using the Sonnox Fraunhofer Pro-Codec Version 2 plug-in in Pro Tools, but without the stand-alone Manager application, it requires launching Pro Tools every time I want a quick MP3 or iTunes+ encode. With Manager in my Dock, I'm finding it much easier to experiment with different codecs and bit rates, or just crank out batches of MP3 copies as a background process.

I also had a lot fun adding information and cover art to MP3 copies of “in progress” music mixes! The artist and producer have iPod players, and most of this information shows up on their screens. I added in-studio session images, pithy commentary and wacky made-up genre names. You can type in anything you want here, write it to file and save it as an editable preset.

The Sonnox Fraunhofer Codec Toolbox is a godsend; an affordable utility for anyone preparing audio for online distribution, game audio production, or sending out MP3s or iTunes+ encoded files of stereo or surround mixes with the total confidence that they'll sound as you intended, the best as possible! ■



The Codec Toolbox Manager is a standalone encoder/decoder application for adding or editing (existing) meta data using either ID3V2 or iTunes m4a schemas. Manager will batch process an unlimited number of song files, and decode compressed audio files back to the original 16-bit master files when supported. Besides selecting the desired codec, mode, and bitrate, Manager has a complete search and finder structure plus Clip Safe for preventing distortion of song files not previously auditioned in the Codec Toolbox plug-in.

Continued from p. 35

ability to popping when subjected to plosives (wind turbulence from a singer's mouth). The bi-directional polar pattern is the worst in this regard. Similarly, the lower the mass of a mic's diaphragm, the more likely it is to pop when subjected to plosives. SDC's are the most vulnerable, generally making them a poor choice for recording vocals unless from a considerable distance. That said, you can sometimes get incredible results recording a singer with an omni SDC by pointing the capsule at the ceiling and having the vocalist sing over the top of the head grille.

KEEPING NOISE AT BAY

A mic's sensitivity and noise specifications are important to consider together when choosing a mic to record a quiet source. A low inherent- or self-noise spec is not enough to guarantee the track will have a low noise floor. If the mic's sensitivity (output voltage for a given SPL) is very low, you'll need to apply a lot of preamp gain to its output signal in order to attain a healthy recording level—inordinately boosting the mic and preamp's self-noise in the process. The best mics for recording quiet sources exhibit both low noise and high sensitivity—hallmarks of high-end LDCs.

Self-noise specs for LDCs range from a mouse-quiet 1.5 dBA (for the Marek Design RS1 tube condenser) to a relatively noisy 25 dBA or higher. SDCs and active ribbon mics generally exhibit self-noise in the middle of this range. Passive ribbon and moving-coil dynamic mics contain no active circuitry, so they produce negligible noise. However, their sensitivity is so low that a very high amount of noise-inducing preamp gain must sometimes be applied in order to achieve an acceptable recording level.

LDCs range in sensitivity from about 10 mV/Pa to an earth-shattering 653 mV/Pa (for the RS1), with the vast majority of models producing less than 40 mV/Pa. (1 Pa, or pascal, equals 94 dB SPL.) SDCs offer roughly 6 to 25 mV/Pa sensitivity—generally a little less than LDCs as a group. Active ribbon mics produce around 10 to 20 mV/Pa, about the same as the average SDC. Passive ribbon mics produce very weak output: typically between 1 and 4 mV/Pa. The Shure SM57's sensitivity, at 2 mV/Pa, is fairly representative of that for moving-coil dynamic mics.

High sensitivity is a good thing when recording quiet sources, but it can be a drawback when tracking drums, guitar amps and brass instruments. Unless it's fitted with a mic pad, a high-sensitivity mic can easily overload your DAW's input when placed on a loud source. Moving-coil dynamic and modern (durable) ribbon mics are great choices for recording these sources. Moving-coil dynamics are the sturdiest of all professional mics. They can often survive a stick hit, making them a good selection for placement on traps

when recording undisciplined drummers.

CHOOSE WISELY

Smart mic selection begins with deciding what you want to capture in your recording: more or less detail, a bigger or leaner bottom end, and brighter or softer highs. Your choice may be modified by imperatives such as avoiding mic bleed, noise and clipping. Each situation suggests using a particular type of mic. Suggests, but doesn't require. Break the rules, but know why you're breaking them. ■

Mix contributing editor Michael Cooper is a recording, mix, mastering and post-production engineer and the owner of Michael Cooper Recording (www.myspace.com/michaelcooperrecording) in Sisters, Ore.



