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AES 2014 Report

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Pictures behind the piano with student performers, and from L to R: Berklee President Roger Broome with designers Beth Walters and John Stuyk.



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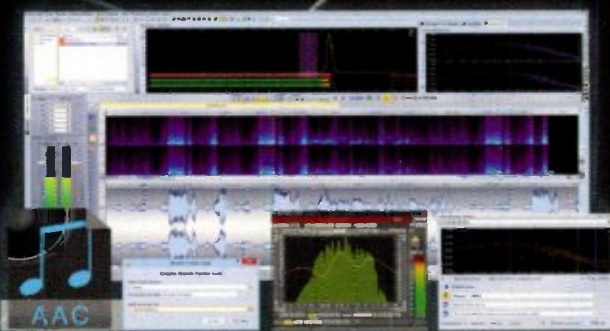
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World Radio History

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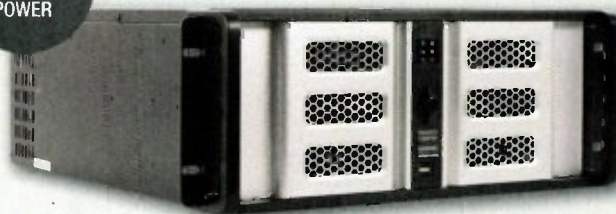
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Photo: Steve Jennings

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On the Cover: Studio 1 at the new Berklee College of Music facilities, with students performing and, around the piano, L to R, Berklee President Roger Brown, and studio designers Beth Walters and John Storyk of the Walters-Storyk Design Group. Photo: © Cheryl Fleming/James Lane, www.cherylfleming.net.

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~ Kevin Becka,
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"The PowerPre is a must hear. I used it for recording vocals, guitar amps and drums with great results. It is particularly good in high transient, high SPL situations where you can drive it hard for more transformer color. I bought one."



~ Paul Vnuk Jr.,
Recording magazine

"I would call the PowerPre full, solid and clean with a classic vintage sound. If you think of the sound of deep rich vintage radio announcers, you will be in the ballpark. This is a stellar and unique sounding preamp"



~ Andy Hong,
TapeOp magazine

"The PowerPre celebrates its own individuality by offering a carefully conceived set of controls that let you extract an expansive range of character. In practice, I found it to be very quiet at all settings. It should be on your short list."



~ George Shilling,
Resolution magazine

"Vox Control is used for tonal shaping: when linear, the PowerPre has plenty of detail and nothing harsh or unpleasant. Breath adds air and clarity, punch boosts the low end. Very usable and quick to audition."



~ Craig Anderton,
Electronic Musician

"The PowerPre is a fine example of a well designed, low-noise mic preamp that can give a bit of 'meat' or 'air' to a signal thanks to the transformer output and Vox voicing EQ. It may well be your preamp of choice."

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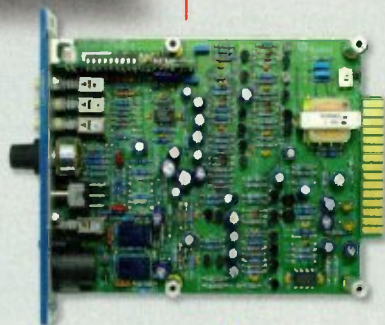
After a year, I'm still impressed... and occasionally startled.

~ Andy Hong, TapeOp

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BY DAVID SCHWARTZ, PENNY RIKER AND BILL LASKI

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THE BEST DOG & PONY SHOW IN TOWN

Dog & Pony Studios out of Las Vegas, NV recently upgraded their sound system to feature Yamaha's NUAGE Advanced Production System. As the premier recording studio in the entertainment capital of the world, Dog & Pony's resume features everything from MGM Resorts MLife TV to the recently released Elliott Smith documentary, "Heaven Adores You." With all that goes on in this studio, it's obvious that what happens here definitely doesn't stay here. We sat down with studio Owner/Producer John McClain to get his thoughts on the new system.

"My favorite thing about Nuendo is how you can find multiple ways to solve the same problem. The competition hands you their DAW and says "Work within these predefined parameters." In contrast, Steinberg hands you Nuendo and says, "Work how you want and define the parameters for yourself."

"With Nuage, Yamaha has taken the next logical step to this approach and built a stellar control surface that adds to the ergonomics of Nuendo. Now everything is at your fingertips and you spend less time with a mouse and keyboard. I'm spending time mixing like I would on an analog console but with all the modern conveniences of a top flight DAW and control surface that interact seamlessly. Audio is more fun than ever!"

— John McClain

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From the Editor

FINDING TIME TO THINK

I spent a lot of time on America's highways last month. I like being on the road, always have. I find it near meditative at times. With cruise control engaged, NPR on the radio and wide open spaces on all sides, I find my body clock slowing down and my brain opening up. The miles fly by. Away from all the phone calls, emails, meetings, updates, and general audio and video bombardment that has taken over most of our lives, with a half-tank of gas and a good pair of sunglasses, I finally find some time to just think.

It's somewhat ironic this time around, as I haven't owned a car for about four years. I live in the Bay Area and don't really need one; I just cab it or rent when needed. But my oldest daughter is in Africa for a six-month stint finishing her midwifery degree, not knowing where she'll land when she returns. She had left her car with my sister Annie in Bloomington, Ind., so I volunteered to go pick it up. I needed some time off before AES anyway. A 2,408-mile road trip, solo, sounded like a good time.

I saw family in Bloomington, my folks and more family and friends in Indianapolis, then hit I-70 West for a date with my other daughter in Boulder, Colo., where she's in grad school for museum studies. Beautiful place. Then it was a short hop up I-25, picking up 80 West in Wyoming, and home to the Bay Area.

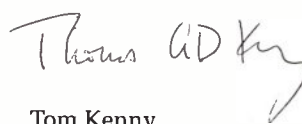
Roughly 36 hours later it was back in the car, this time a chase car. Nashville engineer Chuck Ainlay, L.A. mastering engineer Gavin Lurssen, and my Berkeley neighbor mastering engineer Michael Romanowski—the self-dubbed Wingnuts—were planning a motorcycle ride down the coast of California as their entry into the Los Angeles AES show. I don't ride, so I volunteered to carry the bags. We took it slow and soaked it all in. Lunch in Santa Cruz with Bill Putnam Jr. and his team at Universal Audio, including a tour of their new digs, complete with studio. An afternoon snack at Nepenthe. Big Sur, San Simeon and an overnight in Los Olivos, north of Santa Barbara, at the home of dear friend Chris Pelonis. Next day we cruised into downtown L.A. and reality returned. It was a brief, but magical trip. Four guys taking some time off, enjoy-

ing life, making memories.

I mention all this because over those two weeks and 3,500 miles, I thought a lot about education. I've mentioned before that I'm the son of a professor and have a brother who teaches at LSU. I have a master's in journalism, and both my daughters are pursuing advanced degrees. I believe in the structure and standards of a formal education. But over time, I've also learned the value of just sitting back and observing people or landscapes or city life. I've learned to listen more. I've learned to break away for moments of self-assessment. I've learned the value of cutting the cord occasionally and letting my brain recharge.

I learned something about music as I passed through Colby, Kansas, on a Friday morning, tuned to High Plains Public Radio while a local host presented a three-hour program called "Songs About Furniture." Think about it for a minute. Americana, blues, jazz, rock...it was brilliant. I learned something about audio, believe it or not, just by watching Chuck negotiate last-minute changes to a DVD release as he called back to Nashville while taking off his helmet and pulling out his earplugs along Highway 1. And while at AES I learned even more about the importance of connections, not just with my fellow Wingnuts but in conversations with people like Dan Zimbelman, Ronald Prent and Darcy Proper, Pat McMakin, Frank Filipetti, Peter Chaikin, Leslie Ann Jones, Peter Doell, Art Kelm, Candace Stewart, Peter Janis, Mike and Eben Grace and so many others.

While I have been well-educated in audio these past 25 years at the School of Mix, I've also come to value the importance of both connecting with people and finding my down time. I don't want to ever stop learning.



Tom Kenny

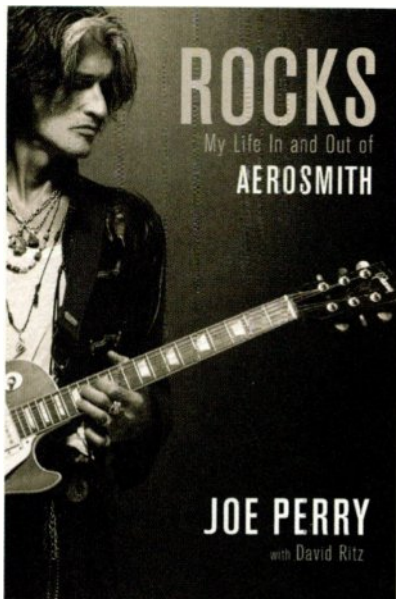


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Joe Perry, In His Own Words

The legendary guitarist, no stranger to the recording studio, released *Rocks: My Life In and Out of Aerosmith* in early October. Here he sits down with *Mix* contributor and producer of the SoundWorks Collection Michael Coleman.

Coleman: Congratulations on your book coming out.

Joe Perry: Yeah, I was talking with my wife last night and we were actually at the point that if we had known what a monster it was gonna be getting it done, we would have maybe put it off for a bit. It probably took us six or eight months longer than we expected because it started when we were doing the last album and we had moved out here to L.A. to work on the record.

Coleman: Did you feel like you were trying to fit everything into this one book?

Perry: I think anybody can take a year out of their lives and write a book about it. Everybody's got a different path and life happens, and at different places I had to make decisions about, "Do I want to get into this, is this important to the overall story?" And then at the end, we were going through it and editing it, and just looking at it in pieces

the way we would an album. It's just been in the last month and a half that I've been able to read it like a book.

Coleman: There's something really great about carrying around a physical book and someone's story.

Perry: Well, one of the things that most people bemoan about albums—I mean I certainly do—is having the physical vinyl album and all the information you get from the sleeve to the actual putting the physical thing on the turntable, and there's something much more personal. It felt like you are closer to the artist, you know what I mean?

Even now, one of my pleasures when I have the time is to go down to my office where I have a turntable and turn on my favorite albums on the vinyl and listen to the stuff on 30-year-old JBLs, you know, and it sounds f—king incredible, man.

Coleman: When you think of a book tour, is it going to have the crazy rock energy that you get from a live Aerosmith concert?

Perry: It used to be either you play it live or you hopefully got something on the radio. I'll be visiting the bookstores, but because the bookstores are starting to get few and far between, we'll also do some events at places where people are comfortable going that are for music fans. ■

—Michael Coleman (for the complete video interview, visit soundworkscollection.com)

Mix presents SOUND for FILM



Photo: Frank Wells

John Kellogg of DTS talks technology on the second panel of the day, Immersive Technology: The Formats Explained. From left, David Gray of Dolby, Wilfried van Baelen of Auro Technologies, Kevin Collier of Warner Bros, Kellogg, and Bill Banyai of Sony.

Immersive Sound Videos—From Mix

More than 500 film sound professionals visited Sony Pictures Post-Production Studios on September 6 to take part in an inaugural *Mix* event, Immersive Sound: From Production to Playback. Beginning with a keynote address by two-time Academy Award winner Randy Thom, director of sound design at Skywalker Sound, and concluding with a panel on Technology and Workflow in Immersive Sound Formats, the all-day event brought together the best of the creative and technology communities in addressing the issues surrounding the emerging formats.

Check out the videos at mixonline.com/post/film_TV/exclusive_panel_videos_from_mixs_immersive_sound_event ■

Back to the Beginning: Ocean Way Now...United Recording



Last month, Hudson Pacific Properties Inc. announced the launch of United Recording at 6050 Sunset Blvd. in the facility formerly known as Ocean Way Recording. The studios have remained untouched, with the original equipment in place run by industry-leading technical staff, while the lounges and common spaces have undergone significant upgrades.

Hudson acquired the famous studio, which was built and opened in 1957 by audio engineer and inventor Bill Putnam with the backing of Bing Crosby and Frank Sinatra, in 2013 from previous owner Allen Sides. The original United Recording hosted sessions for Sinatra, Nat King Cole and Ray Charles, while Ocean Way produced recordings for Lionel Richie, Whitney Houston, Sheryl Crow and Green Day, among hundreds of others over the years.

"The rebranding back to the original name, United Recording, is one component of a continued investment in strategic media and entertainment properties and reinforces our goal of providing exceptional multimedia production facilities and services to global media and entertainment clients," says Victor Coleman, CEO of Hudson Pacific Properties.

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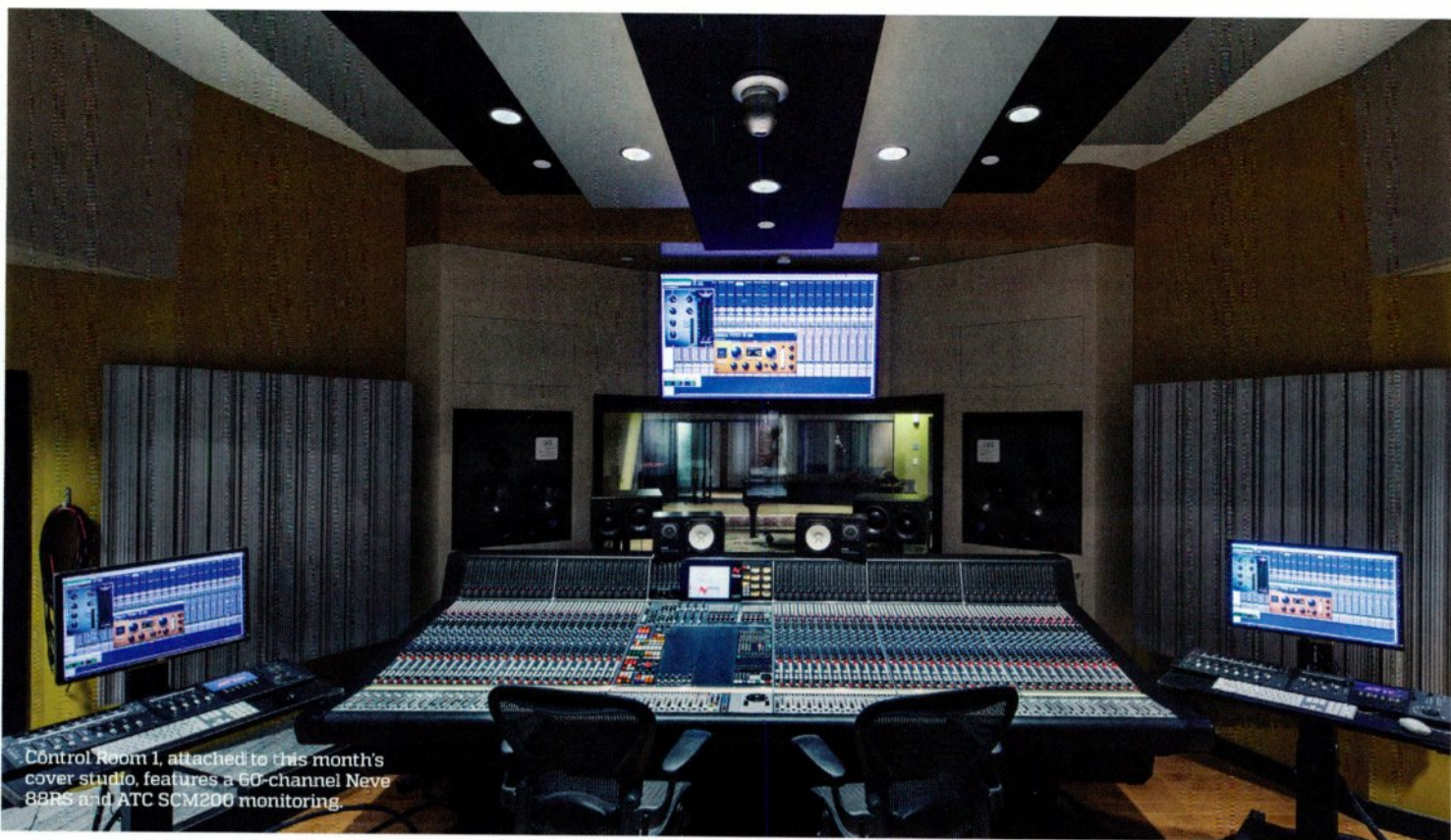
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On the Cover

By Tom Kenny // Photos by Cheryl Fleming/James Lane

BERKLEE COLLEGE OF MUSIC, BOSTON



Control Room 1, attached to this month's cover studio, features a 60-channel Neve 88RS and ATC SCM200 monitoring.

Wow. It was only a couple of years ago that Berklee College of Music opened its stunning new campus in Valencia, Spain, offering both a gateway to European musicians and a destination for U.S. students looking to spend some time abroad. It was an ambitious project, and it has paid off, both in worldwide branding and in full enrollment.

Then, in January 2014, Berklee, the venerable, near-70-year-old Boston institution, opened the doors to its new \$100 million, 16-story (with an additional two underground), 155,000-square-foot residence tower at 160 Massachusetts Avenue, complete with 10 professional studio spaces designed by the world-renowned acoustics team at Walters-Storyk Design Group (WSDG also did Valencia). A LEED-certified Silver building, the tower includes a 21,000-square-foot cafeteria/performance space, 173 rooms that can sleep 369 students, 20 practice and rehearsal rooms and retail along the street. It increases Berklee's overall capacity in its hometown by 23 percent.

In an age where the cost of education overall has been under intense scrutiny and many audio programs have been grappling with declining

enrollment, Berklee has bet big on the future.

"We probably are a little crazy," laughs Roger Brown, only the third president of Berklee since it opened in 1945. "However, the Valencia project was originally expected to be open years before Boston. The challenges of each were quite different—Boston being a large-scale construction project but largely expanding what we already do, with the new studios, housing, cafeteria and rehearsal rooms. Valencia was a much smaller project and much less costly but one that challenged us to launch four new master's programs: Music Technology Innovation, Performance, Scoring for Film, Television and Video Games and Global Entertainment and Music Business. The good news is that both are very successful and doing even better than planned."

Brown says he first started thinking about expanding in Boston before he even took the job in 2004, making the rounds of downtown real estate during the interview process. Finding an ideal spot at 160 Mass got the nearly 10-year project started. Local firm William Rawn Associates was hired as architect of record, and WSDG was brought in to handle the



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SD11



SD10



SD9



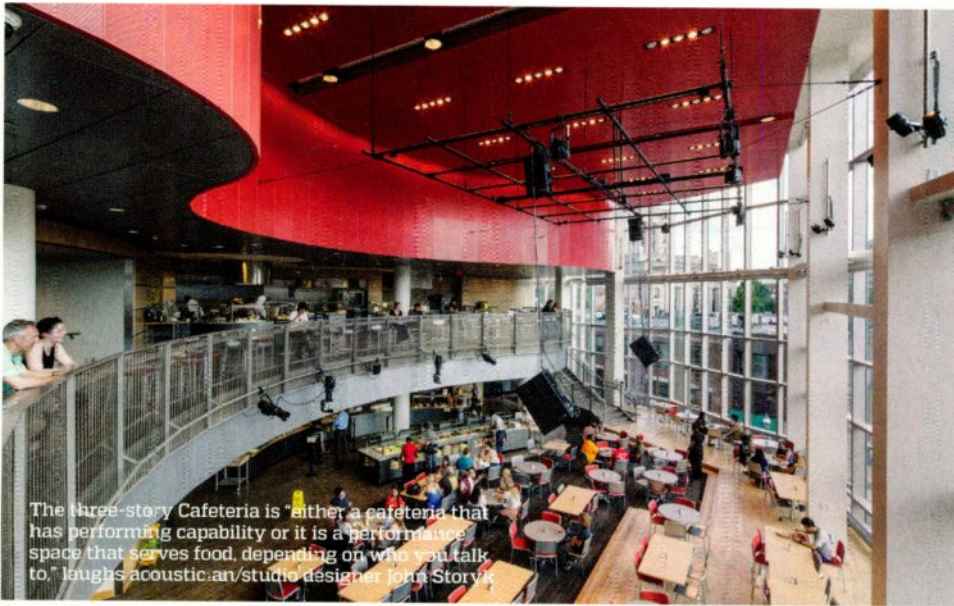
SD8



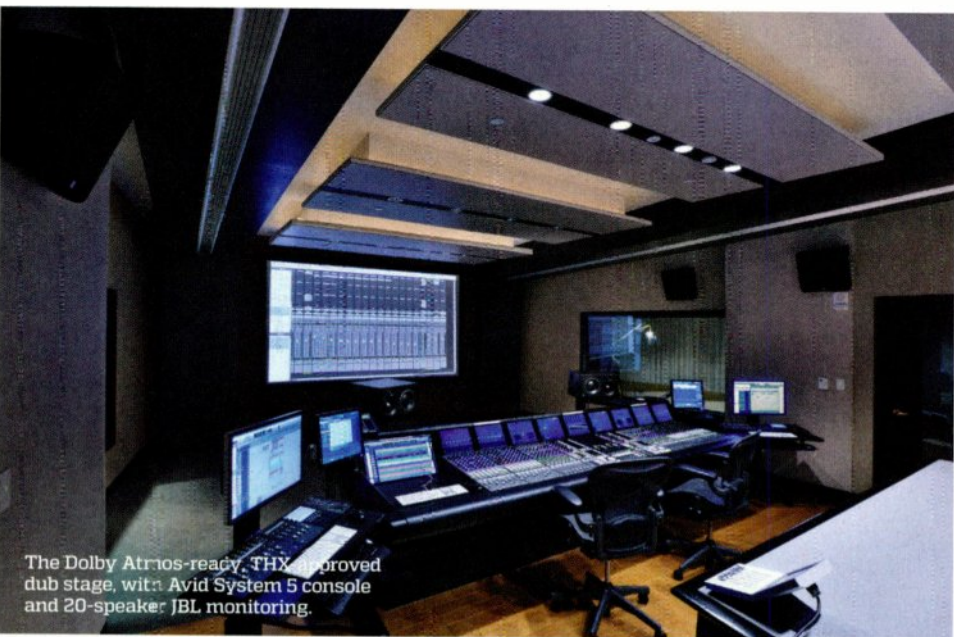
SD7



SD5



The three-story Cafeteria is “either a cafeteria that has performing capability or it is a performance space that serves food, depending on who you talk to,” laughs acoustic/studio designer John Storyk



The Dolby Atmos-ready, THX approved dub stage, with Avid System 5 console and 20-speaker JBL monitoring.

Nowhere was that dual need more evident than in this month’s cover studio, Studio 1, the flagship space that can hold up to 50 performers. “We had a giant 12-foot-by-5-foot window that was not attractive from an acoustics point of view,” says Romina Larregina, a 17-year WSDG employee who started in the company’s Argentina office and is now a partner, serving as project manager on the Berklee design-build. “The beauty of Berklee, however, is that these rooms run 22 hours a day, and they didn’t want the students to feel like they were in a fishbowl; they wanted to keep the privacy of the students intact. We were then able to add his clear custom Quadratic Residue Diffusor that helped us with moving the sound around in a controlled way, and it gave the students some privacy. From the corridor you can see in, but from the inside it doesn’t feel like it.”

The audio portion of the facility occupies two levels, A and B, below ground. Level A houses Studio 1, with its Neve 88RS console and ATC monitoring. It also includes Studio 2, a Neve 88RS room for smaller ensemble projects.

Level B houses the SSL Duality-equipped Studio 3, a Dolby Atmos-ready dub stage with Avid System 5 console, a Mastering Critical Listening Lab, and a Production Control Suite with four control rooms branching off a central lounge.

The two floors are tied together through a unique setup of stacked central machine rooms on each floor, which enabled 25-year WSDG veteran Judy Elliott-Brown to implement a complex and thoroughly modern Cat-6, video, and audio cabling and wiring scheme that allows for recording from anywhere to anywhere, including the three-story, 400-seat Cafeteria/Performance Hall on the ground floor. The café as performance space, with floor-to-ceiling windows to the street, was not in the original plans.

“One day after we were pretty far along, Roger was walking around and thought that it should be a performance space,” Larregina recalls with a chuckle. “So we developed an area for the stage. We worked on some rigging for some main speakers and lights and video. We added a big projection screen behind the stage. When they introduced audio, with all these hard surfaces, we had to think about how we would work with all these nasty reflections—there is a curved wall, all glass, hard floors. We started working with WRA to look at areas that we could tackle with absorption so that we could control the sound. We worked directly with the builder because the curved wall and ceilings were all Armstrong products. We had to reverse

Continued on p. 75

acoustics and studio spaces from the earliest stages of planning, always keeping in mind that Berklee is first and foremost a teaching facility. Each control room had to hold at least 15 people. And parents coming to visit need to be able to see what is going on.

“We try to strike a balance between making rooms suitable for student population—rear room seating, overhead video, et cetera—and at the same time create environments that represent as closely as possible what students will expect to see when they leave the school,” says John Storyk. “Probably the coolest design challenge (or design excitement) is the need for ‘the tour,’ allowing as much of the rooms to be viewed during student tours as possible without disturbing the session. Glass has become our friend over the years!”

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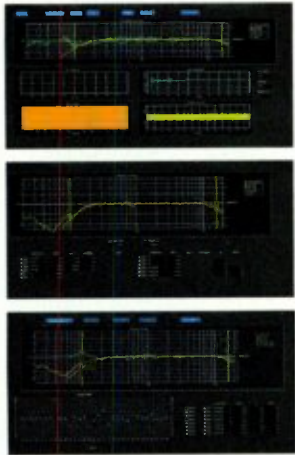
The Sat 6D and Sub 12D feature Burr-Brown 192 kHz/24 Bit A/D & D/A conversion, Cirrus Logic digital receivers/sample rate converters, as well as a Pure-Digital mode for 48 kHz/96 kHz operation, which bypasses sample rate conversion.

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Both the SAT 6D and Sub 12D have a USB data port allowing Blue Sky's proprietary Speaker Manager software to control EQ, time delay, gain, pink noise and system updates.

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The Star System One is the quite simply the finest monitoring system Blue Sky has ever offered. Start with the building blocks: Superb components and exceptional construction quality? Check. Advanced crossovers and powerful ultra-clean amplification? Check. Seamless modularity from stereo 2.0 to 7.1 centrally-managed systems? Check. And, to provide precision monitoring in the real (and imperfect) world, we embedded intelligent tools to precisely measure and optimize system performance in a wide range of acoustical environments. Of course, we didn't stop there.



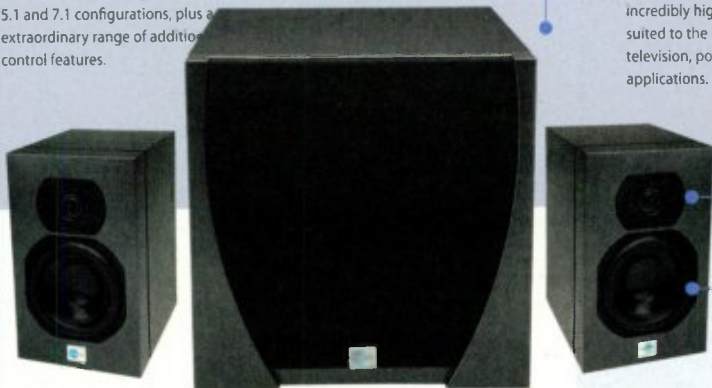
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The accuracy of an ordinary monitor system will be dramatically degraded when used in an un-treated (or minimally-treated) acoustical environment. These days, that includes a lot of rooms and spaces where pros work. Blue Sky's Speaker Room Optimization (SRO) system provides tools to measure and optimize the system's performance in your working environment, whether it's acoustically neutral or not. Each SAT 6D and Sub 12D has powerful built-in processing with full 1/3 octave graphic EQ plus 8

bands of parametric EQ and filters. And these tools are remarkably easy to use, thanks to Blue Sky's bundled Speaker Manager computer software.*

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Can your monitor system keep up with you and your future needs? Use a pair of SAT 6Ds for a 2.0 (stereo) system without sub or add a Sub 12D for 2.1. Add the Audio Management Controller (AMC) and additional SAT 6Ds for 5.1 and 7.1 systems. The AMC provides system level, solo and mute, bass management for 5.1 and 7.1 configurations, plus an extraordinary range of additional control features.



Sub 12 D

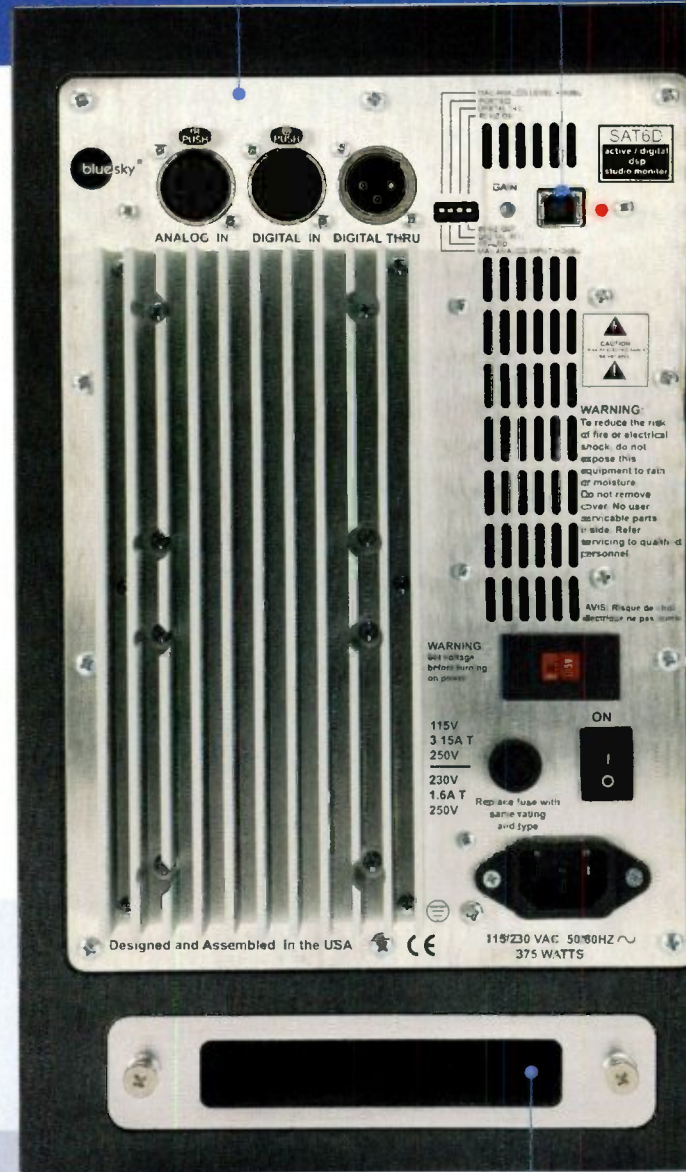
Features built-in digital 2.1 bass management with variable crossover frequencies and high and low pass filters.

The Guts to Be Great

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MUSIC



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LINDA RONSTADT

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Left to right: Marcus Mumford, Rhiannon Giddens, T Bone Burnett, Elvis Costello, Jim James, Taylor Goldsmith

THE NEW BASEMENT TAPES

Ensemble Settles in to Record 'Lost on the River'

By Barbara Schultz

T Bone Burnett's talents as a music producer are many, but Rhiannon Giddens of Carolina Chocolate Drops sums things up in a way when she says, "He has such good instincts."

When Burnett received a sort of gift from Bob Dylan—a packet of lyrics and fragments, handwritten during the Basement Tapes era (around 1967)—the producer knew instinctively how to turn those long-neglected words into songs. He brought together an ensemble of singer/songwriters with strong, albeit different, connections to American folk music, and

invited them to flesh out the words and set them to music. The album they made, *Lost on the River*, is a collection that equally honors Dylan's writing, and the individual talents of the interpreters.

Answering Burnett's call, five artists locked out Capitol Studios: Elvis Costello, My Morning Jacket frontman Jim James, Mumford & Sons' Marcus Mumford, Taylor Goldsmith of L.A. band Dawes, and Giddens, whose attachment to Dylan's music is indirect, but deep.

"In the Chocolate Drops, I was always more focused on the source recordings [behind

Dylan's writing]—the old stuff. I deliberately didn't do a lot of research on the Basement Tapes before the sessions. I wanted to offer a blank slate as one perspective among the five."

Burnett and his engineer, Michael Piersante, saw the importance of making the group as comfortable as possible in the studio. They redecorated Capitol B, where much of the writing happened, with rented sofas and armchairs, homey lighting, and an upright Steinway from Piersante's house.

Giddens says the artists came into the studio with "... a couple of different approaches. Elvis



The New Basement Tapes in the studio

and Jim and Taylor came with songs fleshed out, and Marcus and I came more with ideas. It was a beautiful thing, and I can't stress enough that both approaches were really valuable and important in songwriting. There were a lot of different ways to start writing a song."

Recording the songs required an equal degree of flexibility. While the setup in Capitol was generally arranged so that writing would happen in the B room, and tracking would go down in Studio A, sometimes a song just wanted to be captured from a comfy chair.

"I put a couple of mics up—like an old Neumann CMV 563 lollipop mic over the couch—to capture the whole writing area, and then spot mics around—five mics total," Piersante says. "There were several songs where the artists would say, 'We're rehearsing this tune, and we're really comfortable here and it sounds good to us, so let's just record it.' So, we'd just record people sitting there in a circle. We also had the B control room available to us, so we'd patch through there. And we tied the two studios together, so they could share each other's recordings."

In Studio A, Piersante rigged a more conventional, old-school setup, with stations for different instruments and a dedicated vocal chain for each singer, all captured to one Studer A827 tape machine.

"I use a lot of vintage stuff, and we did bring in a whole stack of vintage Neve preamps," Piersante says. "Everybody went through those. We added character where we could, because with all of those singers on the floor, singing in front of two drummers, a piano and a bass amp, we couldn't use anything like a condenser mic—it would capture too much bleed. So, we ended up using a lot of [Shure] SM57s and 58s for vocals. I

also had LA2s, a Fairchild, a Distressor; we used things like that on the singers, and then straight to tape.

"Also keep in mind, I had to set up fairly simply because we were limited to 24 tracks. So we put the two drum kits toward the back of the room, angled toward each other. We had Jay Bellerose's kit and another kit that might be played by Marcus or by Taylor's brother Griffin or Carla Azar—a roving cast of musicians. That second one was a Leedy kit with calfskin heads—a really cool, vibey set; Al Schmitt actually leant me his [AKG] D12, to use on kick, which was really cool of him to let me try."

Otherwise, the auxiliary kit was miked with a 57 on snare, 67 on floor tom, and a Coles 4038 overhead. Bellerose's kit had a vintage Beyer M380 on kick, a Beyer 160 tom mic ("little ribbon mics that take a lot of heat," Piersante says), a Shure 57 on the

snare and a Neumann CMV 563 overhead.

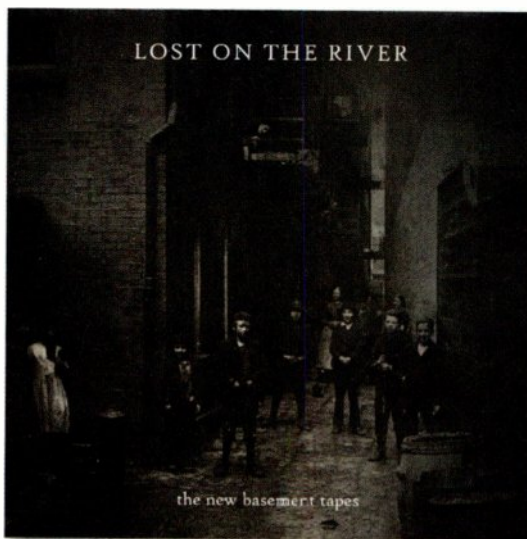
"I also had a drums mic between the two kits," Piersante says. "That turned into a room mic for everyone who was singing, and that added some interesting character. Actually, in this kind of a situation, everybody's mic was a room mic for the other guys, so we didn't have any shortage of the awesome Capitol room sound."

Giddens played her fiddle in a booth, but most everything else was on the floor of the main room, and there was a lot of maneuvering, as the musicians would change from guitar to piano or Mellotron, or from keyboards to drums or bass, for example. Piersante's instrument-miking remained fixed (usually a combination of ribbons—RCAs on guitars and Wes Dooley models on pianos—with the Shure dynamics), but vocal mics would follow the singers.

"If it was Elvis's song, he would sing lead and the others would sing background," Piersante explains. "The next song, Elvis might go over and play piano instead of guitar on Taylor's song, and every time we did a new song, we had to run out and follow the person with their mic to keep their vocal chain intact. They were constantly moving

around from instrument to instrument.

"It was like a fun live rehearsal room kind of recording session," he continues. "But you had to find a way to avoid worrying about the fact that these are all amazing artists working on Bob Dylan songs, and you're trying to get a lot of songs recorded as well as possible in a very short period of time. If you could put all that aside, it was fun just trying to keep up." ■



the new basement tapes

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RETRO

JUKEBOX THE GHOST IN THE ORPHANAGE

Producer/engineer Dan Romer hosted pop band Jukebox the Ghost in his studio, The Orphanage (L.A.), to make their self-titled fourth album, out now on Yeproc. “The boys would bring in demos that they made in their home studios,” Romer says. “We then spent about a week changing the tempos and arrangements, essentially doing a group remix of the song. We arranged all the drums, synths, and pianos in MIDI, and did all the guitars direct, just to get all the tempos and arrangement to a place where we were happy, before we laid anything down that we planned to keep.”

Romer’s studio is built around Pro Tools HDX, along with Burl B2 Bomber conversion and a Dangerous D-Box summing mixer/monitoring system. After fine-tuning all those MIDI arrangements, he and the band tracked real drums, amped guitars, and keeper vocals (all the synth parts are soft synths), but they determined that some of the MIDI drums either sounded better, or could add dimension to the real drums. “We ended up with an amalgamation,” Romer says. “Some parts are pure, real



L-R: Tommy Siegel,
Ben Thornewill
and Jesse Kristin

drums; some are part real and part samples. For example, the kick drum in one song might be sampled, but the cymbals and snare might be real. Any time it was fake drums, Jesse [Kristin], the drummer, and I would sit down and arrange them. Whatever sounded the best for that song was what we ended up doing.”—Barbara Schultz

COOL SPIN ARETHA FRANKLIN SINGS THE GREAT DIVA CLASSICS



Um, isn’t every song Aretha Franklin sings a “Diva Classic”? On her latest album, the Queen of Soul covers hits from other great female vocalists, including Barbra Streisand, Gloria Gaynor, Adele, Sarah Vaughan and others. Franklin’s voice is not exactly what it was, and that’s evident when she reaches for some of her pyrotechnic tools, but that just means she’s slightly

more of-this-earth in her sixth decade as an artist. And some of these performances—actually, parts of every song—are beyond beautiful. The instrumentation on these tracks is diverse, including some disco beats, NOLA jazz meets modern R&B on Gladys Knight’s “Midnight Train to Georgia,” and a quite strange swingin’ jazz version of the Prince song popularized by Sinead O’Connor, “Nothing Compares 2 U.” But it’s a song like “Teach Me Tonight,” with its spacious piano bar arrangement, that will make fans thank their lucky stars for this album.

Producers: Aretha Franklin, Clive Davis, Kenny “Babyface” Edmonds, Antonio Dixon, Terry Hunter, DJ Wayne Williams, Harvey Mason Jr., The Underdogs, Eric Kupper, Dapo Torimiro, André “3000” Benjamin. Recording Engineers: Paul Boutin, Joey “808” Fernandez, Andrew Hey, John Hanes, Ken Oriole, Tommy Vicari. Mixing: Tony Maserati, Serban Ghenea, Eric Kupper, Fabian Marasciullo, Neal H. Pogue. Studios: Brandon’s Way Recording (L.A.), Studio A Recording (Dearborn Heights, MI), Capitol Studios (Hollywood), Jungle City (NYC), MixStar Studios (Virginia Beach, VA), Blue Flash Studio (Orland Park, IL), Germano Studios (NYC)...[Editor’s Note: Complete list of credits available at mixonline.com].—Barbara Schultz

ELLIOTT BROOD, ‘WORK AND LOVE’



To be clear: The roots-rock band Elliott Brood is actually a duo, neither of whom is called Elliott. Juno-winners Casey Laforet and Mark Sasso made their latest record last spring in the Tragically Hip’s Bathouse Studio with producer Ian Blurton (Weakerthans, Skydiggers) and engineer Nyles Spencer. Bathouse is built into an 1840s house, where the group miked up drum kits, amps and vocals in multiple rooms and hallways to capture different room tones.

“They started with a live band scenario,” says Spencer. “We overdubbed on top of those basic bed tracks and things got replaced. For vocals we used ribbon mics—BK 5Bs, an old RCA unidirectional mic. Those RCAs are popular for guitar amps, but they’re really cool on vocals as well. And we were heavy-handed during [vocal] tracking. We went for it, for sure! There was an old gray-face [Teletronix] LA-2A in the chain, and oftentimes an 1176—sometimes post LA-2A, sometimes pre LA-2A. Also a dbx 902 ended up in that signal chain—maybe only one or maybe a pair of them on either end of the recording chain.”

Spencer says they also spent a fair amount of time “collecting effects for vocals and various instruments,” and it’s these embellishments that make Elliott Brood’s tracks pop. “That’s one of my fortes, I guess, doing what I call ‘tangent-based mixing’ or ‘tangent effects collection’: tape slaps on drums, or in-line effects where you take the mono room mic from the drum kit, send that to the tape machine, send that to the plate reverb, and then send that to something else. Those kinds of things where you’re only listening to one source, but we’re using five different effects.”—Barbara Schultz

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Live

PRETTY LIGHTS
By Candace Horgan 22

ALL ACCESS:
SARAH MCLACHLAN
By Steve Jennings 24



Pretty Lights, aka Derek Vincent Smith, with band and string section.

PRETTY LIGHTS AT RED ROCKS

DJ, DJ With Band, DJ With Band and Strings

Text and photos by Candace Horgan

Derek Vincent Smith, aka Pretty Lights, walks out to his DJ equipment atop a riser to a huge roar from the sold-out crowd at Red Rocks in early August. He has already played two sets at this first of two sold-out shows, one as solo DJ and one with his backing group, the Analog Future Band, which includes drummer Adam Deitch, keyboardist Brian Coogan, keyboardist Borahm Lee, trombonist Scott Flynn, trumpeter Eric Bloom, guitarist Eric Krasno, and turntablist Chris Karns.

For these two shows at Red Rocks, Smith, a Colorado native who has continuously pushed the boundaries of electronic dance music, has something special planned: a third set with

both his band and a string section from the Colorado Symphony Orchestra.

The addition of the orchestra changed things a bit for front-of-house engineer/production manager Phil Salvaggio, though he says that the staging at Red Rocks was relatively painless. "Maybe we were more on top of it this time," he notes. "Last year was the band's first time playing, and they went into the shows maybe not having a full understanding of what a Pretty Lights show was, and now everybody knows. They've had a year under their belt, the rehearsals are a lot smoother, and they go into it knowing what they need to get done."

Salvaggio met Smith years ago while the two

were playing in different bands in the Fort Collins area, not far from his hometown of Denver; he started working with the DJ in 2008. For these shows, because of the strings, he switched from his normal DiGiCo SD8 board to an SD7.

"You can do whatever you want with it; it's awesome," he says of the desk. "You can lay it out however you want, group it however you want, do all kinds of overlays and cool stuff. It's super-user-friendly once you figure it out, and you can customize it to your own settings." Salvaggio mixes almost entirely with onboard effects, though he does use one piece of outboard gear: a Tube-Tech SMC 2B multiband compressor, which he puts on the overall DJ producer tracks to warm them up

and integrate them into the overall mix.

"It's like a battle," he laughs. "You have a full band, you have a full DJ track, and you have to kind of put them together. You can't cut things out of the DJ track because you don't want to lose that, but at the same time, it's hard to bring the band up through it, so you have to know the music and see where it works and where it doesn't. It took us a bit to get used to it and get it to sound where I wanted it to.

"In terms of the orchestra, I have the Colorado Symphony engineer, Aric Zippy Christensen, on one side of the SD7," he adds. "On the other side, I'm doing the band, and I have a master control over what he's doing. Obviously, there are challenges with that. It's not a quiet show by any means. The noise floor is pretty ridiculous, but we've got it handled now. I want it to sound good, but I don't want to hurt anyone's ears. I want people to feel like they are at a concert."

The tour uses a GTO Outline line array provided by DSI Event Group out of Denver. The combo also is the house P.A. for Red Rocks, which was an advantage for system tech Eric Satre, who works for DSI and has been touring with Smith for three years. The P.A. comprises 13 boxes a side, plus nine flown subs a side and another nine subs a side on the ground. The front fills are a proprietary DSI box. On tour, the crew also carries four McCauley M421 Quad 21 subs, but wasn't using them at Red Rocks because of the symphony.

"The file is already built, which is nice," says Satre of tuning the P.A. at Red Rocks. "Mostly that was done with SIM, but all of us carry Smaart 7 rigs, and we do have that at front-of-house right now to help throughout the show. Really, we rely on Lake and Smaart to get through the show."

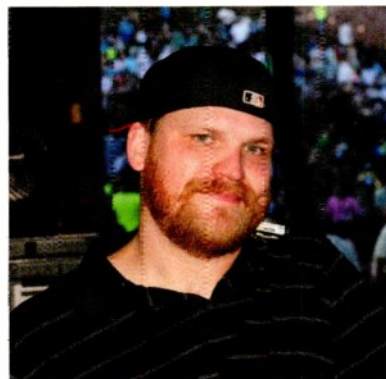
Powering the P.A. are 58 Powersoft K Series amps running the AES Ethernet Simple Open Protocol networking setup. Combined with the Outline line array, Salvaggio says, "It rocks, it's loud, and it's clear. I've used everything, and it's one of my favorites for sure."

Running monitors is Whit Hawkins III, who got his start in the industry on a live radio show called The Dunham's Living Room that brought jam bands to Atlanta. He moved on to become an engineer at The Brandy House in Atlanta before starting his own production company, Music Matters Productions. He met Salvaggio and Smith when his company brought Smith out to Atlanta several years ago.

Hawkins is mixing on a DiGiCo SD8. The Analog Future Band, as well as the CSO, are all using Shure SE215 in-ear monitors provided by the tour, while Smith uses Ultimate Ears. Deitch has a proprietary DSI Single 18-inch sub behind him, and Smith has a pair of DSI Dual 18-inch subs, along with a pair of Outline's iSM 212 monitor wedges to supplement his ears. Smith's setup changed at Red Rocks, as he had previously been using



Front-of-house engineer Phil Salvaggio



Monitor engineer Whit Hawkins III



System tech Eric Satre

a butterfly line array to supplement his in-ears.

"We swapped it up," says Hawkins, who also has a set of the Shure SE215s at the monitor desk so he can better hear what the musicians are hearing. "This is the first time we've been able to get him to not have the full line array next to him. We've done rehearsals, and whenever the orchestra came out, I told him, 'Beware, I'm changing the ratio of your ears to your wedges and bringing your wedges to half-volume and then bringing your ears up a few more dB. It's not what you are used to with your line array, but it's what we need for stage volume.' We agreed to it, did rehearsals that way, and we're rocking it."

On many of the songs, the players have a click in their monitor mix, but on others, especially where Smith changes things up, the click goes away. According to Hawkins, part of the challenge with a Pretty Lights show is that the songs are different each night.

"It's really kind of a challenge because Derek never plays the same set each night, and he calls the show as he goes along, down to, 'Drop out on the one,' or, 'Add four bars here.' Sometimes the arrangements aren't even the same. Everyone has talkback mics, and he calls it out, so I have to be aware of what all the players want to hear during certain songs and parts of the songs. I have to ride everybody's mixes differently; I can't just set a snapshot because it's different every night. I enjoy listening to Derek talk through the whole thing. What you don't get to experience in the audience is him calling the show; it's very much like a Frank Zappa-esque composition thing going on."