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Continued from p. 48



SAM PHILLIPS RECORDING, MEMPHIS

Indie rock-pop band The Local Saints recorded its forthcoming album, with executive producer Halley Phillips and engineer Adam Hill, and Richard Roseborough serving as second engineer. The album was cut to a 2-inch 24-track Studer using numerous vintage Neumann U 87 mics, one Telefunken U47 and two Neumann U48 mics. Lead vocal overdub was recorded on the floor in front of an Altec A7 Voice of the Theater speaker for monitor with one side out of phase, drums were recorded in the booth and on the floor, and some guitar overdubs were recorded inside the control room.



The RZA of Wu-Tang Clan and engineer Lawrence "Boo" Mitchell

ROYAL STUDIOS, MEMPHIS

Rapper/songwriter Drake shot his video "Worst Behavior" at Royal Studios (directed by Drake and Director X)...Boz Scaggs worked on his album *Memphis* with producer Steve Jordan and engineers Niko Bolas and Lawrence "Boo" Mitchell...Chicago blues man Ronnie Baker Brooks worked on new tracks with producer Jordan and engineers Bolas and Mitchell...Wu-Tang Clan recorded tracks for their latest album with RZA, with RZA producing and Mitchell engineering...Paul Rodgers worked on *The Royal Sessions*, with producer Perry Margouleff, engineer Bill Whitman and assistant engineers Daniel Bean and Wes Hovaneck...Sir Elton John, along with Motown Tambourine guru Jack Ashford, did overdubs, with producer T Bone Burnett and engineer Matt Andrews, assisted by Mitchell...Robert Plant and the North Mississippi All-stars recorded and mixed two songs for the album *World Boogie Is Coming*, with The Dickinson Brothers producing and Mitchell engineering.



Photo: Greg Pine

Craig Campbell session

CASTLE RECORDING

The studio recently installed 25 1080p Samsung Digital Video Cameras inside and outside the building, which will be used to produce high-end music videos, document sessions (behind the scenes) and record live event webcasts in real time...Country singer Craig Campbell worked on new material, with Matt Rovey producing and engineering, and Lance Van Dyke assisting...Country-rock singer-songwriter Brantley Gilbert was in the studio with Dan Huff producing, Steve Marcantonio engineering and Jordan Reed assisting...Country singer Scotty McCreery was in the studio with Frank Rogers producing, Richard Barrows engineering and Van Dyke assisting...Country band The Railers were in the studio with Justin Niebank producing and engineering, Drew Bollman engineering and Van Dyke assisting...Country singer Wade Bowen worked on new material with Niebank producing and engineering, Bollman engineering and Van Dyke assisting.

Continued from p. 13

panelists are paid, Twitter is turned off, people are free to mingle and network and say what they feel. Face to face. In small groups.

While those expansions were conscious, Mara backed in to perhaps his most unexpected enterprise, Mara Machines, after he started receiving calls with people asking where he got his tape machine, how could they get one. After four or five inquiries, he started thinking that he could sell these. He bought one, restored it, sold it, bought another, restored it, sold it. Six the first year. Thirty last year. Eighteen by April of this year. All MCI machines, from 1979-1987. Pete Townshend has two 1-inch, 8-tracks; there are now about 100 around the world. Vintage King is his exclusive retailer. For Mara? "That money can buy headphones and mics."

Mara and his crew do the troubleshooting and most hands-on repair, hiring out to Steve Sadler for component-level work and final fixes. Mara is driven by the theory of how things work, inherited from his father, an electrician and it's served him well. When he discovered that half his mixes sounded great on vinyl and the others "sounded like shit," he started to wonder why, so he called up A-level mastering engineer Hank Williams, at the time an acquaintance and now a friend, and asked why.

Further inquiries, coupled with a suggestion by mastering engineer Eric Conn that he should get a lathe, soon led Mara into record cutting. "At this point I'm buying a lot of gear on a regular basis, and buying a lathe was the most difficult thing I've done," Mara says. "They're rare. And the people who deal in them also cut lacquers, so instantly you're getting the leftovers. Hank was so kind that he let me reply to some of

these guys with him cc'd on the emails, and you would not believe how nice people get when there's an expert in the email!