Hawkins records each night to 2-track through a Thermionic Culture Vulture tube mastering unit and a Burl B2 Bomber A/D converter, while Salvaggio records to both 2-track and multitrack. Hawkins uses the recordings as a base for the monitor mixes, especially when Smith plays with the Analog Future Band.

"When he's solo, Derek gets a whole lot of track," explains Hawkins. "He likes to hear a lot of the high midrange so he can hear the melody real clear, and not as much low end on the stage as you would think for a DJ. One thing he does when he's solo that he

doesn't do as much when he's with the band is our lighting designer, Greg Ellis the LazerShark, has a vocal mic and Derek calls cues to him, and then Greg will talk back to him and talk about the vibe of the show, color palettes and things. He doesn't do that as much with the live band because he's calling the show with the band and has too much going on.

"This is the first time he's done something with the orchestra, so in rehearsals, it was tons of strings in the beginning, because he really wanted to hear that," Hawkins adds. "Today, I brought it back down to a more natural level, where the strings are underneath the band a little bit and adding accents. Besides that, there's a lot of hi-hat so he can keep time. He doesn't like the click as much; he likes the natural feel." ■



SARAH McLACHLAN



Mix caught Sarah McLachlan and band at the Greek Theatre in Berkeley, Calif., on tour in support of her latest release, *Shine On*.



"I'm on the DiGiCo SD Ten to mix Sarah," says **FOH engineer Gordon Reddy**. "The product sounds great. And one of my favorite features is that there are 36 handles that can be whatever you want.

DiGiCo has still managed to offer 36 faders on most of their fleet. I end up doing most everything in the desk, though I do use a Lexicon 480L unit with the LARC controller. I'm still a sucker for this aging reverb.

"Mixing a great musical talent like Sarah—with this great band, arrangements and sound gear—system balance is very important to me," he continues. "I use the array compensation tools fully. Most all of the modern linear array manufacturers offer these tools, and it's easy to get that part right—just follow the recipe. I tend to turn down the system bass, both in the array and sub; then I mix it thicker on the desk. Then, I just mix and push it in if I need to hear it. That simple! Music venues can do a lot to destroy coherence, so I limit my coherence reducing tools. I tend to focus on finding wetness through tone over complex effects plots."

"I'm mixing Sarah on a DiGiCo SD8," says **monitor engineer Dave Retson**. "I think it sounds amazing. I haven't really been on a DiGiCo product for any length of time since the D5 days so I'm still discovering its



capabilities. It's very flexible. My rack gear consists of an Avalon 737 mic pre on both Sarah's main vocal and piano vocal. I also have a PCM70 reverb on Sarah's vocal, which came highly recommended by the previous monitor engineer. Not much other than that as the SD8's onboard dynamics, signal processing and effects work just fine.

"For in-ear monitors, Sarah and the band use Sennheiser SR 2050 transmitters with EK2000 receivers, and AC 3200-11 antenna combiner," Retson continues. "When the keyboard player and drummer aren't wandering around the stage banging things they use Shure PSM 600HW at the home position. Sarah, Vince on keyboard and myself all use Sensaphonics 2X IEMs. The rest of the band are on Ultimate Ears."



McLachlan with band, from left: Joel Shearer, guitars; Curt Bisquera, drums; Sarah McLachlan, vocals/keyboards/guitar; Jon Evans, bass; Vincent Jones, keyboards. "I've been working with Sarah on and off in varying audio capacities since 1996," monitor engineer Retson says. "She is an absolute pleasure to work with, one of the best. She has always been a real professional, while at the same time maintaining a very easygoing, family-type touring vibe. The turnover in the core crew is very low, which pretty much says it all. It's a great night of music—great players with great sounds."



The drum kit is entirely Neumann KM 184s, though the kick drum has a Shure Beta 52 inserted.



McLachlan's vocal mic is a Sennheiser e 945, with Neumann KMS 105 capsule



Behind the backdrop curtain, Vincent Jones' Leslie amp is miked with two AKG C 535 EBS (pictured) for the top horn and a single EV RE-20 on the low.

Solotech, Las Vegas, is supporting the tour. The P.A. at the Greek comprised 16 L-Acoustics K2 per side as mains, four L-Acoustics Arcs per side, and 18 SB28 subs. "This is far more horse power than I probably need, but I really love the benefit of pattern control that can be achieved with these box counts," says FOH engineer Reddy. "We have gone into some 2,000-seat vaudeville houses with two hangs of 16-deep K2. The locals thought we were on a mission to kill people! We only hit 94 dB once in the night."



The Backline Techs, from left: Gavin "Jave" Bakewell, guitar and keyboard tech for McLachlan; Brian "Gibber" Gibney, SR guitar tech; Phillippe "Quack" Herbert, drum tech and piano tuner; Dean "Hump" Warren, bass tech.



Classic Tracks



'YOU'RE NO GOOD'

REVISITING THE LEGENDARY LINDA RONSTADT IN HOLLYWOOD, 1974: David Hassinger's *The Sound Factory*. Producer Peter Asher. Engineer Val Garay. Guitarist Andrew Gold. A-List Players. API console, 3M tape machines, rare EMT units.

How could it get any better?

BY MATT HURWITZ

Linda Ronstadt had her first hit single, "Different Drum," in 1967 as a member of The Stone Poneys, then had a series of solo albums in the early 1970s following the group's breakup. But it wasn't until November 1974, 40 years ago this month, with the release of *Heart Like a Wheel*, produced by Peter Asher, and its leadoff single, "You're No Good," that the singer landed squarely at the top of the charts, a place she would find herself many times throughout the rest of her career.

After years as half of the popular pop-folk duo Peter and Gordon, Asher had at the time absorbed enough experience from EMI staff producers Norman Newell and John Burgess to begin taking on full production

himself. "I loved the idea of it, and I loved the technology of it," Asher says. "Once I figured out you could hire musicians better than yourself and tell them what to do, I thought it was brilliant."

In 1968, Paul McCartney asked Asher to begin producing artists for The Beatles' fledgling Apple label, eventually asking him to become head of A&R. He produced James Taylor's eponymous album for Apple, and then, in spring 1969, he left for the U.S. to continue managing and producing him.

Asher first encountered Ronstadt around 1970-71 at New York's The Bitter End. "Somebody told me, 'You have to go and see this girl, she's one of the best things

you'll ever hear in your life,'" he recalls. "And she wears these really short shorts, and sings barefoot, and is ridiculously hot.' And it was all true."

THE SETUP

After both Ronstadt's and Asher's moves to Los Angeles not long after, at the suggestion of musician friend John Boylan, she asked Asher to manage her. During the production of her 1973 album, *Don't Cry Now*, at Clover Records in Hollywood, Asher signed up and helped complete the album. "I was working with John Boylan, and then J.D. Souther, and I just felt like I wasn't getting anywhere with it," the singer recalls. Adds Asher, "It had been drifting for a bit, so I tried to finish and tidy that up," producing several tracks himself.

Ronstadt was well familiar with Betty Everett's 1963 hit R&B version of Clint Ballard's "You're No Good" when bassist Kenny Edwards suggested it for inclusion in her band's set for an upcoming Neil Young tour during the first three months of 1973. Edwards, an original member of the Stone Poneys, had rejoined Ronstadt's band after spending several years in India. "We would be jamming during rehearsal, and Kenny said, 'Why don't we do this, it would be fun?'" Ronstadt recalls. "I'm a ballad singer, and in a lot of the venues we were playing, the air conditioning was louder than we were. So we had to have a couple of uptempo songs to open and close with. And that was a really good closer."

The arrangement [which can be seen on a "Midnight Special" clip from December 1973] was indeed an R&B style, based around a Wuritzer part played by John Boylan, accompanied by guitarist Andrew

Gold. Ronstadt had met the talented Gold a few years earlier, when the Poneys had played at his high school in Southern California, and became friends, with Gold joining her band in late 1973. For "You're No Good," at this point, Gold played a riff similar to the opening section heard on the finished record, though he then broke into an improvised lead.

The band continued playing the song with that arrangement, though it somehow managed to evade recording for *Don't Cry Now*. [Curiously, AFM records show a session taking place for the song at Clover on May 27, 1973, featuring a talented lineup of top session players: guitarist Larry Carlton, bassist Chuck Rainey, session drummer Ed Greene, keyboardist Michael Omartian, The Pastora Brothers on percussion and others. However, neither Ronstadt, Asher, Boylan, Souther nor musicians Rainey and Carlton recall any such session, making it unlikely that it ever actually took place.]

When the time came to record a follow-up album the next summer, Ronstadt and Asher tossed around ideas for a producer, and, as Asher notes, "It ended up being me."

Asher then picked The Sound Factory for the studio dates, mainly for the opportunity to record with legendary producer/engineer Dave Hassinger. Known for his classic recordings with The Rolling Stones and Sam Cooke, among others, Hassinger had been a staff engineer at RCA Hollywood before being hired by Mo Ostin to join Warner/Reprise as a producer, helming several albums for the Grateful Dead and other artists. He left the label in 1969 upon purchasing Moonglow Recording Studios, which he renamed The Sound Factory, at 6357 Selma Avenue in Hollywood.

After Ronstadt and Asher arrived in early June to begin the project, they quickly found themselves without Hassinger. "He worked with them for about three or four days, and then called me up on the phone and said, 'I'm not coming down today. Could you take over?'" recalls engineer Val Garay, then an assistant who had introduced himself to Hassinger three years previously and worked his way up. Notes Asher, "When I booked The Sound Factory, it was with the intent of working with Dave Hassinger. But he kept not turning up, and this assistant bloke was showing up instead. And after a few sessions, I told the studio, 'Actually, this assistant bloke is extremely good. Tell Dave to stay home.'" [Laughs.]

The studio had a single, small live room, with what all describe as "an incredible sound." The control room featured a 32-channel, 24-bus API console, one of the first API desks on the West Coast. Garay recalls, "When I first started working there, Dave had a Frank De Medio console, which was custom-made with API components. He sold that to Seals & Crofts, after we'd done *Summer Breeze*, *Diamond Girl* and *Hummingbird* on it. That's how Dave got into API." Garay recorded to a 3M M79 tape machine onto Agfa PEM 468 tape stock. "I loved that tape."



Photo: Matt Hurwitz

Val Garay, left, with Peter Asher this fall at Garay's home studio.

says. "But I do like records where you can hear what's going on, tonally speaking. I don't like muddle. You're only complex for a good reason. I was later accused of being too clean and too precise. But that did not hurt me. I believe in capturing whatever live magic there is and whatever happens at the time in the studio. I don't miss anything."

A month into recording, both Ronstadt and Asher decided to include "You're No Good" on the album. "I thought it was a good song to layer in amongst the ballads," the singer notes. Says Asher, "It was an odd coincidence. She'd been doing the song already, and it was always a favorite song of mine—though not the Betty Everett version. The version I fell in love with in England was The Swinging Blue Jeans cover of it. Though I did go back and listen to the originals, just out of curiosity."

Once the decision was made to record the song, it was then a matter of finding the right arrangement. "We had been doing it one way live, but when we got into the studio, we decided to change it—we were tired of it," Ronstadt says. "We tried two or three different types of rhythm sections before we found the one we liked," adds Asher.

The first was recorded on July 1 with a decidedly mixed rhythm section, with both R&B and country players: Gold on guitar, accompanied by Bob Warford, a "bendy" blues guitar lick player from Ronstadt's band. Bass was handled by R&B/rock session player Paul Stallworth, who brought in Earth Wind & Fire's Fred White on drums. "I was always trying to put together different versions of R&B and country," Ronstadt explains. "Sometimes it worked, and sometimes it was just really awful!"

"They were trying to do an R&B version of the song, which was actually closer to the way we did it live than to the released version," recalls Warford, who toured with Ronstadt from mid-1972 until just about a month after this recording. "We played it at a faster tempo live, which we did on that recording." There was also no 16-bar guitar break for Gold, as would appear on the final version a few days later.

The rhythm was straight rhythm and blues, says Stallworth, with the band playing live from chord charts. But the combination wasn't quite what Ronstadt had in mind. "It was just the wrong groove for me," she recalls. "I don't think I knew how to phrase around them—certainly no fault of theirs. They were fantastic."

Notes Stallworth, "She was so sweet. She said, 'Aw, you guys, I love

THE SESSIONS

Song choices for what would become *Heart Like a Wheel* were split between Ronstadt and her producer, the singer tending to lean more toward country music, or, as she would sometimes refer to it, "granola rock." "I was a club act," she points out. "I was playing the Palomino Club, playing country songs."

The album—with the exception of its two singles—is decidedly country, and, true to form for Asher in the day, not overly complex. "I've made complex records," he

that track, but I don't know if I can sing to that.' She wasn't singing live with us, and I'm sure if she were singing it the way she sings it, I know I would have played it differently."

Yet another version may have been attempted, but for the final recording, made on July 5, Asher decided not to do a completely live recording, as on the previous attempts. "Those seemed to just get muddled," he recalls. "So I suggested that we try building a track, which is much more common now than it was then."

The arrangement approach, mostly developed by Asher and Gold, got its start with a guitar riff played by touring band guitarist Eddie Black (heard essentially during the first verse and string buildup only, and nowhere else on the album). "Eddie was just fooling around on his Les Paul, and came up with that riff, and then Kenny joined in on bass," Ronstadt says. "Between them, they made that foundation."

They were joined by the drummer Gold. "Peter and I both thought he was really good," she recalls. "He could play everything, and well."

At the time, Gold told future Ronstadt drummer Michael Botts in 2001, the band was having trouble finding a decent drummer, "So I ended up playing. I borrowed kind of a cheap, candy cane kit from a guy named Gene Garfin, and I played sort of a pseudo-Motown thing." Says Asher, "He could play basic, simple licks—but very good. He did Ringo drumming."

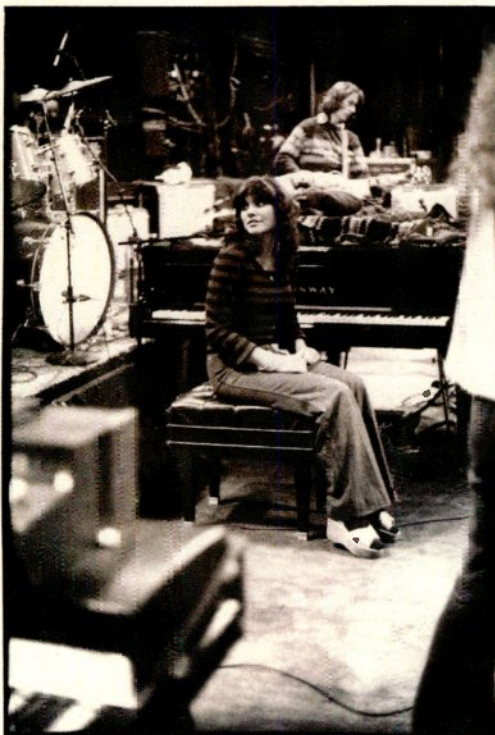
Garay miked him with a Sound Factory favorite, a number of Telefunken 251s, both for toms and overheads. "Hassinger used to do big orchestras, and nobody ever used those mics for anything other than orchestral recording," Garay notes. "I always thought they were a great-sounding tube mic, so I started putting them on drums." Particularly for Gold. "I loved the way they made his toms sound, and I loved the fills he did. I used to call them 'the pachyderms'—he'd go 'pachyderm-pachyderm,'" which Garay would mix into mono for stronger effect.

Asher wanted to track just drums alone and build from there, but eventually recorded Gold, Edwards and Black together as a rhythm section. It was decided, at that point, to leave a 16-bar break in the middle for something, to be figured out later.

After the morning's work of rhythm tracking, it was decided to add two tracks of Gold playing a Wurlitzer electric piano. "He's essentially playing the part I played live, but far better than I could have played it," Boylan notes.

"I did two tracks, one octave higher than the other," Gold describes. Notes Garay, "Andrew did a high part and a low part on everything! He loved to do that." The core of the song was then complete. "That's really the essence of the track—the Wurlitzer, bass and drums," Asher says. "All the guitars are just decoration."

"Then we said, 'Okay, now we gotta address this issue of the whole middle section,'" Gold recalled. While Ronstadt was often fairly hands-on



and present for most tracking, for this section, she says, "Andrew and Peter cooked all that up themselves. Peter's a very good editor. And by that, I mean, Andrew would have an idea a minute, and Peter's really good at sorting out stuff. A producer's job is a lot of things, but one of them is to just choose the tastiest bits that grab you by the collar. And Peter did exactly that on that track." With, adds Asher, "Sound design by Val."

Gold began experimenting, creating three sections to the middle break (the middle one being considered the true "solo"), playing on a black 1962 Fender Stratocaster Boylan had picked up for Ronstadt at a pawn shop during the Neil Young tour for Ed Black's use. "It had a rosewood fingerboard," he says. "And the minute Andrew put his hands on it, he fell in love with it."

Adds Ronstadt, "I think he wound up with that guitar. I don't think he ever... loaned it back."

Gold worked out three very different, and precisely played, parts for the three sections. "Andrew was great at guitar playing, but he wasn't a virtuoso," Garay explains. "As he came up with ideas, he had to work out how to play them." Notes Asher, "The cool thing about Andrew was, he played really precise parts. He could double parts and add guitar harmonies, because he knew exactly what he was going to play. I remember singing him some of the parts, and also him inventing parts, and he had it down."

The guitars were recorded through a unique chain developed by Garay, Asher and Gold. Before hitting the console, the signal went through a small MXR graphic EQ, a favorite of Asher's. "It's just a way of adding high end to the direct signal before it went through anything," he explains. "It made it crispy, and gave it a synthetic texture. If you added it later, it would just create too much hiss." Garay then passed the signal through two UREI 1176 limiters, compressing in series. "I could come out of one with the input cranked, into the next one with the input cranked," he explains. "That signal was then fed through a Kepex noise gate, set with the fastest possible release time. So the minute Andrew touched the strings, the sound exploded through the gate."

Another device used in the chain was a unique—and rare—delay unit known as an EMT Sound Retardation System. Originally designed for concert hall use, the EMT contained a flat disc of recording material, with three sets of recording and playback heads, staggered to allow the user to select either 25, 125 or 250 ms delays—or even all three, if desired.

"John Phillips had brought this back from England in 1971, and we never really used it," Garay recalls. "Dave just let it sit there, and then, out of my own curiosity, I started fiddling with it." The trouble was that by the time Asher and team were ready to use it, they discovered it was broken, the disc having become warped. "As the disc rotated inside, it gave the signal a warbly sound."

Noted Gold, "We heard it, and went, 'Ooooooh, can we have that? We

Producer Peter Asher, 1974, at The Sound Factory.



Photo: Andrew Gold

like that. It's broken. That's great!" The EMT's effect can be heard on the first section of the lead break, as well as on the guitar arpeggios following the string buildup later in the song (the latter played on a Telecaster).

For additional effect, Gold doubled—sometimes tripled—his parts, with Garay recording each with the tape speed varied just slightly between takes, in combination with Gold's tuning the guitar slightly sharp and flat in subsequent takes, giving the track group a unique jangly sound when mixed together. The method was especially successful,



again, thanks to Gold's precise, accurate replaying of the parts, with the third section of the guitar break featuring doubled leads and harmonies.

The result of the team's handiwork was decidedly Beatles-esque. "As was my wont," Gold joked. After working over-night on the lead break one evening in a 15-hour marathon session, and rather pleased with their work, they played it for Ronstadt, who, at first, wasn't pleased. "Albert Brooks was in the studio with us," she recalls, "and when they played that solo, Albert said, 'That sounds pretty good. But I'm just wondering why, in the middle of the song, does it suddenly turn into a Beatles record?' Peter was not happy about that. And Andrew was completely busted, because, of course, that was exactly what his intention was."

Ronstadt requested that Kenny Edwards come in and play a blues take on the section, which he did. The rest of them, meanwhile, were quite glum. "I had gone home to sleep," Gold said. "When I came in at 3 p.m., the others said, 'Good you were late, you didn't have to live through that!'" She eventually came around, after taking a break with Brooks and having a second listen. "I was kind of on the fence about it. I wasn't sure I wanted it to sound like a Beatles record myself. But, frankly, it was really good!"

Ronstadt had equal reservations about her own lead vocal, recorded,

Continued on p.74

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Photo: Merrick Morton

GONE GIRL

DAVID FINCHER'S TENSE MYSTERY DERIVES POWER FROM ITS UNCONVENTIONAL SOUND DESIGN AND SCORE

By Blair Jackson

Nick and Amy Dunne, attractive New Yorkers who have moved to heartland Missouri, certainly don't have a perfect marriage. But is that any reason to suspect that Nick (played by Ben Affleck) might be involved in the disappearance of his wife (Rosamund Pike)? Director David Fincher's latest hit film, *Gone Girl*, is a taut thriller that masterfully doles out clues to the central mystery, as it also explores the complicated dynamics of the couple's troubled pairing, and how their friends, relatives, community and the media respond to Amy's vanishing.

Fincher's films always have interesting soundtracks, and *Gone Girl*'s is one of his most effective and engrossing. Indeed, the sound design and music are vital components of the storytelling and aids in ratcheting up the tension. Since his first major feature, 1995's *Seven*, Fincher has worked closely with Bay Area-based sound designer Ren Klyce, and posted his films at Skywalker Sound in Marin County (Fincher's home turf). Among those working with Klyce on *Gone Girl* were stalwarts such as re-recording mixers Michael Semanick (FX) and David Parker (dialog), dialog supervisor Rich Quinn, ADR editor Gwen Whittle and Foley editor Thom Brennan. FX editors included Malcolm Fife, David Hughes and Al Nelson.

For Fincher's last three films—*The Social Network* (2010), *The Girl with the Dragon Tattoo* (2011) and *Gone Girl*—the team of Trent Reznor and Atticus Ross supplied the always-intriguing original music. That duo won an Oscar for *The Social Network* (as did long-time Fincher film editor Kirk Baxter, who also has great input on the soundtrack); Klyce, Parker and Semanick earned sound nominations for that and *Dragon Tattoo*. So they're on a roll.

Between the sound design and the music, it's an incredibly full soundtrack. What might seem on the surface to be conventional narrative scenes are actually deftly woven sound-and-music constructions, where, say, cicadas and crickets provide a steady drone and contribute to the feeling of unease unfolding in the story, or the tone of the background walla shifts subtly over the course of various crowd scenes, as new facts come to light and affect people's view of Nick. Each locale and every scene in the film has its own sonic personality, even when it is an uneasy silence.

"We're always looking for a certain realistic density," Fincher says. "There's a lot of sound in the world. But with the sound and the music—and there's more music in this movie than in a lot of the ones Ren and I have done—we were looking for feeling and also for understanding where

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David Fincher and crew

we were in the world: We've moved back in time, we're in New York City, or now we're in Missouri. So, I don't think we were trying to overload people's ears as much as there was a lot of music and we still needed to have the vertical story of where you are in the narrative.

"The great news about Ren, the great news about Kirk, the great news about Trent and Atticus, is you're never talking to them about technique or technical things; you're talking about feeling. What's the feeling that we want here? Are we in anticipation of something here? What should it feel like when the other shoe drops? One of our biggest considerations throughout was, at what points are we going to be mundane and literal, and at what points are we going to allow things to be stylized to make a point?"

"Fincher really wanted to have backgrounds kind of on the edge, like we did at the beginning of *The Social Network*, where he wanted to challenge the audience," Klyce says. "David wanted to do a similar thing here with the opening sequence, where Nick and Amy meet at the party [in New York]. We initially had a mix where it was just dialog and music, and it was this notion that they were falling in love and romantic, and the people in the background weren't even audible. But David came onto the stage and said, 'No, no, I don't want it to be that kind of movie! I want it to be like we're in New York, we're at a party and there's a hundred people in the room they want to escape.' He was constantly pushing us to amp up the sound effects and he really wanted to feel that texture throughout."

"He also wanted to create a difference in texture from the early happy days in New York to the temperate cicada-filled, cricket-laden Missouri bad days in the relationship between the two characters. When David was filming [in Missouri], he phoned and said, 'This place is just filled with cicadas; we're going to need a lot of cicadas.' And on the production dialog itself [from the Missouri exteriors] you would also often hear crickets. For example, at the candlelight vigil, where Nick is making his plea to the townsfolk [to help find Amy], that production dialog had a lot of cicadas and evening crickets, so that tipped us off to create this texture for those scenes. From there we started to explore the little micro locations in the town—for example, when we go to Nick's father's house, it's down by the river and you can see the bridge in the background. David wanted different frogs and textures there, so we would always have a similar feeling when we'd go back

and forth from location to location; to give a sense of familiarity to the locations."

Klyce's sound editors/recordists certainly had their work cut out for them gathering material for the wide variety of ambiances the film required—some prominent, many subtle. For instance, Klyce notes, "When Amy goes off to the Ozarks, we really wanted to have some rural, hillbilly-like background sound, but I didn't know what that would be, outside of recreational sports, so one idea I had was, what if we always heard young people screaming and riding their motocross motorbikes in the distance?"

"We had a really good group of people collecting sounds all over the place. Al Nelson recorded a lot of the cicadas and the motorbikes in South Carolina, the Florida Everglades, Mississippi and Louisiana. We

also had Josh Gold in Missouri, recording ambiances. Josh also recorded in various venues, like bars and restaurants, to get the appropriate accents. We wanted to hear walla without it sounding scripted for loop group."

Klyce says that Fincher is "very attuned to the minute details of things—the photography, the props, the lighting, his picture editing, the sound. Everything in his photography is moving constantly and so is everything in his sounds. So he always wants to have these very complicated setups for something as simple as, say, two people talking in a restaurant. A scene that a lot of people would classify as a 'normal' scene, he makes very complicated, because he wants to do something interesting with it."

Parallel to the mystery story in *Gone Girl* is a strong thread about how media affect the stories they cover and how at the same time the players in those stories try to shape/manipulate the narrative to their own ends. Here, for instance, the initially sympathetic press turns on Nick with an almost frightening fervor.

"I wanted the sound in those scenes to reflect a very specific escalation," Fincher says. "The first time, they're very polite to Nick—'Can you please smile? Can I have you stand next to her [mother]?' Then the next time it's a little more rabid. And then, by the time he's coming out the door with Tanner [Nick's lawyer], they're practically a lynch mob. We wanted this escalating [sonic] personality, where you felt the evolution of their disdain."

Klyce adds, "David got very excited about the idea of creating another character, in a sense, from just the noise of the paparazzi [in post]. He got so into it he said, 'We need to write lines for these people, and really give them a sense of the lines of questioning.' So we wrote our own 'bad version' of lines they might say, and I sent them to David and he got the writer, Gillian Flynn, involved. He sent our 'bad' version to her and then she wrote a whole bunch of different phrases we could give to our reporter [loop] groups."

"The other thing David demanded from the reporter voices in ADR is he didn't want them to be recorded indoors, which is typically what we do with all ADR. You go to Tom O'Connell's stage or Doc Kane's stage, and it's a perfectly padded room with certain acoustics. But David really wanted to go outside to record, which is difficult to do because you can't control the outdoors. So I had to go through all these tests with him where Steve Orlando—our sound effects assistant—and I would set up various microphones and we'd go

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World Radio History



Photo: Merrick Morton

out to all these locations and do tests reading the script that Gillian had given us. I'd send audio tests to Fincher: 'What do you think of this location?' 'No, it's two echo-y; I can hear it bouncing it off the back of a building. I don't want to hear any reflection. I want it to sound like it's in an open field.' So we tried the baseball field up at Skywalker and ended up setting up just behind second base, and I think we had six microphones with two different synchronized recorders and did a bunch of tests out there. Fincher picked setup number two, I think it was," he laughs. "But that's how detailed he is."

"Then we got the [voice] actors to come out on the field, and Skywalker shut down all the outdoor activity on the property while we recorded. We also did it from various distances, because when people are close to a microphone and yelling, it's a much different sound than people far away from a microphone yelling. We did a lot of experimentation and a

lot of takes of people outside yelling, and then also ones of people running toward the microphone and running away from the microphone." Recording was to Sound Devices 744s with a variety of mics, including Sennheiser MKH 416s and Neumann KMR 81s.

"There's also a scene where Nick gets out of prison and gets into a limousine and people are banging on the windows and yelling, so we got all the actors to surround our cars and had them scream into the car," Klyce says.

The Reznor-Ross score is probably not one most people would expect from a suspense film (nor from the frontman of Nine Inch Nails). In many scenes it sort of drifts and floats in the air like a soothing balm, a counterpoint to what's actually happening in the story or in the characters' heads. It's quite a striking juxtaposition. "We showed Trent the movie and started talking about how it should envelop the audience," Fincher comments. "I had just had a back adjustment [with a chiropractor] and I was talking with Trent about that music that's designed to kind of lull you into a sense that it's good for you, it's healthy and it's all okay. And I liked that it had this sort of looping, drone quality. I told this to a laughing Trent Reznor, who said, 'It just so happens I picked up a pan flute,' so he took that little tidbit and ran with it, and this is what he came up with."

Klyce says that Fincher's term for what he was looking for was "spa" music. Much of their score is edgier than that implies, but it does have some of that vibe, for sure. "The way David envisioned it," Klyce says, "is that the whole relationship between these two characters is sort of a ruse. They're both pretending to be something they're not and they're kind of

Primacoustic... better design, better



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~ **David Rideau**
Engineer/producer - Janet Jackson, Sting, TLC, George Duke and Jennifer Lopez.



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

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

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

creating their own background. So the notion of, 'Ah, everything is great'; this feeling of being on anti-depressants, would somehow create a sense of tension by the fact that it's so calming. I think that was a really great idea on his part. You can definitely create tension with dark music, of course, but by creating it with this happy sound is almost more eerie in a way. So Atticus and Trent started to write and they'd name [the cues] after drugs—Klonopin, Xanax; many of their music cues had different anti-depressant titles. It really created a great background for the couple living this 'perfect' life in this 'perfect' house, where everything is not perfect."

On *Gone Girl*, as on the other two films they scored for Fincher, Reznor and Ross began fashioning rough versions of cues while shooting was still going on, basing their work on descriptions of scenes, inspiration from the script or early cuts by Kirk Baxter. Baxter, music editor Jonathan Stevens and Klyce then would each do a pass cutting down longer pieces of music into something more manageable for the specifics of a given scene as it took shape. "We started very loose," Fincher comments, "kind of saying 'Give us some stuff and let us lay it up against picture, and then you respond, and then we'll respond, and keep refining it.'" Or as Klyce puts it, "[Trent and Atticus] would give us MP3s and we'd do the rough 'caveman' version of it, and we'd turn that back to them and they'd say, 'Oh, we see what you're doing here,' and they'd take the ball back and finesse it to picture."

Not surprisingly, the final mix, at Skywalker on a Neve DFC, was a complicated affair, but made considerably easier by the smooth working relationship of the mixers, editors and their demanding—but trusting—

director. "It was really tricky," Klyce concedes. "There's so much clever writing in the screenplay, and David's style on set with his actors is he gets them to be very natural, so they're often not projecting a lot and some of the lines are delivered under breath, softly. So to get the dialog to 'speak' [in the mix], and weave that in and out of the voiceover, wasn't easy. But David Parker, who pre-mixed and mixed the dialog, and who's been on all the Fincher films and is sort of our mentor on the mix stage, did a fantastic job. Having Michael Semanick mixing FX and me mixing music creates a good sense of checks and balances. By holding the music faders, I can tune into what Trent and Atticus' work is doing, and it gives us a sense of perspective as to how best to suit the soundtrack."

"Parker, Semanick and I will mix and work a scene together. If there's a music cue, we'll go round and round and cycle through the entire cue. I'll be mixing and panning the different tracks the composers have given us, but Parker, Semanick and I are all mixing simultaneously—dodging and burning moments and lines, and tucking FX and doing these minutiae moves. One of the fun things about working with Semanick after all this time is we've really learned how to balance one another. Sometimes he'll introduce the music by pulling the sound effects out, or vice versa. We'll cross between the sound design and the music: 'I'll hand it off to you here and you can give it back to me there.' We go through and figure out the architecture, then we'll work on the execution. Then Fincher will ultimately come in and say, 'No, the music is coming in too loudly; have it come in more softly.' We'll fine-tune a sequence or scene, focusing on the emotional impact that Fincher wants to express." ■

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~ Daniel Adair Drummer - Nickelback.



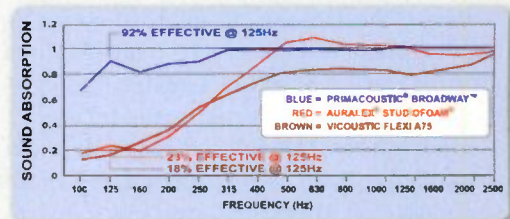
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World Radio History



'LA TRAVIATA' AT MOUNT MASADA

— AN ALL-DIGITAL PATH IN THE ISRAELI DESERT —

By Gary Eskow

When Giuseppe Verdi penned his classic opera "La Traviata" in the middle of the 19th century, it's unlikely that he considered the possibility that this work, which details the fall of a trollop with a golden heart, would one day be staged in the foothills of Mt. Masada, where followers of Herod the Great had mounted their own epic performance several millennia earlier.

Under the baton of Daniel Oren, in June of 2014 the Israel Philharmonic delivered this masterpiece beneath the stars to packed houses over the course of a four-night run. Setting up the stage, seating, and a first-class sonic environment under the conditions that the crew of Kilim Pro Sound & Light faced was a massive undertaking. Guided by General Manager Meir Kilim, the son of the company's founder, the organization did a remarkable job. Mixing tasks were overseen

by Yuval Silberstein, who spoke to *Mix* at some length during the three days that we spent covering the final days of setup, the dress rehearsal and opening night.

From the name of your company, Yuval Sound Ltd., it sounds like you're a one-man shop.

Yes! I've been an audio engineer for about 30 years. Meir's [Kilim] father taught me the basics—which cables to use, how to repair cables, everything about live mixing in particular. I was a P.A. engineer when I was in the army. When I got out, I became an assistant engineer, and about 18 months later I was working on my first album.

Is there a style of music you feel most comfortable working in?

No, not really. I do a lot of producing these

days, and it's all about the relationship I have with an artist. Things are different in Israel, smaller. There's a group, Teapacks, that I began working with in the early '90s who are now making a comeback. People here come from many different cultures, both Eastern and Western. This group is combining a lot of these influences. I was like a secret member of Teapacks. I wasn't in the photos, but I was involved with the music and vocal production.

Do you work out of your own project studio?

Yes. I have a Pro Tools HD3 system and do most of my mixing and mastering in my studio. We've also got a live room in this facility. When I have to work outside of my space, I have a rack of stuff—Pultecs, UREIs, Genelecs, in particular—that I carry with me. I mix entirely within the box at this point. I used to go to a studio that had an SSL console, but after a while I bought a PreSonus ADL 600 and fell in love with its tube sound. I brought it here to Masada, in fact.

In the studio you'll often find engineers poring over scores while working on a classical project. Do you?

I don't have a background in classical music and don't read scores. I think sound is very easy to understand if you know the way it works. It doesn't matter what you're mixing, that's my opinion. Low end, low mid, high mid, high. If it's classical, pop or an Arabian orchestra, the various bands have to make sense and mesh well together. I've been associated with the Israeli orchestra for about 10 years and that approach seems to be working!

When you're working with a rock band you have to ride levels and think about delays and so forth. When mixing a live classical project like "La Traviata at Masada," don't you leave more of the "mixing" in the hands of the conductor?

No, I don't think so. We're riding a lot with this project. There are differences, to be sure. In a rock project everything moves quickly. You have to react to tempos that can change suddenly. Everything—tempi, changes in orchestration, even the performer's emotions—changes more slowly. When I let other mixers who have never mixed an opera deal with soloists, their first reaction is generally, "Whoa!" Things jump away from you if you move as you would in a rock concert.

What's the challenge that mixing in an open space without reflective surfaces brings to a project like this?

You have to build your own concept of sound. For

starters, people are not used to hearing opera or classical music in open air. You have to let them imagine that they're in an opera house. But it's tricky. When you're in an opera house you might use just two, or maybe four microphones. Here in the desert, I need many more because I have to control everything. As a result, you have to deal with phases between the microphones; every reflection on every mic can become bigger, so you have to be very careful in the way you handle delays. It's not an easy job.

Do you use a combination of delays and reverbs?

I only use one reverb, a Lexicon 300. It goes across everything, that's my glue. It's not on the master; I send different sends from every channel. Some of the mics I don't want to be too fat. The concept is to let people try to hear it as close as possible to the sound of an opera house even though it's outside.

Do you find that there's ever an artistic conflict between your way of hearing things and the conductor's? Aren't you a second conductor of sorts?

I always tell the artists I work with that I'm their player. They're playing and I'm playing them. Yesterday, the conductor conducted one way and today it will be different. It's like you have to mix in a different way every night.

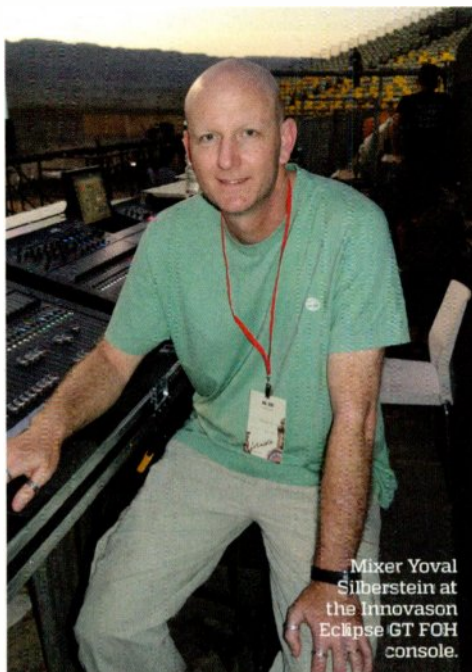
In a sense you're producing the conductor.

Yes, absolutely. [Conductor] Daniel Oren and I spoke about this yesterday. There was some tension between us on the day he arrived from Paris, but things have gotten easier. I'm going to tell him what I think and hear!

For example, during the whole first half of the opera he told the violins to play softer, in my opinion, than they should have. The sound had less tension, and it became a problem for the singers. They rely on the tension of the strings—the string tones help them keep their pitches intact. The strings played a little bit down; for me it was bad, and I said that to Daniel. He said, "You know, that's what I felt." You can't deal with him, he's tough, the master!"

You have an all-digital pathway here at Masada. What are its advantages?

First and foremost, the dynamic range. We're using a Sennheiser 9000 digital wireless system,



Mikael Yoval Silberstein at the Innovason Eclipse GT FOH console.

and over 70 Sennheiser/Neumann digital microphones on the orchestra alone. We're picking up the players with a combination of digital mics [Sennheiser KM 8090] and a few analog mics. The signal-to-noise ratio of the digital mics is amazing. I love analog, but the headroom on these microphones is amazing. Put these microphones in the right place, choose your mixing console wisely, put up a good P.A. system and pull up the faders—there, you have your basic sound!

When we walked around the venue, you probably saw that in my mixer most of the channels are flat, with just some lowpass added. Omer Sifroni, the P.A. system engineer we're working with on the Meyer system, is the best in Israel, I think. He's a great guy. Most of the time I'm just shouting a few things at him.

You mentioned the signal-to-noise ratio advantage. Can you explain that a bit more?

I've never heard anything like these Sennheiser digital microphones; they're everything an engineer could ask for. Three or four years ago was the first time we brought this equipment to Israel. Since then I've done three or four projects in Jerusalem in a very tough outdoor environment. In the morning it's very hot and in the evening it's cold. I remember the first balance I did was with an 80-voice choir from Romania. I put up about 10 microphones in a line in front of them, no problem. I set the gain and low-cut inside the mics, put on a limiter, opened the fader and the old-school classical people were

immediately impressed at how good their music sounded. They started singing, and the old guys, all of them, came up to me and said they'd never heard anything like it.

The digital microphone uses the same capsule as in the analog, but here's the thing: The analog preamp cannot chase the signal as fast as the digital one. The dynamic range in classical music, where the forte passages are very loud and the lows are very low, is perfectly captured with the Sennheiser digital system. You saw the crowd last night. When the music was low, the audience was quiet. That's not the way an Israeli crowd generally responds. It's not like Europe—the Israeli crowd wants a show, but they were very quiet when the music got soft, and the effectiveness of the digital system played a big part.

A question about dynamics. I listened for certain things, string tremolos for example. You could hear the most natural fade to oblivion. If you have a digital microphone that can handle a great dynamic range, does that lessen the need for higher sampling rates, particularly if you're recording a live concert for later release?

I don't think it affects the sample rate issue. For me, the higher sample rates mostly change the reproduction of the high end, and I don't need those highs in classical music. As many classical artists have said to me, worrying about the uppermost range of the frequency spectrum, this is hi-fi talk, it's not classical music.

Once again, it's about dynamic range and the signal-to-noise ratio. We needed a soundcheck in Jerusalem one time and I forget that I'd left all of the mics open...there was no noise, no hiss, no nothing! A cleaning guy came onstage and started walking around, and that's when we realized all the mics were open. We hadn't heard a thing.

Do you use digital microphones manufactured by other companies?

No, we only have Sennheiser; we used to work only with Neumanns. I met people who work with other digital microphones and tried some of them—the dynamic range simply didn't compare to the Sennheisers. You can see my list of microphones, they're the preferred ones. I think I've gathered myself, you can hear my sound. I take my PreSonus ADL 600 preamp with me, the mics I want to work with, and you can say that's Yuval's sound! ■

iOS APPLICATIONS FOR CONSOLE CONTROL

Live Mixing From Anywhere in a Room

by THE MIX EDITORS

The ease and convenience of the relatively newfound ability to mix front-of-house or monitors wirelessly from anywhere in a room is gaining increasing importance and popularity. Since *Mix* last surveyed the field of available iPad apps for controlling digital mixers for live sound in January 2013, more developers have joined in by creating iOS apps for controlling specific console models.

Here, we present a number of iOS applications, both new and established (with updated feature sets), that offer engineers control of digital mixing consoles over a wireless network connection. Note that this roundup focuses on apps with professional features targeted at live sound engineers, and does not include dedicated personal monitor controllers designed for performing musicians.

ALLEN & HEATH GLD REMOTE, QU-PAD



GLD Remote provides wireless control of independent functions for the Allen & Heath GLD, primarily with mix and channel processing. Use GLD Remote to control fader levels, mutes, pan; Aux and FX sends, routing and pre/post switching; Matrix sends, routing and pre/post switching; DCA masters and assignments; preamp gain, Pad and 48-volt phantom power; Trim and Polarity; HPF, Gate, PEQ, GEQ, Comp, Delays; RTA function; channel names and color; PAFL select; full signal metering; and custom strips for personalized channel layout. Several iPads can be connected; GLD Remote is not intended for system setup or memory access. Qu-Pad, meanwhile,

provides wireless mobile control for the Allen & Heath Qu digital mixing console, with a similar feature set but only one iPad connection. Mute Groups and FX tap tempo are not available.

BEHRINGER X AIR, XICONTROL



X AIR is an iPad app for Behringer's X18 digital mixing console that allows users to control the console's mixing, processing and effects functions. The user interface provides access to 18 input channels and 12 buses, as well as four internal stereo effects processors.

Users can control all input levels for Inputs 1 through 18, including Preamp Gain, Low Cut, Phase, Phantom, and Stereo Link. The app's Channel Parametric EQ Control allows engineers to fine-tune EQ from anywhere in the room. X AIR also provides detailed Preamp/Configu-

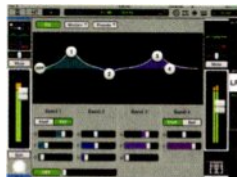
ration, Gate, Dynamics, EQ and Bus Sends pages, as well as four Full Effects editing screens for Hall Reverb, Vintage Room Reverb, Modulation Delay and Dimensional Chorus. Version 2 of Behringer's XiControl iPad app for the company's X32 console offers a freshly re-skinned user interface, new feature set and performance enhancements. The channel editing tab now incorporates a complete dynamics section, allowing the user to control the performance of the 32 Midas-designed preamps from anywhere in a venue.

LINE 6 STAGESCAPE REMOTE



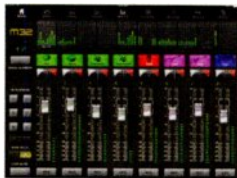
This app facilitates remote control of Line 6 StageScape Live Sound digital mixers. StageScape Remote connects directly to a StageScape mixer via a USB Wi-Fi adapter. Connect one or more iPad devices simultaneously for complete remote control over all mixer functions. Engineers can walk a venue with an iPad and adjust the front-of-house mix. Performers can manage individual monitor mixes from their own locations.

MACKIE MASTER FADER



Built exclusively for the iPad, Master Fader provides total wireless control of a DL Series mixer, from input/output processing to complex show management and device configuration. Mixer view allows fast adjustment of channel controls including solo, mute, pan and level with full metering. The Channel view gives control over DSP-based plug-ins. Inputs offer a choice of Vintage and Modern EQ, compression and gate, while 4-band parametric EQ plus HPF/LPF, 31-band GEQ, limiter and alignment delay are available for outputs. Master Fader further offers a choice of reverbs and delays with dedicated channel sends and returns to each output, input channel linking for simple control of stereo sources, Aux send linking for using in-ear monitors.

MUSIC GROUP M32-MIX, MIXTENDER 2



M32-Mix remote control and offline editing software provides comprehensive control over all mixing and routing functions of Midas M32 consoles. Connect the iPad to a wireless network and assign a static-IP address to all consoles wired to that network. The M32-MIX app will connect to that IP address showing the type of console while connecting.



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The app provides control over input levels, including preamp gain, low cut, phase, and phantom power. It offers EQ-curve control for fine-tuning the equalization from anywhere in the room, metering overviews with all levels at a glance, individual input channel sends to all buses, a Sends on Faders feature for rapid stage monitoring setup from an iPad, complete editing of the M32's onboard effects rack, scene management and control functions, and routing to a Behringer Ultraset P16 personal monitoring system. It provides detailed editing of channel preamp, gate, dynamics, EQ, bus sends and LCD scribble strips. Meanwhile, the Mixtender 2 app, currently at Version 2.1.1, is compatible with PRO1, PRO2, PRO2C, PRO3, PRO6, PRO9 and XL8 consoles. Mixtender 2 for Midas Pro Series Consoles combines control of most key functions with responsive system metering to control any PRO-series or XL8 console using an iPad.

PHONIC ACAPELA 16



This application allows for remote operation of the Phonic Acapela 16 digital mixer through a Wi-Fi connection, either in ad-hoc mode or through a wireless local area network (WLAN). Through the Acapela 16 Remote app, users can adjust input and output levels, auxiliary mixes, submixes, equalizers, dynamic processors and digital effects. While the Acapela 16 can work efficiently in desktop control mode, this iPad application is designed to offer a new level of flexibility, wherein a live setup can be controlled in any room within a WLAN range.

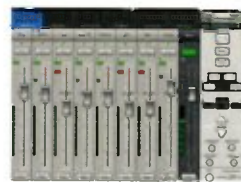
PRESONUS SL REMOTE-AI, STUDIO LIVE REMOTE



PreSonus SL Remote-AI for iPad provides control of nearly all of the mixing functions of PreSonus StudioLive AI-series mixers. Multiple iPads running SL

Remote-AI can control the same StudioLive AI-series mixer at once, and it can operate simultaneously with Virtual StudioLive-AI (Mac/Windows), QMix-AI (iPhone/iPod touch) and hardware control. The Overview page displays levels, mutes, panning, EQ curves, and Fat Channel processing for multiple channels at once. The app features subgroup, main and digital-return assignment control for all channels; dynamics and EQ control for all channels, auxes, subgroups and mains; Aux and FX Mix Send control for all channels; and FX type recall and parameter control including tap tempo. The Aux page shows the levels, panning, GEQ and Fat Channel processing for the aux and internal FX buses. StudioLive Remote for iPad, available free from the Apple App Store, provides direct wireless control over PreSonus Virtual StudioLive software for Mac and Windows, which in turn controls any StudioLive Series digital mixer.