Mara found a lathe, Chris Muth restored it, then Williams came over and spent three weeks with Mara and Cameron Henry, who had been hired but had never cut a record old-school. "Hank didn't care," Mara recalls. "I didn't even know how to turn the lathe on. Swear to God. But Hank came over and it was like Karate Kid. We spent two days talking about records, looking at records, before we ever even turned the lathe on. Cameron and I both know the theory of operation, how it works, how it's supposed to react. And now Cameron is one of the finest cutters in the country.

"I've been taught by the smartest people on the planet," Mara says. "Randy Blevins taught me a ton. John French. Mike Spitz, Tom Beaupre, Steve Sadler, Ben Surratt. All these guys taught me so much about the theory of operation of a tape machine. Others taught me about the lathe. If you know exactly how it works, then you can figure out why it's not working."

Now entering its seventh year, Welcome to 1979 is much more than just a studio. It's become the nexus of a small but mighty community of tape lovers, recording experts and bands that want to rock out. A couple of years ago, with small children and a good, though uncertain job, Mara's wife, Yoli, joined her husband and now handles the business side. Thinking that they were downsizing, they soon found that business had never been so good.

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Superstar Quartet at SFJAZZ Center, continued from p. 28

course, it is important to produce a quality sound and balanced mix, but mixing at the right volume is [just] as crucial, and I think that Steve was right on it and did a great job maintaining the comfortable level, still powerful enough to feel the energy from the stage. We don't want the audience to listen to the P.A. We want the audience to listen to the music as all the sound coming from the stage. Keep it organic!"

Guest adds, "There are many times during the show when there are hardly any microphones open other than the vibe mics, because it's predominantly acoustic. I only fill in some holes. Dave is usually in the P.A. The vibes are always in the P.A. The drums and the Leslie mics come up and down, depending on how dynamic the song is."

"The [overall] sound was mixed around a pair of [Neumann] KM184s on vibraphone that was set up as X/Y configuration above the instrument," Yura explains. "Steve dialed in to keep the balance and dynamics maintained, and still produced articulate sound." Guest says that the X/Y configuration is "more coherent because the arrival time for everything is in one spot. My approach was to get the vibes sounding as good as I could get them to sound by themselves and then fill in the rest of the band."

Guest notes that Sanborn plays into a Shure SM98 miniature electret condenser microphone housed in a custom-built mount that was originally designed for the trumpet, and that Sanborn has recently adopted in-ear monitors and mixes them on a PreSonus StudioLive digital mixer by his side onstage.

Guest mixed the show on SFJAZZ Center's Avid Venue Profile console, while SFJAZZ stage technician Martin Carmona handled monitor duties on the Center's SC48. "I don't want to carry a whole lot of gear, so I try to use stock plug-ins," Guest says. "If I'm presented with a particular audio problem, I can usually solve it with what's in there. If I need a bigger voodoo than that, I've got other problems." —Matt Gallagher

The Sounds, continued from p. 28

iPad app [LS9 StageMix] makes it very handy and the weight and size make it easy to fly with. The only outboard I carry is a [TC Electronic D-Two] delay, as it's nice to have the controls accessible and it's very fast at changing feedback and delay times. We also carry our own mic package. Over the years I think I've refined the mics to be exactly what we need. I use Audix OM7s on the vocals—not only for their sound, which I really like, but also because they minimize bleed for the in-ears. Our singer [Ivarsson] likes to throw hers on the ground a lot, and it always works afterwards. Something like a 58 would only last for a few songs."

Balancing and translating The Sounds' tightly arranged vocal parts amid guitars and keyboards is a high priority. "The OM7s help a lot as they are kind of bright already," O'Shaughnessy says. "This, along with a decent compressor and a little EQ, seems to do it for me every night. I also have a stereo chorus; if used correctly, it widens out the main vocal. The backing vocals are on a 58 at stage right, and all the others are OM7s. They get the same treatment. I also use a flanger on the keyboard vocal for one effect. I have four guitar amps onstage and they all have 57s on them. I use foam 'baffles' between each amp to cut down on bleed and help distinguish each amp's sound. The bass gets a DI12."