QSC TOUCHMIX CONTROL



TouchMix Control is an app that provides wireless control via the Wi-Fi adaptor included with QSC TouchMix-8 and TouchMix-16 mixers. The

TouchMix Control app closely follows the mixers' operation and provides access to all digital mix parameters, controlling input channel processing (4-band PEQ, variable high- and low-cut filters, gates, compressor) and output channel processing (1/3-octave GEQ, variable high- and low-cut filters, anti-feedback filters, delay). It offers Simple and Advanced modes, and displays channel and output level meters, channel and output levels, and effects and

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auxiliary (monitor) send levels. Input presets are available from a library. Users can select and control four simultaneous effects. Plus, input and output mutes and cues, DCA and Mute group control and assignments, and multitrack recorder arm, playback and transport are available.

ROLAND M-480, M-300, M-200i



Roland offers applications for remotely controlling its V-Mixer live mixing consoles. The M-480 Remote and M-300 Remote are also equally useful as a sub-display and controller when placed beside the M-480 or M-300 V-Mixer, respectively. Each app must be used with the console's most recent firmware version. When using the M-480 or M-300 Remote, a single iPad can be connected at one time. Users can control the M-200i from up to three iPads at once: via the dedicated dock cable; the Roland WNA-1100-RL dedicated USB wireless adapter; and a wireless LAN device. Depending on the size and complexity of the environment, an operator can choose any or all of these connection types.

SOUNDCRAFT VISI REMOTE

Soundcraft ViSi Remote Version 2.1 allows control of Soundcraft Vi, Si Compact, Si Performer and Si Expression mixing consoles wirelessly from an iPad device using a wireless access router connected to the console's Harman HiQnet Ethernet port. ViSi Remote is designed to allow engi-



neers to roam a venue while adjusting FOH mixes and other audio parameters. V. 2.1 brings full channel and bus metering, including noise gate and compressor graphs. Soundcraft's iOS app lets users set mic gain and 48-volt phantom power from the stage; adjust monitor levels

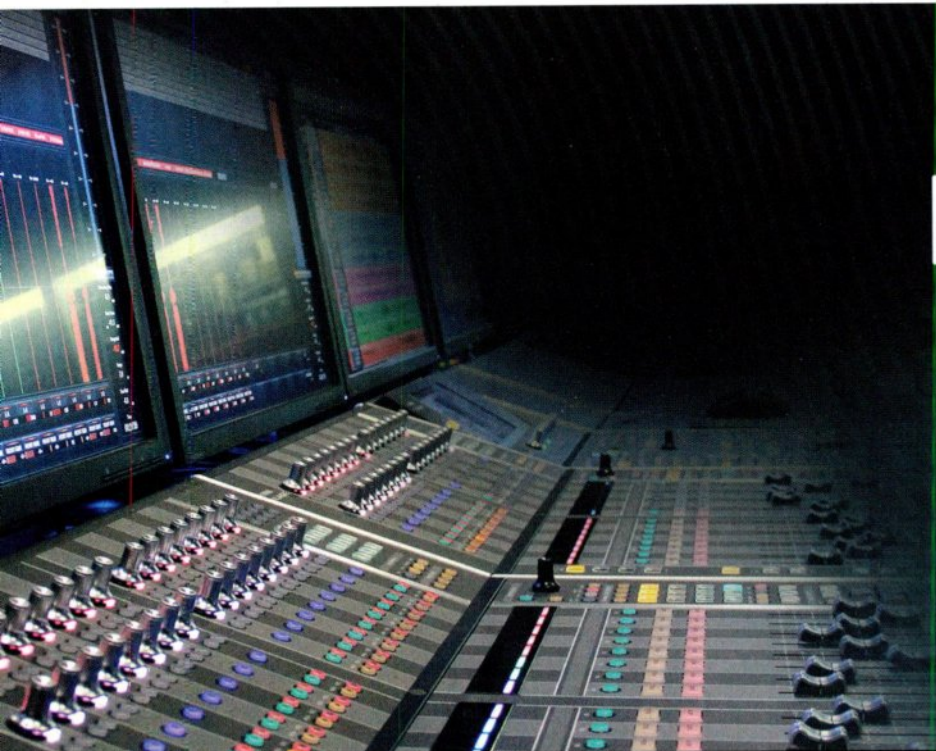
from onstage; adjust channel strip settings; extend the fader count of an existing control surface; use in stand-alone mode for familiarization with console functions; control a network of consoles; provide a separate surface for DMX functionality (Si Performer only); allow multiple users on the same console to control their own mixes; and have a global metering overview or "meter bridge" as an extension of the console.

YAMAHA STAGEMIX: CL, LS9, M7CL, QL



Yamaha offers four StageMix iOS mixer control apps (Version 4.5), each providing wireless remote control over a corresponding console. StageMix does not provide remote control of all console parameters, but rather was specifically designed to allow monitor engineers to adjust monitor mixes

from the performers' positions onstage, directly controlling mix parameters via an iPad. Each update adds new features. The V.4.5 update includes full control of the console's oscillator, direct channel navigation in the PEQ/GEQ/Dynamics editor screens and global pre/post setting for Mix Sends. ■



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Columbia College Grads at Work

The Audio Arts & Acoustics Department at Columbia College in Chicago has a long history of placing graduates in a wide variety of audio professions. A few recent examples:

Two of the most active live sound companies in Chicago, Technotrix and ECTO Productions, are owned and operated by Columbia Live & Installed Sound alumni. Most recently, Technotrix had seven alumni on two stages for Riot Fest 2014, including a large Martin Audio MLA system for Slayer. ECTO contracted five stages for the 2014 North Coast Music Festival, with 13 alumni on the crew, including 10 operating three d&b systems, and three alumni on two stages subcontracted from SIS.

Meanwhile, Andrew Felluss (Audio Design & Production, 1998) has



Aaron Davis (far right) and Nathan Short for ECTO Productions at the 2014 North Coast Music Festival



Andrew Felluss (left) at a tracking session for Radi-an artist Julia Klot at Quad Lakeside. With him are assistant engineer, Maximillian Liebman (center), and Quad founder Lou Gonzales.



Joe Tessone (right) teaches three audiologists about recording and signal flow.

Recording Connection Taps United



Producer, engineer and mentor Matt Linesch and Recording Connection student/apprentice Hannah Finegold at Ocean Way Recording Hollywood (now United Recorders) Studio A.

With all the focus in education turning to manageable debt and a mentor-based approach, you can almost feel the bones growing at Recording Connection, the 20-plus-year-old “alternative education” outlet for budding audio pros. Last month, just before AES, the organization announced the sign-up of the famed Ocean Way Recording (recently renamed United Recorders, its original moniker when designed by Bill Putnam in the late

1950s) to its 48-state, 250-city, 375-studio, 400-plus mentors member network of apprentice-based training. It might just be the biggest jewel in the organization’s crown to date.

The educational concept at Recording Connection is simple: Standardize a curriculum, keep students out of debt, place them in one-on-one situations with real, vetted studio owners in local markets, teach the trade, then get a job. For a student looking at a particular geographic market or audio field, the local networking alone is a bonus. And the one-on-one mentoring cannot be overstated. As with anything else in life, what you get out of it depends on what you put into it.

With an average six-month tuition of \$8,800 and a relatively basic curriculum designed around Pro Tools, Logic and Ableton, Recording Connection does not pretend to be a be-all, end-all to audio education. Instead, it aims to put students in the market they want to work in, with working professionals who have something to say (look at the business model; you can bet studios aren’t doing it solely for the money).

Since 1983, Recording Connection (nee Recording, Radio & Film Connection) has consistently added mentors and facilities to its local and regional approach. The Ocean Way connection may just signal its step into the big time. More to come.

Georgia State University School of Music Proposes Plans for Creative Industries Research Institute

Georgia State University’s Center for Audio Recording Arts (CARA) is a complex of recording studios, post-production suites and computer music labs



Dr. Robert Scott Thompson

housed in the School of Music on the university’s downtown Atlanta campus. Under the direction of Dr. Robert Scott Thompson (pictured), composer and coordinator of the music technology program, CARA is a hub for music production, digital audio research and technical training. These facilities figure

prominently in a proposed interdisciplinary Creative Industries Research Institute at Georgia State. Plans call for this program to incorporate music and music technology studies with film, communications, visual arts, business and more to cultivate collaborative and innovative media entrepreneurs.



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Ed Cherney Serves on McNally Smith College of Music's Board of Directors

McNally Smith's Board of Directors includes Grammy Award-winning music producer and engineer Ed Cherney, who has worked with some of the most influential and enduring recording artists, from Bob Dylan, Eric Clapton and Bette Midler to the Rolling Stones, Bonnie Raitt and many others.

Cherney's industry experience and input play a valuable role in shaping the direction of the College's curriculum. "Music students need so much more now than when I first started in the business during my own college years," Cherney says. "Back then you apprenticed with someone and hoped to find work from that experience. But today, artists and producers need to be smart about their own A&R, radio promotion and merchandising. They need to know arranging in addition to knowing how to write a great song. They need an understanding of contracts, publicity, marketing, IT, and everything, really—including production expertise—that used to be provided to them when record labels were the only resource available."

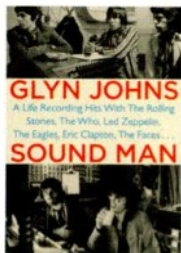


"Not only is Ed a premier producer and engineer, he has real vision and practical viewpoints that will readily serve the direction of the school now and for the future," says McNally Smith President Harry Chalmers.

EDUCATION: BOOKS

Glyn Johns: Sound Man

(Blue Rider Press/Penguin)



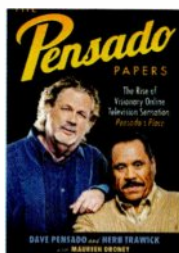
There are a handful of engineers/producers that all engineers—regardless of age, sex or religion—just nod their heads and bow down before. Giants like Al Schmitt, Bruce Swedien, Bill Putnam or Rudy Van Gelder. Glyn Johns is one of them.

In his new book, the subtitle says it all: *A Life Recording Hits With the Rolling Stones, The Who, Led Zepplin, The Eagles, Eric Clapton, The Faces...* But there's more: Traffic, Del Shannon, The Beatles, Humble Pie, Bob Dylan, Neil Young, The Clash, and on up to Ryan Adams' superb *Ashes & Fire*. It's not just the sound of a generation; it's the sound of multiple generations.

And it's a darn good book, told in true autobiographical form to the point that it feels like you're sitting down with a damn nice Englishman and having a pint and hearing him tell a tale that begins when he's 8 years old and his mother takes him down to sing in the church choir. There are a lot of insider peeks into the London sessions, along with a lot of personal accounts of interaction with artists and industry. Johns' voice comes through, and you get the sense that even through the '90s, when the projects weren't on the same scale as his early years, this is a guy who just loves making music, regardless of the name on the other side of the glass.

The Pensado Papers

(Hal Leonard Books)



As the hit, industry-insider, cult-status Web series Pensado's Place finishes its fourth season, it's no surprise that its co-founders and co-hosts, producer/engineer Dave Pensado and manager/producer Herb Trawick, would begin branching into

all forms of media. Over the past several years the duo has taken their show on the road, presented at industry events, upgraded their studio digs and set their sights on cable. Now they have a book, subtitled *The Rise of Visionary Online Television Sensation Pensado's Place*, that tells the story.

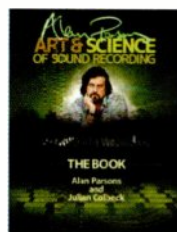
Actually, it's a couple of stories, as told to P&E Wing Executive Director Maureen Droney and presented interview-style, broken down by chapter. The first story is the re-invention of Pensado, a hitmaking mix engineer who suffered a life-threatening stroke that led to an induced coma and a long recovery, where he had to slowly regain basic speech and motor functions. With the help of longtime friend Trawick, he embarked on a new, forward-looking career imparting knowledge and access to the industry he loves, bringing in top artists and engineers from his Contact List.

The second story is the evolution of the show itself, from a very humble pilot, with two guys just trying to figure things out, to negotiating with sponsors and production companies about

rights and format. The two give a folksy, firsthand perspective about the passion and commitment involved in getting a quality show online.

Alan Parsons' Art & Science of Sound Recording

(Hal Leonard Books)



Alan Parsons needs no real introduction. He assisted on Abbey Road and mixed *Dark Side of the Moon*, for goodness sake. And he's remained vital all these years. A few years back, he embarked on a massive and comprehensive

DVD Series called *Art & Science of Recording* that detailed the entire recording process, front to back, in visual form. Now he has the book version.

Written and produced, as was the DVD series, with keyboardist Julian Colbeck, the book updates the series and is presented in hardback form, a coffee-table version that would appeal to a dentist who plays guitar and to a serious studio owner. There are countless photographs and explanatory graphics throughout, from basic microphone setups to examples of wall construction.

Throughout the book Parsons and Colbeck introduce examples, quotes and techniques from a variety of industry heavyweights, including Chris Pelonis on studio design, Jack Douglas on mixing and Chuck Ainlay bringing his experience to the popular section "Dealing With Disasters."



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World Radio History

EDUCATION GUIDE 2014

In each issue, we profile established and up-and-coming producers, engineers and the like, but they didn't just "fall" into their job. Each one of them followed a required course curriculum, garnering knowledge at each step of the way. And so, the editors at *Mix* are happy to present our long-standing "Audio Education Directory." Whether looking to start their career in the recording/post/live sound industry or researching for a certificate course to boost your knowledge, this must-read directory is geared for you. Listed alphabetically by state, you'll find the school closest to you to get you on your way.

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mesacc.edu/programs/

audio-production-technologies

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Chico, CA 95929-805
530/898-5152
csuchico.edu/mus/programs/undergraduate/
ba_industry_tech_record_art.shtml
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Recording Arts.

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Carson, CA 90747
310/243-3543
cah.csudh.edu/music

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San Francisco, CA 94112
415/239-3000

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arts/broadcast-electronic-media-arts.html
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Kentfield, CA 94904
415/457-8811
marin.edu/departments/PerformingArts/Music

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Audio Technology Program
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San Luis Obispo, CA 93403
805/546-3100, x2792
academic.cuesta.edu/performingarts
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203/932-7101
newhaven.edu
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YALE UNIVERSITY
Department of Music
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mdc.edu/sedt

Degree/Certification Offered: Associate in Science/Associate in Arts.

With studios on our North and Kendall Campuses, and an internship program with connections to the South Florida music and entertainment industry, we offer high-quality education at an affordable cost. Students work with award-winning faculty and staff within a "hands-on" environment. Each of our programs include entrepreneurial training in all facets of the music business.

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roxytpac.com

Degree/Certification Offered: Certificate in show production.



UNITY GAIN RECORDING INSTITUTE

1953 Ricardo Ave.
Fort Myers, FL 33901-7131
239/332-4246
unitygain.com

Degree/Certification Offered: The Audio Recording Comprehensive Program - Degree - Diploma; Advanced Techniques in Audio Recording - Degree - Diploma; Logic Pro - Apple Authorized Training Center - Certification; Waves Software - Certification.

UNIVERSITY OF MIAMI

Frost School of Music
PO Box 248165
Coral Gables, FL 33124
305/284-2241

miami.edu/frost/index.php/frost
Degree/Certification Offered: B.A., B.M., B.S., M.A., M.M.



THE VIBE RECORDING INSTITUTE

13750 Treeline Ave. S
Fort Myers, FL 33913
239/415-9912

theviberecording.com
Degree/Certification Offered: Diploma in Modern Recording Arts.

> GEORGIA

ART INSTITUTE OF ATLANTA

6600 Peachtree Dunwoody Rd. N.E.
100 Embassy Row
Atlanta, GA 30328
800/275-4242

artinstitutes.edu/atlanta/media-arts-602.aspx
Degree/Certification Offered: B.A. in Audio Production.

GEORGIA STATE UNIVERSITY SCHOOL OF MUSIC

75 Poplar St.
Atlanta, GA 30303
404/413-5900
music.gsu.edu

Degree/Certification Offered: Bachelor of Music, Music Recording Technology; Bachelor of Science, Music Management.



REALITY SOUND SCHOOL

Marietta, GA 30066
336/232-9795
realitysoundschool.com

Degree/Certification Offered: Training and Mentoring Program, Online and Hands-on Field Training.

SAVANNAH COLLEGE OF ART & DESIGN

1600 Peachtree St., NE
Atlanta, GA 30309
scad.edu/sound-design/index.cfm

Degree/Certification Offered: B.F.A., MA, MFA.

> ILLINOIS

COLUMBIA COLLEGE CHICAGO

School of Media Arts
Audio Arts & Acoustics Department
33 E. Congress Pkwy.
Chicago, IL 60605
312/369-8821
colum.edu/aaa

Degree/Certification Offered: B.S. in Acoustics, B.A. in Audio Design & Production, and B.A. in Live & Installed Sound.

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School of Media Arts
600 S. Michigan Ave.
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312/369-1000
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Degree/Certification Offered: B.F.A. Cinema Art-Science/Sound for Cinema, B.A. Audio Design & Production, B.S. Acoustics.

DEPAUL UNIVERSITY

Sound Recording Technology Program
804 W Belden Ave.
Chicago, IL 60614
773/325-7260
admin2.mus.depaul.edu/srt/

ELMHURST COLLEGE

Music Department
190 Prospect Ave.
Elmhurst, IL 60126
630/279-4100

public.elmhurst.edu/music
Degree/Certification Offered: B.M. or B.S. in Music Business, B.A. in Music, certificates.

LEWIS UNIVERSITY

Department of Music
One University Parkway
Romeoville, IL 60446
815/836-5857
lewisu.edu/music

Degree/Certification Offered: Minor in Music Technology, B.A. in Music Merchandising.

MILLIKIN UNIVERSITY

School of Music
1184 W Main St.
Decatur, IL 62522
217/424-3934
millikin.edu/music

PARKLAND COMMUNITY COLLEGE/

POGO STUDIO

2400 W. Bradley Ave.
Champaign, IL 61821
217/351-2392
parkland.edu

SOUTHERN ILLINOIS UNIVERSITY

Department of Radio-Television
MCMA
Southern Illinois University
1100 Lincoln Dr.
Carbondale, IL 62901
618/536-7555
rtv.siu.edu/

Degree/Certification Offered: B.A. with a specialization in Audio.

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28 N Clark St., Ste. 500
Chicago, IL 60602
312/332-0707
tfa.edu/programs/recording-arts/program-overview

UNIVERSITY OF ST. FRANCIS

500 Wilcox Ave.
Joliet, IL 60435
815/740-3529
darausf.com

Degree/Certification Offered: Bachelors.

> INDIANA

BALL STATE UNIVERSITY, SCHOOL OF MUSIC

2000 W. University Ave.
Muncie, IN 47306
765/285 5537
bsu.edu/music

Degree/Certification Offered: Bachelor of Science, Major in Music Media Production.

BUTLER UNIVERSITY

College of Communication
Fairbanks, Room 118
4600 Sunset Ave.
Indianapolis, IN 46208
317/940-5962

butler.edu/creative-media-entertainment
Degree/Certification Offered: B.A. in Recording Industry Studies.

INDIANA STATE UNIVERSITY

School of Music
100 N. 7th St.
Terre Haute, IN 47809
812/237-2771
indstate.edu/music

Degree/Certification Offered: B.A., B.S. in Music; B.A., B.S. in Music Business; Bachelor of Music Education; Bachelor of Music in Performance.

INDIANA UNIVERSITY

School of Music
Department of Recording Arts
1201 E Third St.
Bloomington, IN 47405
812/855-1087
music.indiana.edu/departments/academic/recording-arts/index.shtml
Degree/Certification Offered: B.S. in Recording Arts; A.S. in Recording Arts.

PURDUE UNIVERSITY

Department of Theatre
552 West Wood St.
W Lafayette, IN 47907
765/494-3074
cla.purdue.edu/theatre
Degree/Certification Offered: BA in Sound for the Performing Arts, MFA in Sound Design, MFA in Audio Technology.

> IOWA

ST. AMBROSE UNIVERSITY

Communication Dept.
518 W. Locust
Davenport, IA 52803
800/383-2627
sau.edu/Academic_Programs/

Communication.html

Degree/Certification Offered: B.A. in Radio/TV, Journalism, Public Relations and Strategic Communication, Media Studies.

> KANSAS



INSTITUTE OF AUDIO ENGINEERING ARTS (IAEA)

1933 N. 10th St.
Kansas City, KS 66104
913/621-2300

recordingeducation.com
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New Orleans, LA 70471
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cmfa.loyno.edu/music-industry-studies
Degree/Certification Offered: B.S. in Music Industry Studies.

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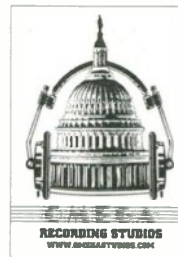
nescom.edu
Degree/Certification Offered: B.S. in Communications Technology, with concentrations in Audio Engineering and Live Sound Technology.

> MARYLAND

COMMUNITY COLLEGE OF BALTIMORE COUNTY

Baltimore, MD 21228
443/840-2222
ccbcmd.edu

Degree/Certification Offered: A.A. in Humanities and Social Sciences, A.F.A. in Fine and Performing Arts, Music Production and Audio Recording Technology certificate.



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5609 Fishers Lane
Rockville, MD 20852
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omegastudiosschool.edu
omegastudios.com

Degree/Certification Offered: Certificates in The Comprehensive Recording Industry Program, Audio Engineering for the Music Industry, Audio for Film and Television, Recording Engineering and Studio Techniques, Electronic Music, Synthesizers and MIDI, Sound Reinforcement for Live Performance, Essentials of Music Business & Artist Management.

Training audio professionals since 1977, the Omega Studio's School operates within the facilities of Omega Recording Studios, a world-class five studio recording complex just outside Washington D.C. Omega's Audio Engineering for the Music Industry Program provides training in every aspect of audio engineering for the music industry, as well as music business education essential for a successful career. The Audio for Film and Television Program prepares students for careers as recording engineers in the television and motion picture industries. The Comprehensive Recording Industry Program combines these two programs to prepare the most highly qualified candidates for virtually any audio production or engineering position. In addition, students can take smaller components of these programs, individually or in combination, to narrow their educational focus to meet specific career objectives. Financial aid is available for those who qualify. Omega is Approved for Veterans' Benefits and accredited by ACCSC. Omega is an Avid Certified Pro School.



PEABODY CONSERVATORY OF THE JOHNS HOPKINS UNIVERSITY

1 E Mount Vernon Pl.
Baltimore, MD 21202
800/368-2521

peabody.jhu.edu/recordingarts
Degree/Certificate(s) Offered: Bachelor of Music in Recording Arts and Sciences, Master of Arts in Audio Sciences
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> MASSACHUSETTS

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berklee.edu

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508/336-0275
celebrationsound.com

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Boston, MA 02116
617/842-8500
emerson.edu
Degree/Certification Offered: B.A., B.F.A., M.F.A.

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hcc-cmta.org

NEW ENGLAND INSTITUTE OF ART
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617/512-4472
neia.aii.edu
Degree/Certification Offered: B.S.

NORTHEASTERN UNIVERSITY
Department of Music
351 Ryder Hall
Boston, MA 02115
617/373-2440
music.neu.edu
Degree/Certification Offered: B.S. in Music Technology, B.S. in Music Industry, B.A. in Music History and Analysis.

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TUFTS UNIVERSITY
Department of Music
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Medford, MA 02155
617/267-5657
go.tufts.edu/musicengineering
Degree/Certification Offered: B.A., B.S., B.S.M.E., B.S.E.E., B.S.C.S., B.S.C.P.E.



Sound Recording Technology
www.uml.edu 678/934-3850

UNIVERSITY OF MASSACHUSETTS LOWELL
Department of Music
35 Wilder St., Suite 3
Lowell, MA 01854
978/934-3850
uml.edu/College/arts%5Fsciences/music/default.html

Degree/Certification Offered: Bachelor of Music in Sound Recording Technology, Master of Music in Sound Recording Technology, Minor programs in SRT for Computer Science and Electrical Engineering majors.

Masters degree program prepares graduates with advanced production skills and thorough understanding of technology; thesis or recording project concentrations. Bachelor degree prepares students for production-related careers through studies in recording, music, EE, physics, math and computer science. World-class facilities and faculty. Programs are supported by eight studios and control rooms, including critical listening and surround recording studio, high-end multitrack room with API Vision console, MIDI/synthesis studio, DAW/surround room, intermediate-level control room, video post-production suite, maintenance/repair laboratory, entry-level room.

> MICHIGAN

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340 Moore Hall
Mount Pleasant, MI 48859
989/774-3851
bca.cmich.edu
Degree/Certification Offered: 4-year bachelor degree (B.A.A., B.S., B.A. or B.F.A.); master's degree (M.A.).

CORNERSTONE UNIVERSITY
1001 E. Behtline Ave.
Grand Rapids, MI 49525
616/949-5300
cornerstone.edu/academics/communication/audio/
Degree/Certification Offered: Bachelor of Arts degree majoring in Audio Production.

MICHIGAN RECORDING ARTS INSTITUTE & TECHNOLOGIES
28533 Greenfield
Southfield, MI 48076
248/569-95422
mirecordingarts.com
Degree/Certification Offered: Certificate.

RECORDING INSTITUTE OF DETROIT
14611 E 9 Mile Rd.
Eastpointe, MI 48021
800/683-1743
recordinginstitute.com
Degree/Certification Offered: Certificate.

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5619 N Beech Daly
Dearborn Heights, MI 48127
313/561-7489
studioarecording.com
Degree/Certification Offered: Avid Pro Tools certificate.

UNIVERSITY OF MICHIGAN
School of Music, Theater & Dance
1100 Baits Dr.
Ann Arbor, MI 48109-2085
734/615-4383
music.umich.edu/departments/pat/index.php
Degree/Certification Offered: Bachelor of Music in Music and Technology, Bachelor of Fine Arts in Performing Arts Technology (Music Concentration or Media Arts Concentration), Bachelor of Science in Sound Engineering, Master of Arts in Media Arts.

WAYNE STATE UNIVERSITY
College of Fine, Performing and Communication Arts
42 W. Warren Ave.
Detroit, MI 48201
313/577-3577
music.wayne.edu
Degree/Certification Offered: B.A. in Music, Bachelor of Music, Master of Arts, Master of Music, graduate certificate in Orchestral Studies

WESTERN MICHIGAN UNIVERSITY
The School of Music
Kalamazoo MI 49008
269/387-4667
wmich.edu/music/about/index.html
Degree/Certification Offered: Bachelor of Music, Bachelor of Arts in Music.

> MINNESOTA

THE ART INSTITUTES INTERNATIONAL MINNEAPOLIS
15 South 9th St.
Minneapolis, MN 55402
612/332-3361
artinstitutes.edu/minneapolis
Degree/Certification Offered: Bachelor of Science in Audio Production.

INSTITUTE OF PRODUCTION & RECORDING (IPR)
312 Washington Ave. North
Minneapolis, MN 55401
866/477-4840
ipr.edu
Degree/Certification Offered: AAS Audio Production and Engineering, AAS Music and Entertainment Business, AAS Sound Design for Visual Media, Avid Pro Tools courses, Apple Logic Pro courses.

MCNALLY SMITH COLLEGE OF MUSIC
19 Exchange St. E.
St. Paul, MN 55101
800/594-9500
mcnallysmith.edu
Degree/Certification Offered: Master of Music in Performance, Bachelor of Science in Music (Music Producer), Bachelor of Music in Performance, Bachelor of Arts in Music (Music Business), Bachelor of Music in Composition, Associate of Applied Science in Music Performance, Associate of Applied Science in Recording Technology, Associate of Applied Science in Music, Emphasis: Music Production, Associate of Applied Science in Music Business.

MEDIA INSTITUTE COLLEGE OF MEDIA ARTS
4100 76th St.
Edina, MN 55435
866/701-1310
mediainstitute.edu

MINNESOTA STATE UNIVERSITY MOORHEAD
1104 7th Ave. S
Moorhead, MN 56563
218/477-2101
mnstate.edu/music
Degree/Certification Offered: BA in Music Industry (business or audio production focuses), Minor in Music Technology, Minor in Music Business, Minor in Media Arts.

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Technology, Minor in Music Business,
Minor in Media Arts.

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ridgewater.edu/programs/
AudioTechnology/pages/home.aspx
Degree/Certification Offered: AAS, Degree.

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Dr. John C. Paulson #1473 St. Mary's U.
700 Terrace Hts.
Winona, MN 55987
smum.edu/music
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B.A. degree in Music Industry: music
technology or music business tracks.

> MISSISSIPPI

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DELTA STATE UNIVERSITY**
W. Sunflower Rd.
Cleveland, MS 38733
662/846-4579
dmi.deltastate.edu
Degree/Certification Offered: Bachelor of
Science degree in Entertainment Industry
Studies (BS-EIS).

> MISSOURI

**NORTHWEST MISSOURI STATE
UNIVERSITY**
Department of Communication
and Mass Media
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Maryville, MO 64468
660/562-1361
nwmissouri.edu/communications
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Media, Broadcast and Production
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with Management, Associate of
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& Media Business with Management,
diploma in Recording Engineering &
Producing, diploma in Entertainment &
Media Business.

UNIVERSITY OF CENTRAL MISSOURI
UCM Center for Music Technology
361 Anderson St.
Warrensburg, MO 64093
660/543-4530
ucmo.edu/music/undergrad/tech.cfm

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St. Louis, MO 63119
314/246-7962
webster.edu/ae

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Norfolk, NE 68701
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> NEVADA

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gaming, Internet and other forms of new
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> NEW YORK

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aes.org/contact/?area=education

CAYUGA COMMUNITY COLLEGE
197 Franklin St.
Auburn, NY 13021
315/255-1743
cayuga-cc.edu/index.php
Degree/Certification Offered: Technology
AAS, Audio/Radio Production AAS,
Radio & Television Broadcasting AAS.

CITY COLLEGE OF NEW YORK
Sonic Arts Center
Shepard Hall Rm. #72
W 140th & Convent Ave.
New York, NY 10031
212/650-8217
sonic.arts.cuny.cuny.edu
Degree/Certification Offered: B.F.A. in
Music with a concentration in Music
and Audio Technology.

**DMX DIGITAL MEDIA ARTS AT
TOURO COLLEGE**
27-33 W 23rd St.
New York, NY 10010
212/463-0400
touro.edu/nyscas/dmx.html
Degree/Certification Offered: Certificate in
Digital Media Arts.

**DUTCHESS COMMUNITY
COLLEGE (SUNY)**
53 Pendell Rd.
Poughkeepsie, NY 12601
845/431-8000
sunydutchess.edu/assets/com.pdf
Degree/Certification Offered: AS in
Communications Media with specialty
tracks in audio, video, and special effects.

EASTERN SUFFOLK BOCES
201 Sunrise Highway
Patchogue, NY 11772
631/289-2200
esboeces.org

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Music Recording Technology
3325 Marvin Sands Drive
Canandaigua, NY 14424
585/394.3500
ficc.edu/mrt
Degree/Certification Offered: A.S. in Music
Recording Technology.
The A.S. in Music Recording Technology
degree program is designed to provide you
the opportunity to learn your craft through
extensive hands on training, both as a
musician and a recording engineer. Whether
you choose to transfer to a baccalaureate
degree program or begin a career in music
recording directly after graduation, our
faculty's real world experiences will help
play an important part in your success.
The program itself is housed in a state-
of-the-art John Storyk designed complex
with all studios utilizing ProTools HDX
systems, Avid and Toft ATB32 consoles
and an extensive collection of world class
outboard processing and microphones.
In addition to these, 2 new studios came
online at the start of the Fall 2014 semester.
That house update NY's only 48 Channel
API Vision and SSL Duality SE consoles.

FIVE TOWNS COLLEGE
305 North Service Rd.
Dix Hills, NY 11746
631/656-2110
ftc.edu
Degree/Certification Offered: B.A. in Music
or Music Business.

HOUGHTON COLLEGE
1 Willard Ave.
Houghton, NY 14744
800/777-2566 | 585/567-9500
houghton.edu
Degree/Certification Offered: Pro Tools
Certification, BMus+ Audio Technology
and Production.

ITHACA COLLEGE School of Music



**ITHACA COLLEGE
SCHOOL OF MUSIC**
953 Danby Road, Whalen Center for Music
Ithaca, NY 14850
607/274-3171
ithaca.edu/music
Degree/Certification Offered: Sound
Recording Technology (B.M.) and
undergraduate programs including Music
Education, Performance Studies, and
Music Theory, History, and Composition.
Since its founding in 1892 as a conservatory,
the School of Music earns its reputation
as one of the best in the nation, offering a
superb blend of full-time faculty, performance
opportunities, required liberal arts courses,
and success in career placement. As a part
of our Bachelor of Music Program—in addition
to taking core courses that focus on legacy
recording techniques—you will be trained
in the latest recording and mixing methods
in our newly refurbished, state-of-the-art
facilities. To complement your music studies,
you will take courses in Audio Production,
Theatre Sound, and Physics, at the School of
Humanities and Sciences. Your skills will be
honed and developed over the four years,
while working as a paid engineer within
Ithaca College's Recording Services work-study
program culminating in an internship in the
field during your senior year. You will also
create a senior project, acting as producer,
recording/mixing engineer, and mastering
engineer. This will act as your portfolio piece
that will demonstrate that you are an audio
professional and a schooled musician.

INSTITUTE OF AUDIO RESEARCH

64 University Place
New York, NY 10003
800/544-2501
audioschool.com/programs/audio-recording-production

MERCY COLLEGE

Music & Fine Arts Department
555 Broadway
Dobbs Ferry, NY 10522
877/MERCY-GO
mercy.edu/cda
Degree/Certification Offered: B.S. in Music Industry + Technology.

NEW YORK UNIVERSITY - THE CLIVE DAVIS INSTITUTE OF RECORDED MUSIC, TISCH SCHOOL OF THE ARTS

194 Mercer St., 5th Floor
New York, NY 10012
212/992-8400
clivedavisinst.tisch.nyu.edu/page/home.html
Degree/Certification Offered: BFA, Recorded Music.

NYU STEINHARDT

Department of Music and Performing Arts Professions
35 W 4th St., 7th Floor
New York, NY 10013
212/998-5424
steinhardt.nyu.edu/music/technology

OLD WESTBURY (SUNY)

223 Storehill Rd.
Old Westbury, NY 11568
516/876-3000
oldwestbury.edu

ONONDAGA COMMUNITY COLLEGE (SUNY)

Department of Music
4585 West Seneca Turnpike
Syracuse, NY 13215
315/498-2256
sunyocc.edu
Degree/Certification Offered: A.A.S. in Music.

SAE INSTITUTE

800/986-7723
sae-usa.com
Degree/Certification Offered: Associates Degrees in Audio Technology, Music Business; Diplomas in Audio Technology, Music Business; Certificates in Beat Lab, Electronic Music Production, iPhone Application Development.

SELECT SOUND STUDIOS

2315 Elmwood Ave.
Kenmore, NY 14217
716/873-2717
selectsound.com

TOM FILOGOMO

Yorktown Heights, NY 10598
917/714-2158
tomflogomo.com

THE COLLEGE OF SAINT ROSE

432 Western Ave.
Albany, NY 12203
518/454 5278
strose.edu
Degree/Certification Offered: BS Music Industry.

UNIVERSITY AT ALBANY

Department of Music
Performing Arts Center 310
1400 Washington Ave.
Albany, NY 12222
518/442-4187
albany.edu/music

> NORTH CAROLINA

APPALACHIAN STATE UNIVERSITY

Hayes School of Music
813 Rivers St.
Brookhill Music Building
Boone, NC 28608
828/262-3021
music.appstate.edu/music-industries-asu
Degree/Certification Offered: B.S. in Music Industry Studies with a minor in Business. Concentrations: Music Marketing and Management, Recording and Production, and Music Products.

BARTON COLLEGE

PO Box 5000
Wilson, NC 27893
800/345-4973, 252/399-6497
barton.edu
Degree/Certification Offered: B.S. in Communication with a concentration in Audio Recording Technology.

ELON UNIVERSITY

Department of Music
Elon, NC 27244
336/278-2000
elon.edu/e-web/academics/elon_college/music
Degree/Certification Offered: B.S. in Music Technology, B.S. in Music Education, B.A. in Music Performance, B.A. in Music.

KAREN KANE MUSIC PRODUCTIONS

7107 N Bend Rd.
Wilmington, NC 28411
910/681-0220
mixmama.com

SONIC WAVE RECORDING

1007 E Whitaker Mill Rd.
Raleigh, NC 27608
919/832-9647

UNIVERSITY OF NORTH CAROLINA, ASHEVILLE

107 Lipinsky Hall, CPO 2290
One University Heights
Asheville, N.C. 28804
828/251-6432
Degree/Certification Offered: B.A. in Music, B.A. in Music/Jazz Studies, B.S. in Music Technology.

> OHIO

CAPITAL UNIVERSITY

1 College and Main
Bexley, OH 43209
614/236-6011
capital.edu/music-tech
Degree/Certification Offered: Bachelor of Music in Music Technology, Bachelor of Arts in Music Technology.

CASE WESTERN RESERVE UNIVERSITY

Department of Music
11118 Bellflower Rd.
Haydn Hall, Room 201
Cleveland, OH 44106-7105
216/368-2400
music.case.edu

CLEVELAND INSTITUTE OF MUSIC

11021 East Blvd.
Cleveland, OH 44106
216/791-5000
cim.edu

CUYAHOGA COMMUNITY COLLEGE (TRI-C)

Recording Arts and Technology Dept.
2900 Community College Ave.
Center for Creative Arts
Room 001
Cleveland, OH 44115
216/987- EARS (3277)
theratchannel.com
Degree/Certification Offered: Associate of Applied Science in Recording Arts and Technology. Certificates Offered: Pro Tools Operator Music, Live Sound and Venue Management, Music and Entertainment Business.

GROOVE U

1300 Forsythe Ave.
Columbus, OH 43201
614/291-6122
grooveu.net
Degree/Certification Offered: Diploma in Music Industry Studies with the following area(s) of specialization: music production, music business, music live, music video, music interactive.

HOCKING COLLEGE MUSIC PRODUCTION BUSINESS AND PERFORMANCE

3301 Hocking Pkwy.
Nelsonville, OH 45764
877/HOCKING
hocking.edu/programs/music

INTERNATIONAL COLLEGE OF BROADCASTING

6 S Smithville Rd.
Dayton, OH 45431
800/517-7284
icb.edu

LAKELAND COMMUNITY COLLEGE

7700 Clocktower Dr.
Kirtland, OH 44094
440/525-7000
lakelandcc.edu/ACADEMIC/ARTS/media

MALONE UNIVERSITY

Bachelor of Arts in Music Production
2600 Cleveland Ave
Canton, OH 44709
800/521-1146
malone.edu
Degree/Certification Offered: Bachelor of Arts in Music Production includes recording and technology elements, performance and composition, and music business.

OBERLIN CONSERVATORY OF MUSIC

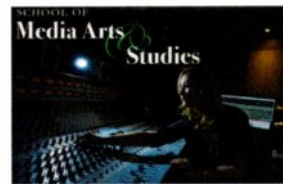
101 N. Professor ST.

Oberlin, OH 44074

800/622-6243
new.oberlin.edu
Degree/Certification Offered: Bachelor of Music.

OHIO NORTHERN UNIVERSITY

525 South Main St.
Ada, OH 45810
419/772-2000
onu.edu



OHIO UNIVERSITY

Scripps College of Communication
School of Media Arts & Studies
Schoonover Center 319

1 Ohio University

Athens, OH 45701
740/593-4870
Degree/Certification Offered: Bachelor of Science, Communication.

The Music Production & Recording Industry program in the School of Media Arts & Studies offers the Music Production track, emphasizing creative, cutting-edge education in producing and engineering music, while the Recording Industry track provides aspiring professionals courses in the business of the emerging music industry. We offer expert, professionally experienced faculty, a 21-seat production lab, and a world-class, John Storyk-designed recording studio, featuring two control rooms: Control Room A features a Rupert Neve Designs 5088 console and a host of Summit, Avalon and Universal Audio components, while Control Room B features a ProTools HD music and 5.1 post-production suite. We provide numerous professional networking opportunities including trips to South by Southwest and AES conferences. Ohio University, located in the culturally vibrant community of

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Zanesville, OH 43701
740/453-0762
ouzmmedia.com

Degree/Certification Offered: Associate of Applied Science in Electronic Media.

OWENS STATE COMMUNITY COLLEGE

PO Box 10,000
Toledo, OH 43699
800/466-9367
owens.edu

Degree/Certification Offered: Music Business Technology A.A.S (Applied Associates Degree).

RECORDING WORKSHOP

455 Massieville Rd.
Chillicothe, OH 45601
800/848-9900 (U.S. only) | 740/663-1000
RecordingWorkshop.com

Degree/Certification Offered: Music Recording & Audio Production CORE Certification, Music Recording & Audio Production ADVANCED Certification, Bachelor's Degree offered through partnership with Capital University.

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> OKLAHOMA

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25 S. Oklahoma Ave., Suite 400
Oklahoma City, OK 73104
405/239-9017
acm-uco.com

Degree/Certification Offered: Associate of Applied Science in Music Performance - Guitar, Bass, Drums, Keyboards and Vocals; Music Production; and Music Business. Students who graduate from the ACM@UCO Associate's degree program are eligible to pursue a Bachelor of Applied Technology with an area of concentration in Contemporary Music. Plans of study include Performance, Production, and Music Business for Performers and Producers.

OKLAHOMA STATE UNIVERSITY DEPARTMENT OF MUSIC

132 Seretean Center
Stillwater, OK 74078
405/744-8997
music.okstate.edu

Degree/Certification Offered: B.M. of Music Education, B.M. in Music with elective Studies Business, B.M. of Music Performance, B.A. of Music.

ORAL ROBERTS UNIVERSITY

7777 S. Lewis Ave.
Tulsa, OK 74171
918/495-7500
oru.edu

TULSA TECHNOLOGY CENTER

Riverside Campus
801 E. 91st St.
Tulsa, OK 74147
918/828-4166
tulsaotech.edu

Degree/Certification Offered: Certificate of Completion; also available to high school students as credit.

WALTER ARTS CENTER AT HOLLAND HALL

5666 E 81st St.
Tulsa, OK 74137
918/481-1111
hollandhall.org

> OREGON

CALDEN WEST MUSIC

138 S. Quadrant St.
Rockaway Beach, OR 97136
503/812-5367
caldenwest.com

Degree/Certification Offered: Private music instruction.

OREGON STATE UNIVERSITY

403 Strand Ag Hall
Corvallis, OR 97331-6202
541/737-1492

liberalarts.oregonstate.edu/school-arts-and-communication/new-media-communications

Degree/Certification Offered: B.A., B.F.A., M.F.A.

UNIVERSITY OF OREGON

School of Music
1225 University of Oregon
Eugene, OR 97403
541/346-5652

WESTERN OREGON UNIVERSITY

345 N. Monmouth Ave.
Monmouth, OR 97361
503/838-8275
wou.edu

Degree/Certification Offered: BM in Contemporary Music, Audio Production; MM in Contemporary Music, Audio Production.

> PENNSYLVANIA

ACADEMY FOR MEDIA PRODUCTION

18 Carlisle St., Suite 201
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THE ART INSTITUTES

Administrative Office
210 Sixth Avenue, 33rd Floor
Pittsburgh, PA 15222
artinstitutes.edu

CARNEGIE MELLON UNIVERSITY

School of Music
5000 Forbes Ave.
Pittsburgh, PA 15213
412/268-4118
music.cmu.edu

Degree/Certification Offered: Advanced Music Studies Certificate in Audio Recording & Production, BS and MS in Music & Technology, Music Technology Minor for undergraduates focused on Audio Recording & Production.



DREXEL UNIVERSITY

3141 Chestnut St.
Philadelphia, PA 19104
215/895-6402

drexel.edu/westphal/undergraduate/MIP
Degree/Certification Offered: Bachelor of Sciences, accelerated MBA.

The Music Industry program exposes our students to the multifaceted aspects of careers in the music industry by offering

comprehensive learning experiences in both technology and business. Students do coursework in one of our seven SSL/Pro Tools/Studio/Genelec-equipped recording studios or on one of over 50 Mac workstations. The Mad Dragon Music Group enterprises includes: music publishing, booking, concert promotion, music marketing services and MAD Dragon Records, Drexel's award-winning student-run record label. This highly competitive program is also enhanced by Drexel's co-operative education system that provides experiential learning with industry partners. The Music Industry Program includes a rigorous course of academic study and awards a Bachelor of Science degree. We also offer an accelerated BS/MBA program for our highly motivated business-focused student.

DUQUESNE UNIVERSITY

Mary Pappert School of Music
600 Forbes Ave.
Pittsburgh, PA 15282
412/396-6080

du.edu/music/music-technology/index.cfm
Degree/Certification Offered: B.M. in Music Technology, M.M. in Music Technology.

HACC - CENTRAL PENNSYLVANIA'S COMMUNITY COLLEGE

One HACC Dr.
Harrisburg, PA 17110
800/ABC-HACC
hacc.edu

Degree/Certification Offered: Music Industry Associate in Arts Degree.

KUTZTOWN UNIVERSITY

Electronic Media Department
P.O. Box 730
Kutztown, PA 19530-0730
610/683-4492
kutztown.edu/acad/electronicmedia

LEBANON VALLEY COLLEGE

101 N College Ave.
Annville, PA 17003
717/867-6275
lvc.edu/music

Degree/Certification Offered: Bachelor of Music in Recording Technology, Bachelor of Arts in Music Business.

If you love music, audio, and being creative, our recording and music business program lets you focus on what you really want to do. We offer a fully accredited Bachelor of Music degree that involves studies in music, performance, studio recording, mastering, live sound, record production, acoustics and studio design, and business. You'll start immediately as a freshman in our hands-on classes—you can't learn unless you actually get to engineer a lot. Get involved in Vale Music Group, which is our College record label, live concert promotion, and publishing company. Complete an internship in an area of your choice. You can go as far in life as you want; our graduates have worked at Disney, Sony, Dreamworks, Insomniac, etc, and they're doing game audio, live sound, film and post, design—you name it. We require a music audition, so plan ahead and work with your music instructors.

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PO Box 459
Littlestown, PA 17340
717/977-4556
musicinclusive.com

Degree/Certification Offered: Educational courses in synthesizer programming, as well as other courses listed here: musicinclusive.com/courses.

TEMPLE UNIVERSITY

Department of Media Studies & Production
2020 N. 13th St.
Philadelphia, PA 19122
215/204-5401
smc.temple.edu/msp

Degree/Certification Offered: Bachelor of Arts and Master of Arts.

Temple's MSP major offers a flexible curriculum in media production, analysis, business and emergent media, designed and taught by

leading scholars, that allows students to explore their own paths through access to the resources of a large, urban university. In the Recording Industry focus, courses in music production and business are taught by industry professionals, including two Grammy® winners, a Grammy® nominee, and successful music entrepreneurs, in the context of an increasingly important media landscape. Capstone options include regional, national and international internships, and a practicum built around a student-run, commercial record label. Graduate study emphasizes analysis with optional production and business courses. Opportunities for minors in Temple's nationally recognized Business School and College of Music are also available. Facilities feature six small production suites and a larger music production studio, outfitted with vintage analog hardware and industry-standard digital software, as well as a multi-seat, music-specific computer lab with breakout isolation booths.

YORK COLLEGE OF PENNSYLVANIA

Division of Music
Wolf Hall, Room 206D
441 Country Club Rd.
York, PA 17403-3651
717/815-1526

Degree/Certification Offered: B.A. in Music, B.S. in General Music Education, B.S. in Music (with studies in Music Industry and Recording Technology), A.A. in Music, minors in Music and Music Industry.