Monitor engineer Mike Savage, who operates the LS9, is new to The Sounds, joining for the North American dates. He notes that the band uses a mix of IEMs and wedges. "The members who use both IEM and wedges like the live feel of wedges but also want the clarity IEMs can provide. Fredrik [drums] and Johan [bass] are solely on IEMs. I'm also using sidefills to fill in the stage."

"The entire mix is very busy all night," O'Shaughnessy concludes. "The Sounds' songs are all so different-sounding that I have been considering using scenes, but I haven't started doing it just yet, so in the meantime it's the old-fashioned way: my hands and ears." —Matt Gallagher

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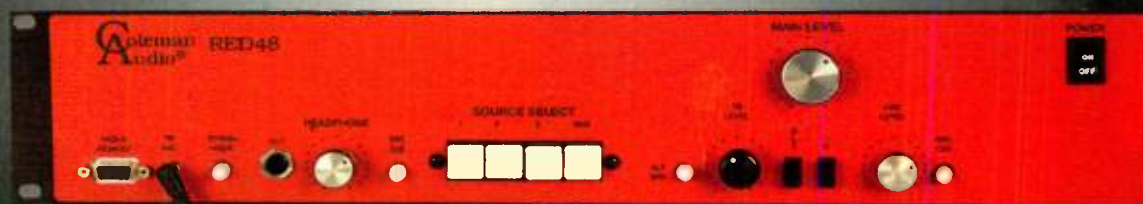
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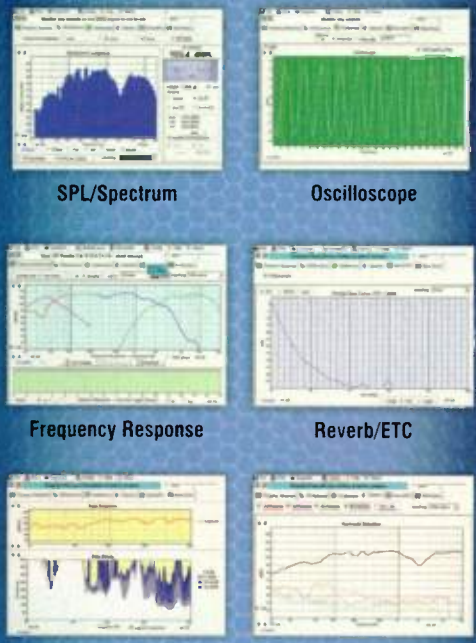
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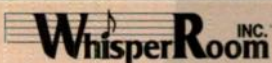
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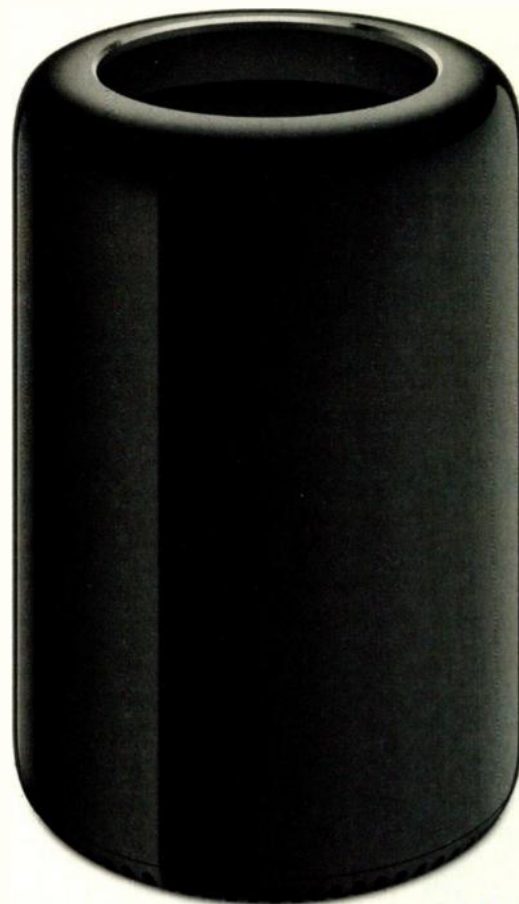
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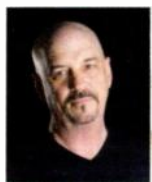
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It's About Time



By Kevin Becka

We all deal with timing every day. From hitting the stoplights on the way to work to setting a song tempo, making business decisions and even our choices when recording—things always seem to come out better if we get the timing right. I got a memorable lesson on tempo when I first started engineering. I was assisting engineer Brad Gilderman on the Babyface record *The Cool In You*. Producer/artists Antonio M. “L.A.” Reid and Kenneth “Babyface” Edmonds were personable, showed up on time, had great talent and attitude, and were a joy to work with. We were doing overdubs, including layered background vocals that we’d assemble on the out chorus then fly to the other choruses from one 24-track to another using SMPTE offsets in a synchronizer (remember that?).