> SOUTH CAROLINA

MIDLANDS AUDIO INSTITUTE

201 South Prospect St.
Columbia, SC 29205
803/782-6910
midlandsaudioinstitute.com

UNIVERSITY OF SOUTH CAROLINA

School of Music
813 Assembly St.
Columbia, SC 29208
803/777-4280, 803/777-4281
music.sc.edu

> TENNESSEE

ART INSTITUTE OF NASHVILLE

100 Centervue Dr., Ste. 250
Nashville, TN 37214
615/874-1067
artinstitutes.edu/nashville

Degree/Certification Offered: B.A. in Audio Production.



BELMONT UNIVERSITY

Mike Curb College of Entertainment & Music Business
1900 Belmont Blvd.
Nashville, TN 37212
615/460-5504
belmont.edu/cemb

Degree/Certification Offered: BA or BS Songwriting, BBA Music Business, BA or BS Entertainment Industry Studies, BA or BS Audio Engineering Technology.



THE BLACKBIRD ACADEMY
2806 Azalea Place

Nashville, TN 37204
615/385-2423 | 855/385.3251
theblackbirdacademy.com

Degree/Certification Offered: Diploma in either Studio Engineering or Live Sound Engineering. The Blackbird Academy provides post-secondary mentor-based Studio Engineering & Live Sound Engineering Programs where students will be taught by a unique cast of professional instructors and award-winning guest lecturers. Each of the programs being six months in length, with four start dates per year. Our campus is built on the foundation of Blackbird Studio, the Nashville home to a community of engineers, producers, musicians and technical staff who over the years have taken the art of audio recording to new highs. The principles and beliefs that guide the Academy's program are simple: Challenge and educate students by presenting them with real-life scenarios an engineer would encounter on a regular basis. We believe training should take place in spaces that are not empty, cold classrooms but professionally designed studios and labs where engineers can hone their craft. Realize your potential by taking part in The Blackbird Academy experience!

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michaelwagener.com

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One Bridgestone Park
Nashville, TN 37214
615/232-7384
iadtd.edu/Nashville

Degree/Certification Offered: A.A.S. in Audio Production.



MIDDLE TENNESSEE STATE UNIVERSITY, DEPARTMENT OF RECORDING INDUSTRY

1301 East Main St.
Murfreesboro, TN 37132
Undergraduate Program

615/898-5030
recordingindustry.mtsu.edu
Graduate Program
615/898-5874
audioMFA.com

Home of one of America's first and largest programs, MTSU's Department of Recording Industry offers both undergraduate and master's degree programs designed to prepare students for any aspect of the recording and entertainment industries. The undergraduate program allows students to focus in Music Business, Commercial Songwriting, or Audio Production. The Master's of Fine Arts in Recording Arts and Technologies is America's premier program in audio and music production for students seeking an advanced degree in the field. The facilities include seven studios, two DAW/MIDI labs, two critical listening labs and a mastering facility. All studios and labs are equipped with state of the industry tools from API, SSL, Avid and others. Two studios were recently redesigned by Carl Tatz design. Award-winning students and a world-class faculty of Grammy-winning engineers, producers, entertainment lawyers, and other



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music industry professionals.

PELLISSIPPI STATE COMMUNITY COLLEGE

10915 Hardin Valley Rd.
Knoxville, TN 37933-0990
865/694-6400
pstcc.edu

Degree/Certification Offered: Associates Degree, Video Production Technologies; Sound Production Certification.



SAE INSTITUTE NASHVILLE

7 Music Circle North
Nashville, TN 37203
(615) 244-5848
nashville@sae.edu

Degree/Certification Offered: Associate Degrees and Diplomas in Music Business and Audio Technology.

SAE Institute Nashville is located in the heart of Music Row, the epicenter of Music City. From the moment you step foot on the Nashville campus, you will know SAE Institute is well-equipped to offer you a dynamic education in music business and audio technology. In addition to traditional lecture-style classes, we emphasize hands-on training and individual studio time, and provide facilities reflective of a professional workplace environment. Our faculty educates with industry-standard best practices so our graduates are well prepared for careers in the industries of music business and audio technology. Graduates also have the distinct advantage of joining SAE's 30-year-old International Alumni Network, composed of industry professionals all over the world.

UNIVERSITY OF MEMPHIS RUDI E. SCHEIDT SCHOOL OF MUSIC

129 Music Building
Memphis, TN 38152
901/678.2559

memphis.edu/music/academics_new/industry.php

Degree/Certification Offered: Bachelor of Music with concentrations in Recording Technology and Music Business.

VOLUNTEER STATE COMMUNITY COLLEGE

1480 Nashville Pike
Gallatin, TN 37066
615/230-3200

volstate.edu/RecordingStudio



WAVES INC.

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Knoxville, TN 37912
865/909-9200
waves.com

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> TEXAS

AUDIO ENGINEERING INSTITUTE

2477 North Loop 1604
East San Antonio, TX 78232
210/698-9666
audio-eng.com

AUSTIN COMMUNITY COLLEGE

11928 Stonehollow Dr.
Austin, TX 78758
512/223-4780
austinctc.edu/cmusc

Degree/Certification Offered: Associate of Applied Science.

CHRIST FOR THE NATIONS

444 Fawn Ridge Rd.
Dallas, TX 75224
800/933-CFNI (2364)
cfni.org

Degree/Certification Offered: Bachelors of Practical Ministry, Worship and Technical Arts Major.

DALLAS BAPTIST UNIVERSITY

College of Fine Arts
3000 Mountain Creek Pkwy.
Dallas, TX 75211
214/333-5316

dbu.edu/musicbiz
Degree/Certification Offered: Bachelor of Arts in Music Business, Bachelor of Science in Music Business, Bachelor of Business Administration in Music Business.

DEL MAR COLLEGE

Sound Recording Technology
101 Baldwin Ave.
Corpus Christi, TX 78412
361/698-1214
delmar.edu/music

Degree/Certification Offered: Associates of Applied Science (AAS) and Level 1 Certificate.

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Nacogdoches, TX 75962
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music.sfasu.edu

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TEXAS STATE UNIVERSITY

601 University Dr.
San Marcos, TX 78666
512/245-8451
txstate.edu/music/srt

Degree/Certification Offered: BS, Sound Recording Technology.

Texas State University owns and operates the Fire Station, a multipurpose recording facility housing four control rooms, an automated SSL Duality console, four Pro Tools HD systems, and numerous professional microphones and outboard devices. Students participate in commercial recording sessions while pursuing their degrees. Admission is competitive. Program applicants should have significant musical abilities, well-developed aural skills and possess competencies indicating an ability to complete pre-calculus and other technical courses. The curriculum emphasizes recording, music, digital media, math/science and an internship.

UNIVERSITY OF TEXAS AT ARLINGTON

700 Greek Row Dr.
Music Dept. Box 19105

Arlington, TX 76019

817/272-3471

uta.edu/music

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Austin, TX 78712
utexas.edu/finearts

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Music Department
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San Antonio, TX 78249
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musictech.utsa.edu

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su.edu

Degree/Certification Offered: Bachelor of Music in Music Production and Recording Technology.

> WASHINGTON

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artinstitutes.edu/seattle

Degree/Certification Offered: Bachelor of Science in Audio Design Technology, Audio Production Associate of Applied Arts.

BATES TECHNICAL COLLEGE

2320 South 19th St.
Tacoma, WA 98405
253/680-7000
bates.ctc.edu

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206/542-1041
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PROFESSIONAL DEVELOPMENT



By Gino Robair

One question I hear most often from students who want a career in pro audio is how can they break into the business. As Mr. McGuire in *The Graduate* might reply: “I want to say one word to you, just one word. Are you listening?”

Network.

Students may think they already know this and, as a result, have joined Facebook, LinkedIn, Google+ and other social networking sites. But that’s not what I’m talking about here. The time-proven way to get into the biz is to mingle with professionals and get to know the scene within which you want to work. Unlike for other careers, it takes more than a good-looking résumé and a well-placed job application to get somewhere in a field as competitive as the music industry.

Of course, talent and a solid skill set are important, but getting the job you want is also about who you know, about meeting the right people, and about being in the right place at the right time—all of those things we consider clichés but are, in fact, a reality.

An important first step can be as easy as joining a professional organization such as the Audio Engineering Society or the Recording Academy, both of which provide opportunities for students to meet audio professionals, often in educational settings. Students may be surprised at how easy it is: Why would someone who has won a Grammy be interested in meeting me? It turns out that the people who take part in these organizations do so in part because they are interested in meeting, mentoring and inspiring future generations of music professionals.

Consequently, it behooves a student to get involved in these kinds of organizations while building their skill set, rather than wait until they finish their certificate or degree program: Extracurricular learning is as important to a well-rounded education as the hours spent in the classroom—perhaps even more so. And there’s no better way to learn the craft than directly from the masters.

Audio Engineering Society

Regular readers of *Mix* know about the AES and may even be members (or, at the very least, have attended one of its events). To students, however, the name of the organization, alone, can sound intimidating. Nonetheless, they can join the organization as a Student Member for as little as \$39 a year. Workshops, listening events and access to papers covering the latest research are just some of the perks of this membership level.

In an email, AES President-elect John Krivit told me that “about one-third of our membership is made up of students, which I believe shows

what a young and vibrant society we are. But the real important connectors are the AES Faculty Advisors on each campus. These educators are the ones who encourage their students to have great local events and to make the leap of faith to get themselves to the conventions.” That last part is a take-home message for instructors and students.

GrammyU

The Recording Academy focuses its efforts in several key areas, such as political advocacy for the rights of artists and studio professionals, as well as the development of technical standards through the P&E Wing. For me, one of the most exciting aspects of the organization is its student outreach program, GrammyU.

Among the many opportunities GrammyU membership provides is a chance to attend events designed specifically with students in mind. However, it also opens up opportunities to network with Recording Academy members who span a wide variety of entertainment careers, from engineering, songwriting, and performing to artist management, booking and entertainment law. Students don’t always know where they will end up in this biz, so it’s important for them to see the breadth of opportunities available—many of which they may not have heard of before.

The Recording Academy has made GrammyU membership very attractive with its one-time fee of \$50. With that you can attend any of the GrammyU events, as long as you sign up when space is limited. As far as I’m concerned, it is the best \$50 students will spend during their education, as long as they take advantage of all that membership offers.

Regional Opportunities

In addition to considering membership in internationally recognized organizations such as AES and GrammyU, there are often local and regional opportunities for networking and professional development.

One of my favorites in the San Francisco Bay Area is the Women’s Audio Mission, a nonprofit organization “dedicated to the advancement of women in music production and the recording arts.” WAM provides a number of educational opportunities ranging from its Girls on the Mic youth program to a variety of events and workshops. WAM also offers SoundChannel, an online curriculum that is accessible internationally.

It’s often through programs like these that students learn what it means to have a career in the music industry—that it’s more than just a job. And it’s equally important that young people witness the joy that the pros get from their career on a daily basis, no matter which slice of it they’re in. ■

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do you do
what you do?

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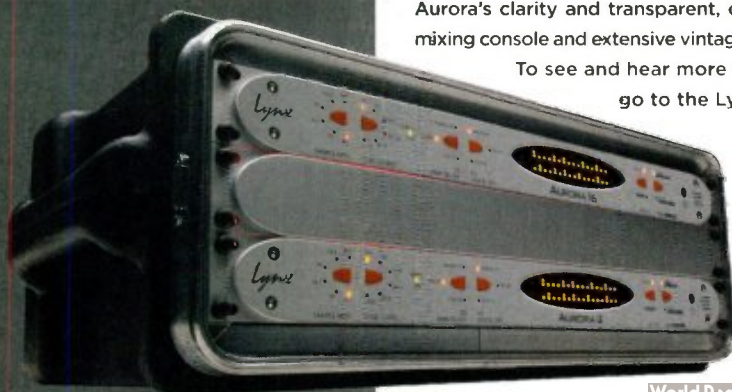
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AURORA 16

For over four decades, Ron Saint Germain has engineered, produced and mixed an eclectic range of performances, from Jimi Hendrix to 311 to Living Colour to Soundgarden, garnering 14 Grammy's for the artists along the way. His converter of choice since 2008 at Saint's Place in northern New Jersey is a rack of Aurora 16HD converters. Aurora's clarity and transparent, open audio quality are a perfect match for his Neve Amek 9098i 128-channel mixing console and extensive vintage analog signal processing that are essential for Ron's exacting audio requirements.

To see and hear more about Ron Saint Germain and Saint's Place Studio, go to the LynxStudio YouTube channel.

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World Radio History

THE 137TH AES CONVENTION: *L.A. Edition*

By the Mix Editors

The return to Los Angeles after 12 years injected a bit of energy into the 137th AES Convention, no doubt about that. Though it remains a six-aisle show, the AES has made great moves to expand its programming into all areas of audio, with Expos, Tracks, Papers and Technical Tours covering Live Sound, Project Studios, High Resolution Audio and Videogame Sound, among many other fields. It all combined to give this year's edition a great buzz beyond the show floor.

That said, registration eclipsed 15,000, marking a 10-year high for the biannual West Coast edition, and there was plenty to see at the exhibition. Here are a few of the hits we found.

Speakers Everywhere

PMC opened things up in a big way on Thursday night with a grand party at the refurbished Capitol Studios, the world's first installation of the company's QB1-A main monitors. Each channel has an expansive 4,825 watts of Class-D amplification at its disposal: 275W on the 34mm HF driver, 550W on the 75mm mid-range, and 4,000W on the four 10-inch bass drivers). Max SPL of 132 dB at 1 meter. It even employs air movement technologies through the front ports based on Formula One designs. Bring on the big sound!

JBL held demos throughout the show in the 250-seat Clive Davis Theater at the nearby Grammy Museum—introducing another speaker line, the 7 Series, aimed primarily at the post/broadcast market. This comes on the heels of the M2 Master Reference Monitor and the 3 Series, all, like the new 705i and 708i, incorporating the

new driver and Image Control Waveguide. The 5-inchers filled the theater—not kidding—with amazing low-end reproduction and detailed highs. External power. Coming soon.

Up in their demo room, Genelec showed its new line of Smart Active Monitors (SAM) including the stunning looking (and sounding) 8351. The front of the three-way, coaxial-design monitor only shows the midrange and high components, with the dual woofers hidden behind the front plate.

The new KH420 monitor from Neumann (\$4,899.95) is their first midfield design featuring computer-optimized drivers, a mathematically modeled dispersion waveguide, both analog and digital input options and flexible acoustic controls. It is configurable for up to 7.1 playback. Meanwhile, Neumann had a real nice moment in their booth presenting a U47 fet collector's edition to legendary engineer Bruce Swedien.

Barefoot Sound introduced the Micro-Main45, with the same guts as the flagship MiniMain12 but stripped down to the bare essentials to make it more affordable. It's a three-way active monitor with: 1-inch ring radiator (180 watt Hypex amp); two 2.5-inch aluminum cones for the mids (180W Hypex amp); and an 8-inch aluminum cone woofer 250W Hypex amplifier. Crossovers at 600 Hz and 2.5kHz; said to go from 40 Hz to 45 kHz.

The TransAudio Group had the new ATC P1Pro and P2Pro Amps, featuring MOSFET Class-A/B dual mono design. At 150W/channel into 8 ohms and 300W/channel into 8 ohms respectively, these fan-less, rack-mountable power amplifiers incorporate the same gain reduction and loudspeaker protection circuits that are used in the ATC active monitors



Waves DiGiGrid DLS



JBL 7 Series



Retro Instruments OP6 Preamp

Conversion and I/O and More

New from Apogee is the Ensemble, a 30x34 Thunderbolt 2 audio interface (\$2,495) promising 1.1ms round-trip latency. It features front panel metering, instrument in/outs, 2 headphone ports with separate gain control, talkback, and eight mic preamps featuring Apogee's Advanced Stepped Gain circuitry.

Lynx debuted the E44 and E22 PCI Express Cards, featuring four channels A/D and D/A conversion, with four channels of AES3 or S/PDIF I/O in the E44, and two each in the E22. FPGA-based, Thunderbolt-compatible, extreme low-latency—the company even says they perform better than their Aurora converters.

Universal Audio was in the bustling Avid Partner Pavilion and showed their UAD-2 Satellite Thunderbolt Accelerators. They come in 4 (Quad, \$999) or 8 (Octo, \$1,499) SHARC chip versions, which run UAD Powered Plug-Ins via Thunderbolt or Thunderbolt 2 connection on new Macs.

Antelope Audio Satori Monitor Controller combines analog monitoring and summing. Other functions include talkback and level trims, as well as stereo effects like mute, mono, dim and mid-side. Gain offset is available for any input and output, making A/B testing extremely easy and efficient. Four independent headphone outputs allow individual source selection and volume control, enabling separate feeds for musicians or vocalists. Also on hand were the MP32 preamps with analog IO. These, coupled with Antelope's other interface options offer full mic to speaker integration across the range.

Consoles, Mics and More

The SSL XL-Desk bases at \$19,999 and features 20 + 1 faders, 40 inputs, 8-built in Variable Harmonic Drive (VHD) preamps, 16 dual input mono channels (switchable between main input or DAW return), and 4 stereo channels (switchable to mono for tracking). There is also a 10-space 500 series rack built into the surface, which can be loaded with more preamps or processors.

New for Audio-Technica, the AT5045 (\$1,399) is a rectangular diaphragm, electret side-address condenser instrument microphone with a cardioid polar pattern. Features include fast transient response, low noise, the ability to handle high sound pressure levels (149dB SPL), and one of the widest dynamic range specs available (141 dB).



PMC QB1-A



Sound Devices 970



SSL XL-Desk



Barefoot Sound MicroMain45



Audio Precision APx555 Analyzer

Radial Engineering featured their new Ice Cube and Decoder problem solvers. Decoder is a self-contained Mid-Side interface featuring 3 XLR inputs with individual on-off switches and level controls and phantom power. The Cube is a compact, single-channel balanced line isolator for eliminating ground loops and other noise.

The Tweaker from Kush Audio (\$1,495) is a single-channel VCA compressor featuring a Sidechain Shaper and a Curve function, which simultaneously adjusts ratio and knee from a gentle 2:1 soft knee to 30:1 hard knee limiting. The unit's attack can be varied from 10 microseconds to 70 milliseconds, while the flexible release can be switched between a fast Single Stage (variable from 20ms-500ms) and a vintage Opto-style Dual Stage (500ms-7500ms).

Old meets new in the Retro Instruments OP6 Preamp (\$3,500), which recreates the sound of the famed RCA OP-6 adding phantom power and inputs for both microphones and instruments. The original is accurately referenced via the large volume knob, portable footprint, and large VU meter.

Waves demoed its new DiGiGrid DLS/DLI/iOS. The DiGiGrid DLS is an all-in-one processing and networking hub featuring a built-in SoundGrid DSP server, network switch, and two DigiLink ports providing as many as 64 digital inputs and outputs. DiGiGrid DLI is a networking hub that bridges Pro Tools and SoundGrid. Two DigiLink ports provide access to up to 64 digital inputs and outputs across the network.

With their largest recorder track count yet, the Sound Devices 970 records 64 channels of monophonic or polyphonic 24-bit, 48 kHz WAV files from any of its 144 available input connections. Connections include 64 channels of Ethernet-based Dante, 64 channels of optical or coaxial MADI, eight channels of line-level analog, and eight channels of AES digital. Any input can be assigned to any track. It supports 32-track recording at 96 kHz.

Tascam, now part of the Gibson family, keeps pumping out the products with both musicians and audio pros in mind. The DR-44WL (4-track) and DR-22WL (2-track) both feature stereo condenser mics, simultaneous WAV and MP3 recording, XLR/TRS inputs and WiFi connect/control for immediate uploads to social media or secure file-sharing sites.

Techies were loving the new Audio Precision APx555 Analyzer, boasting the lowest noise and distortion of any audio analyzer ever made. The generator is capable of producing low distortion sine wave signals up to 204 kHz, at high-level amplitudes up to 26 Vrms. Software improvements include Bench Mode delivering real-time feedback of any selected parameters, including waveform scope, FFT spectrum, levels, frequency, THD+N, and more. ■

DANGEROUS MUSIC DANGEROUS COMPRESSOR

Pristine-Sounding, VCA-Based 2-Channel Unit



The Dangerous Compressor excels at transparently processing stereo program and increasing average levels.

The 2-channel Dangerous Compressor presents a few new wrinkles on traditional VCA-based designs. These can be summed up in the unusual and flexible ways its sidechain detectors and, in stereo mode, attack and release controls work. The result is a hardware-based compressor that's particularly transparent in mixing and mastering applications.

INNOVATIVE DESIGN

The Dangerous Compressor's front panel controls provide the first hint that the all-solid-state, Class-A/B processor has a trick or two up its sleeve, but there's even more than meets the eye. Switch-selectable stereo and dual-mono operation are both offered, with a twist: Unlike most stereo compressors that sum the left and right channels and feed the combined signal to one detector circuit, the Dangerous Compressor uses both of its channels' detectors in stereo mode. This prevents in-phase (mono) elements of your mix (such as bass guitar and the vocal's dry component) from sparking heavier compression than out-of-phase, panned elements. The detector that's triggered most heavily controls the gain reduction for both channels equally, preserving the stereo image.

In stereo mode, the makeup-gain and threshold knobs in the top row (controls used for the left channel in dual-mono mode) regulate both channels, but the two sets of attack and release controls work independently. (The two ratio controls should be set to the same position for stereo operation.) This construct allows you to, for example, dial in a slower attack time for a channel that has loud, panned tom hits in order to prevent them from sucking down the entire mix.

rotary (continuously variable) attack and release controls for each channel. In manual mode, the attack time can be continuously varied from 1 to 100 ms, while the release time can be similarly adjusted between 10 and 500 ms. The channels' ratio controls are stepped and provide seven choices between 1:1 and 20:1.

Switching on the compressor's Smart Dyn function provides simultaneous RMS and peak detection. In this mode, peaks are acted on in a program-dependent manner with attack and release times that are faster than those used for processing average levels. Smart Dyn's idiosyncratic dual-action response occurs whether you're in automatic or manual mode, although in manual mode your attack and release settings do alter the Smart Dyn times (and vice versa). If this sounds confusing, don't fret. Just toggle the Smart Dyn switch and see if you like what it does for your current program. The takeaway is Smart Dyn mode will yield slightly higher average levels for mixes and masters.

The Dangerous Compressor also provides a bevy of built-in sidechain features, each activated by its own switch. Bass Cut provides an HPF with 6dB/octave slope and a 3dB down point at 60 Hz. Sibilance Boost applies a Baxandall shelving filter above 1 kHz, resulting in a 2dB boost at 5 kHz. Another switch patches in an external sidechain signal (from an outboard equalizer, for example) via send and return jacks—provided separately for each channel—located on the rear panel. Once again, there's a twist:

All switches for the two-rack-space compressor use pushbuttons. One switch toggles soft- and hard-knee responses, while another toggles manual and automatic attack and release times; a green status LED lights during manual operation. Automatic mode uses roughly 30 ms for both the attack and release times, whereas manual mode activates independent,

TRY THIS

Snare drum sounds too clinical? Set the Dangerous Compressor to soft-knee mode, 3:1 ratio, 1ms attack and 500ms release time. Lower the threshold until the VU meters show 7 to 10 dB of gain reduction. The track will have more sizzle, ring and room tone.

Activating the external sidechain path does not defeat the internal sidechain's bass-cut and sibilance-boost circuits—you can use them simultaneously to complement your external equalizer's capabilities. Activating the Sidechain Monitor switch lets you hear the combined internal and external sidechain signals.

A VU meter and LED are provided for each channel, showing you when a light transient has exceeded the compressor's threshold (the LED lights) and when average levels do so (shown by the VU meters in gain-reduction mode).

ON THE BACK

Left- and right-channel I/Os and the sends and returns for external sidechain signals are on balanced XLR connectors on the unit's rear panel. Recessed trims (one for each channel) allow you to zero the VU meters. An IEC receptacle—for use with the provided detachable, 3-pin power cord—rounds out the rear visage.