On one session, L.A. and Kenny listened back to what I thought sounded like a finished master of the song “Rock Bottom.” It sounded fantastic, and you could tell they’d put a lot of work into it. At the end of playback they looked at each other and said, “Nope, it’s too fast. We’ve got to go back and recut it.” This blew me away because it was awesome—but not to their ears. I rethought everything I believed about production after that. Just because something sounds done doesn’t mean it is. And when a song’s tempo is not right, it’s a good reason to try it again.

I just got back from a mind-blowing trip to Denmark where I visited DPA Microphones’ factory and HQ, and the Danish Radio production facility. At this time in their development, DPA, who more than 20 years ago positioned its line around medium- and large-capsule microphones, is now getting 80 percent of its revenue from miniature mics. These are tiny transducers, which can be body worn or found in their newer microphones like the 2000 Series capsules.

Why is the timing right for DPA to bank on this miniature transducer? Like the rest of the audio business, growth is in live performance. People buy music from bands they see live or on video, not the opposite. DPA’s miniature headsets and lavaliers are big in theater and live performance (e.g., Andrew Lloyd Weber’s productions use only DPA microphones, as does Meyer Sound’s Constellation system.) Unlike DPA’s 90mm capsules, the minis carry a replaceability component. There’s no planned obsolescence here—they are robust in design and are tested many times before the user opens the box. But in theater and live events, users are wearing them out, then replenishing stock. Wrigley built an empire on the same principle, and it works here, too.

On a corollary visit to Danish Radio, I had the opportunity to tour the facility, including their fabulous concert hall and associated control room. Everything was top of the line, with an SSL C200 console, B&W monitors, plenty of outboard gear and much more. Here we heard engineer Mikkel Nymand’s mixes recorded to Merging Technologies Pyramix through DAD converters and preamps. Before he hits the record button, a big part of Mikkel’s setup is to time align his microphones to the main stereo pair. The sessions we heard had more than 30 tracks represented by local, overhead and room stereo pairs, and Decca Tree placements.

To make the time adjustments so each part of the orchestra is aligned to the listener, he either records a clicker (the kind you use to train your dog) to all mics, from the position of each spot mic, or uses a Bosch laser range finder to measure the distance of each mic in relation to the main pair. He excludes the room mics because their timing is critical to getting the performance to sound like it’s inside the hall. Once Mikkel gets the range of each spot mic, he plugs he delay times into his digital signal chain so everything is spot-on to the main pair. The results are stunning. We heard two pieces he recorded, one at the DR space and another of the New York Philharmonic recorded at Avery Fisher Hall, both in surround. It’s all live except a bit of artificial ambience provided by TC S6000 and Lexicon reverbs. The overall picture is beautiful.

Another critical part of Mikkel’s setup are his converters. He uses the DAD AX-24 preamp/converters, which are capable of recording all common sample rates on up to Digital eXtreme Definition (352.8 kHz/24-bits). Although he records at 48 kHz for broadcast, he has done many recordings at 352.8 kHz and was able to play it back for us on a great-sounding system. DAD’s converters can down-convert on the fly so we were able to hear a 5.1 recording from DXD down to MP3 with a few stops along the way. The quality difference, especially down from DXD to 44.1, is beyond tangible. The detail of the room cues is what makes it—the space sounds more real at the higher sampling rates. And MP3? Fuhgeddaboutit. Mikkel also commented on the precision of edits, which of course is contingent on timing. Pyramix’s mix engine maintains a very precise time-domain image of the audio signals and particularly of its transients, while the Hepta SRC (Sampling Rate Converter) assures excellent down sampling.

So even though the phrase “timing is everything” has been worn out by familiarity, it still stands up in audio. Whether you’re talking about song tempo, conversion rates, product releases or mic setup, it’s about time. ■

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