The frequency response is stated to be 15 Hz to 80 kHz, ± 0.25 dB—ultra-wide and super-flat! Maximum level is over +27 dBu, affording you the confidence to strap the unit across the 2-bus inserts on a hot-running console. The noise floor is down over 93 dBu between 22 Hz and 22 kHz. THD+N is below 0.005%, and intermodulation distortion less than 0.007%, promising pristine sound.

IN THE CONTROL ROOM

In stereo mode, the Dangerous Compressor sounded very clean and transparent on a full mix for a pop ballad. A 1.4:1 ratio, soft-knee and moderate attack and release times added nice glue to the mix with thresholds set high enough to make peak LEDs flicker and gain-reduction meters barely move. Activating the Smart Dyn function increased average levels slightly, enhancing fullness.

I also got outstanding results compressing a percussively strummed, stereo acoustic guitar in dual-mono mode. A soft knee, 4:1 ratio, and fast attack and release times gave a fantastic, in-your-face effect with 6 dB of gain reduction showing on the VU meters. (Considering the meters' slow ballistics, there was undoubtedly a lot more compression than what was indicated.) Once again, activating the Smart Dyn function gave an even fuller effect. Equally impressive, considering the compression was so heavy: I heard no pumping, and the track's depth sounded fully preserved.

A 4:1 ratio, soft-knee, 1ms attack and 500ms release time greatly improved a dry, beefy kick drum track that was claiming too much bass spectrum for the beater slap yet had virtually no shell sustain. With 7 dB of gain reduction showing on the VU meter, the beater hits sounded leaner and snappier, and the shell's sustain was beautifully enhanced.

Even with hard-knee selected and Bass Cut and Sibilance Boost filters activated in its internal side-

PRODUCT SUMMARY

COMPANY: Dangerous Music

PRODUCT: Dangerous Compressor

WEBSITE: dangerousmusic.com

PRICE: \$2,799 (street price)

PROS: Very clean and transparent sound. Smart Dyn function increases average levels. Low ratios included for mixing and mastering. Internal sidechain filters.

CONS: Price out of reach for some. Worked poorly for de-essing.

chain, the Dangerous Compressor could not de-ess female lead vocals. Patching an outboard equalizer—with highs cranked and lows cut—into the external sidechain's patch points didn't help. The unit's attack time was simply too long, even at its fastest manual setting or in automatic mode, to attenuate the fleeting sibilance. In fact, the relatively slow attack time sometimes accentuated sibilance and breath noises.

In dual-mono mode, you can't use different internal sidechain filters and knees and select a different manual/automatic mode for each channel. But to be fair, most 2-channel compressors work that way; you usually need to use two mono

compressors to have that kind of flexibility.

The Dangerous Compressor shines the brightest in stereo applications, including mixing and mastering. (Just be aware most of the control knobs are not detented for exactly repeatable settings.) If you're looking for a very transparent-sounding 2-bus compressor and can afford the hefty price tag, the Dangerous Compressor is well worth an audition. ■

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

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MXL REVELATION SOLO MICROPHONE

High-End, Cardioid Tube Condenser

Here we are, 20 years after the release of the original MXL 2001 microphone, and the company has maintained its place in the budget microphone game, while making some big moves toward the high-end. Its recent tube mics—Genesis, the Genesis II, and Revelation—have aimed to compete with boutique mic manufacturers delivering “vintage” sounds, at not-quite-Neumann prices. That said, the Revelation’s \$1,295 price tag might shock longtime MXL fans. The Revelation Solo, designed in the U.S., attempts to meet them halfway and deliver that high-end sound at a slightly more comfortable price point. Because of this, a slew of mods made their way into trade magazines and the then-young Internet. The end results were mics that typically sounded much more expensive than they ended up costing.

THE BUILD

The original Revelation is a tube condenser featuring multiple polar patterns. The Revelation Solo is essentially the same mic, but fixed in a cardioid pattern. Both feature MXL’s take on a K67 capsule, with a 6-micron, gold-sputtered diaphragm, 32mm in diameter. The capsule is housed in a large bulbous grille, similar in style to that of a U 47. The cylinder has slightly rounded corners moving toward the flat top and no angles on the sides.

The body of the mic is a shiny, speckled, dark-purplish-blue metal, which most found attractive and contemporary, while others thought it looked cheap. I’m on the fence. In the large aluminum flight case, you’ll find the mic, proprietary power supply, a shock-mount, cables, a cleaning cloth and white gloves.

The internal wiring is by Mogami, as is the proprietary multi-pin cable for powering the mic, and the included XLR cable. Each cable is 15 feet in length, which seems adequate, though could be stretch for high drum overheads. The shock-mount is the same type of typical elastic-banded design included with most condensers these days. Because bands will stretch over time, a spare set is provided too.

The power supply is housed in a large enclosure with an illu-



minated power switch on the back and a power indicator light on the front. There is also a recessed ground lift and large paddle-style switches for polarity reversal and bass roll-off. Bass roll-off (12 dB/octave at 125 Hz) and a -10dB pad can be engaged using a switch on the mic’s body, as well.

Inside the body you’ll find an Electro-Harmonix EF86EH vacuum tube, a reasonably priced version of the EF86 pentode. On the flip side of this main circuit board is an unknown transformer. A Web search of the part number turned up nothing, but it clearly isn’t a Cinemag or Jensen. All of the capacitors are of the Xicon electrolytic variety.

IN USE

Just after I received the Revelation, I had a session to record a male voice-over. The mic was touted as being perfect for “soulful vocals,” so I thought this might fit the bill. Being mindful of the near lack of mesh protecting the capsule, I threw up a pop filter and warmed up the mic. Turning up the pre, the first thing I noticed was that, for a tube mic, it was relatively quiet. There was a small amount of that usual hiss, but it was at such a low level that it never compromised the recording.

When I began setting levels, I found that the bottom end was no joke. It was full and clear and hardly honest. It definitely added a good amount of masculinity without being muddy or obnoxious. Meanwhile, the detail and articulation in the top end was fantastic. Once again, the sound was slightly hyped but by no means was this a bad thing. I tried popping in the highpass filter just to see what it would do to the bottom end, and it just sounded like a normal human talking. It still sounded really detailed, clean and natural, but removing the roll-off awakened this glorious announcer voice.

The Revelation Solo was excellent for recording electric guitar. I set the mic a few feet away from a tube

TRY THIS

When using this mic for vocals, proximity effect ramps up pretty steeply as the subject approaches the mic. This creates a variety of different sounds. This can be useful for creating dynamics in a mix. For example, backing off for verses can create a more natural sound, while getting closer for the hook can make that part of the song a little more “in your face.”

combo set with a slightly dirty sound. Hitting this mic and recording with a relatively colorless preamp resulted in a sound that almost sounded like tape. The rich top end could cut through anything. The subtlest nuances of the amp's harmonic-laden distortion shined in the recording. Those types of subtleties really popped.

A few days later I used Solo to record acoustic guitar. I set it up pointed right near the twelfth fret, about two feet away. When recording a palm-muted bassy lick on the lowest strings, the mic just seemed to wrap around the notes. The bottom was really fat and tight, while the midrange was perfectly clear, maintaining the intelligibility of every note. When switching over to big, strumming, open chords, the balance of body to pick was really on point. Soloed up, it was a big, full, balanced guitar sound that would have been perfect for a solo acoustic performance. However, considering that this was one element in a dense rock track, there was already a battle going on in the lower midrange. After engaging the Revelation's roll-off, every part of the guitar sound that benefitted the track was left and the crowded low-midrange frequencies were opened up. The frequency selection and slope seemed to be just right for the filter to be useful and musical.

Because the top end was so clear and the mic seemed to enhance what it picked up, I wanted to try recording things that could get harsh easily. Soprano ukulele is an instrument that blasts out sharp, bright, loud notes while having a warm-sounding body with very little resonance. The Revelation seemed to soak up some of those aggressive highs rather than over-pronouncing them, while simultaneously creating a clear picture of the body. The balance was really nice. All of the subtle details of fingers dragging on the nylon strings, or knuckles brushing and knocking against the wood were so tastefully preserved. The result was a very expressive, flattering portrayal of the true nature of the instrument.

Open, folky harmonica recordings were similarly pleasant. The grating quality that a harmonica can have was nicely tamed by the mic's circuitry. There was a warm, woody sound along with it, which wasn't evident in the room but certainly lived in the recording. This created a nice, complex-sounding instrument, which added nicely to a mix.

A NEW MXL?

I'll admit that I was a little skeptical about a higher-end mic coming from MXL, but from the time I opened the case, I could tell that this was going to

PRODUCT SUMMARY

COMPANY: MXL Microphones

PRODUCT: Revelation Solo

WEBSITE: www.mxlmics.com

PRICE: \$799 (street)

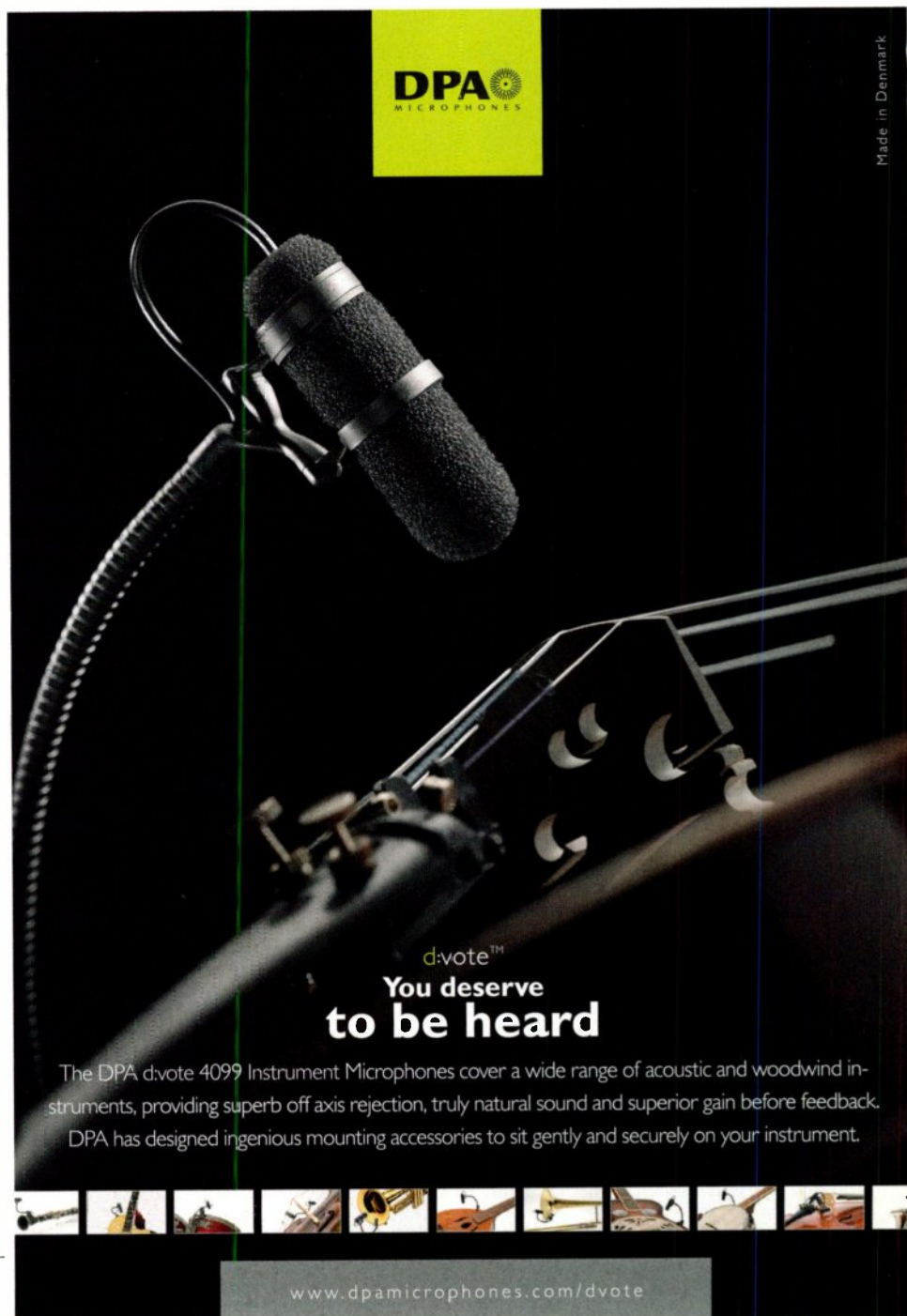
PROS: Boutique mic sound at a reasonable price.

CONS: Cable could be longer. Fixed cardioid pattern.

be something different. The sound is loaded with personality that complements a wide variety of instruments. If you're looking for a go-to vocal mic with a little sound of its own, this could certainly fit the bill. If you need a new all-around mic to add some new flavor to your stagnant sound, you'd easily spend a lot more before you find something else that works this well. Either way, this mic has changed the way that I will think about MXL in the future, and I look forward to hearing some of their other new creations. ■

Brandon Hickey as an independent audio engineer and educator.

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The advertisement features a large, close-up photograph of a DPA d:vote 4099 Instrument Microphone mounted on a guitar. The microphone is black with a silver band and a black foam windscreen. The guitar's body and strings are visible in the foreground. In the top right corner, there is a yellow square with the DPA logo and the text "DPA MICROPHONES". Below the microphone, the text "d:vote™ You deserve to be heard" is displayed. At the bottom, there is a row of small images showing the microphone mounted on various instruments like a saxophone, trumpet, and harmonica. The website "www.dpamicrophones.com/dvote" is printed at the bottom.

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FOSTEX PX-6 STUDIO MONITORS

6.5-Inch, Two-Way Active Speakers With DSP



The PX-6 monitors have rear controls for Volume, EQ and phase alignment.

Fostex has been doing this pro audio thing for a long while now. My own experience with the company goes back many years and brings back great memories of my Fostex R8 reel-to-reel multitrack. However, the company's reach has at one time or another extended into nearly every product category you can think of, including many different studio monitors and personal monitoring systems that go back for decades. The new PX-6 is a big step up and a move forward for Fostex's studio monitor line.

LET'S TAKE A LOOK

The PX-6 is made up of a 6.5-inch Crimson woofer and 1-inch polyester-fiber dome tweeter. The cabinet looks clean and feels solidly built. It weighs 15.5 pounds and measures 13.2x8.2x10 inches (HxWxD), with a pair of tuned ports on the front that

back comprise a single selector switch and encoder knob. These two allow a range of settings, including: volume, HF boost/cut, LF roll-off, the HPF for use with a subwoofer, adjustment of phase, and the ability to save the settings once you are done. You can also engage or disable the Auto Standby function for power saving.

IN STUDIO

I set up the PX-6s in the control room at Eclectica Studios, where the playback system comprises a Sequoia DAW digitally connected to a Mytek Stereo192DSD D/A converter via a RME HDSP9652. The speakers were placed on isolated stands with time and care taken to align them optimally. (Note: The illuminated controls on the back of the unit must be seen to be adjusted.)

The manual does a good job of describing how to properly set up the PX-6's EQ and phase settings. The selector switch changes

are said to help deliver a frequency response below the rated range of 48 Hz to 20 kHz. The speakers are driven by a pair of digital amplifiers rated at 50 watts for the woofer, 28W for the tweeter. The published signal-to-noise rating is 96 dB; I found them to run very quietly.

Around back is an XLR/¼-inch female combo input jack. A balanced connection is ported through the XLR, while the ¼-inch and a separate female RCA connection are unbalanced. The XLR input can handle line level up to +24dBu, and the unbalanced connections allow for +10dBu inputs.

The controls on the

the Encoder's assignment from Volume to Tone (EQ). When Volume is assigned to the knob, it adjusts the overall volume. Press the Encoder once and the knob changes to now adjust the volume in fine increments. Indicator lights under the Encoder tell you which setting the encoder is currently adjusting. Moving the selector switch to Tone allows you to adjust the treble with the choices of remaining flat or boosting or cutting by 3 dB. Clicking the Encoder again will bring up bass roll-off, and then you may also click and hold the Encoder down for 3 seconds to engage the preset 85Hz, 36dB/octave highpass filter.

There is also an option for adjusting the phase of the speaker for proper alignment with a subwoofer. Settings are in 9-degree increments from 0 to 180 degrees. Using the Encoder and indicator lights does have a learning curve but nets a good result, and once you are dialed in, you can save the settings.

IN THE EAR

I first set up the PX-6s with a Mackie MR3Smk3 subwoofer. Setting up the crossover and phase went smoothly and sounded very good. After aligning the speakers and settling down, the first thing I listened for was stereo imaging. The PX-6 reproduces the soundscape very well. I was very impressed—they appeared equal to my Neumann KH120s in this regard, which is something I rarely find.

I used the PX-6 for more than a month. The high-end definition was clear and accurate and my mixes translated well to other systems. I did find them to be harsh at high volume at the same range listed as the internal crossover, and they are a little less powerful compared to what I am used to, so I may be getting to the top of their range. In normal mixing situations, I had no issue with this harshness and was able to EQ and reference frequencies as expected.

In using the PX-6 without the sub, I experienced bass that extended low enough to be very usable on its own. Running test tones through the PX-6, I was still getting a good low-end response down into the 34Hz range. These speakers really shine on their own, and I enjoyed them more without a sub, something I am not used to saying about a pair of 6.5-inch monitors.

The power rating of the PX-6 states a 50/ 28-watt amplifier, but for me they seemed slightly underpowered—again, not a deal breaker because of their overall tone and response. For composing, editing, mixing and post work, the PX-6 would have more than enough power.

The last thing I did was take the PX-6s into our live room and set them up in a not so proper fashion: one speaker on a Marshall 4x12 and the other on a taller stack of flight cases. I plugged my smart phone into them by way of their RCA jacks and listened to

PRODUCT SUMMARY

COMPANY: Fostex
PRODUCT: PX-6
WEBSITE: www.fostex.com/usa
PRICE: \$999/pair
PROS: Stereo imaging. Ability to deal with unforgiving environments.
CONS: Controls on back must be seen to adjust. Limited EQ adjustment. Felt underpowered.

various artists while walking around the room. I was pleasantly surprised that while many near-field monitors sound boxy and completely unable to cope with such a hostile scenario, the PX-6 sounded great.

HOW WAS IT?

The specs talk about many things such as having a "Digital Network Filter (FIR type) dividing network resulting in very accurate time alignment to deliver supreme sound positioning." To

be honest I have no idea what that means beyond the time alignment, but I do know that the development that went into the PX-6s allowed for higher-than-average stereo image reproduction, a very good frequency response and a good overall experience.

The PX-6s are good-sounding speakers—transients were delivered and instruments were reproduced how I am used to hearing them. The extended low-end response, clear highs and stereo image were all very good. I know the market is crowded, but if you are in the market to upgrade your current setup or need to outfit a new room, the PX-6s are worthy of a listen. ■

Tim Dolbear is an audio engineer and producer at Eclectica Studios in Austin, Texas. Connect at www.timdolbear.com.



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perhaps, Asher says, the same evening the Wurlitzer part had been added, completing the basic track. "I normally would do one as soon as we had any kind of structure," he notes, though Ronstadt recalls recording it live during tracking, as she would also sometimes do. "It's a live vocal, and it's a terrible vocal," she says, judging herself far more harshly than most listeners would upon hearing her strong, stirring performance. "I was so tired. It was about getting the phrasing—I just felt like I had rushed the timing, and didn't just lay back in the groove. That was before I'd really learned about overdubbing and comping," a skill she and Asher would master not long after.

The vocal was recorded using a Neumann U 67 tube mic, a favorite of Ronstadt's and Garay's, and processed with a Lang PEQ 2 equalizer, set, curiously, to boost 20k. Garay had noticed at that the time that increasing the level at that frequency on a track with a lot of sibilance actually lowered the effect of the sibilance, a trick he found useful with vocal recording.

Ronstadt's skill and highly tuned ear was something Garay was always conscious of. "She can tell even the slightest differences in equipment, tape, mics or limiter settings," he says. "Her ear is incredibly discerning."

Strings were added just prior to mixing, in late August, by engineer Peter Swettenham at AIR London studios, from an arrangement by Gregory Rose, a friend of Asher's younger sister, Clare. "I wanted someone who wasn't going to make it a pop arrangement, so I brought in a classical guy," the producer recalls. It ends with a strong, long held note, which Asher conceived, executed by Garay with a slow riding of the level on the string faders during the final mix.

Linda Ronstadt holds the Gold Record for "You're No Good," with, from left, Garay, Al Coury, Asher, Ronstadt and Bruce Wendell, Capitol's head of promotion at the time.



Photo: Dave Collins

THE MIX

When the song was being mixed, a curious thing happened. As the evening's session began, Garay inadvertently wiped the first note of Gold's first guitar phrase in the main guitar break. "His face was ashen, when he realized it," his producer recalls. Notes Ronstadt, "Poor Val, he was just exhausted. And Peter realized that."

The skillful repair was made using a technique today's engineers, working in Pro Tools, never have to master: flying in. Garay copied the same guitar phrase, which Gold had played again eight bars later, onto a 2-track tape, which would then be recorded in place of the first/clipped version of the guitar phrase, as a punch-in. He then cut the multitrack precisely at the correct punch-out point, and temporarily spliced in paper leader tape, so that a "miss" on the punch-out wouldn't damage any of the following phrase. The two machines were then synced to begin playback and recording of the replacement phrase at precisely the right spot, with the punch-out handled simply by the presence of the paper leader tape. The master was then reassembled and then the mix was completed. Says Garay, "Today, that's handled with a simple 'Undo' or 'Cut and Paste.'"

Upon its release in November of that year, the song was an immediate smash. "The first time I heard it on the radio, I said, 'That sucker's a hit.' I just knew it," Ronstadt recalls. "It's really a well-constructed record. I have to give Peter and Andrew credit." The track also put Andrew Gold on the map. "I was driving along in my little Toyota with bashed windows and dented fenders and heard it on the radio," he recalled. "The disc jockey said, 'I've gotta find out who is this guitar player on this thing.' He shuffled some papers and went, 'It's this guy, Andrew Gold.' He mentioned my name, and I just died. I had to pull off to the side of the road. It was great." ■

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Continued from p. 14

engineer with their materials to see what they could offer for the ceilings and curved wall. It was a challenge, but we are all very happy with the space.”

“Making this space triple-height turned out to be an asset, increasing the column and allowing us additional surface candidates for treatment,” Storyk adds. “The cafeteria was modeled by our Swiss office for exact RT60 and frequency-domain prediction.”

Projects the size and complexity of Berklee don’t come around that often, and WSDG made use of all of its worldwide resources to bring the job in. Isolation was paramount throughout, and the Swiss office handled much of LFE calculations and auralizations for the cafeteria and studios, while the Argentine office worked on colors and materials and custom treatments.

“They are experimenting with more exciting fabric materials,” says Beth Walters, interior designer on the project. “And this is allowing me to present a more exciting palette to a client—having a sophisticated client with vision and good taste always helps. My team worked closely with Carl Beatty at Berklee to present options in finishes that are both practical for an educational facility, as well as classic, sophisticated and hip. We always wanted an accent, a surprise, an unexpected color, like a yellow column or an animal print as seen in the Berklee Valencia studios. It creates some fun and youth.”

“It was very important for us to create a pro studio vibe as an experience,” adds Beatty, assistant VP at Berklee. “Valencia was meant to have more of an exotic, ‘destination’ feeling, while 160 Mass has the look and feel of many classic recording studios. In

both cases, color and light are meant to be supportive creatively and not neutral. Not black and gray.”

Berklee is certainly built for the future. The cameras and displays everywhere (including over the consoles) capture not only performances but classes and instruction, as well, which in turn can feed the school’s pioneering online programs. Video, Web, Live and Studio all working together.

“Music is perhaps one of the most technologically disrupted and mediated fields today,” Brown concludes. “Our students deserve every advantage when it comes to getting the jobs and gigs they seek. I love wandering through the building just to see the hive of activity and remind myself that all the hard work was worth it. The neighbors have been very supportive, and we got a beautiful review from Pulitzer Prize-winning architectural critic Robert Campbell—and he’s not an easy grader!” ■



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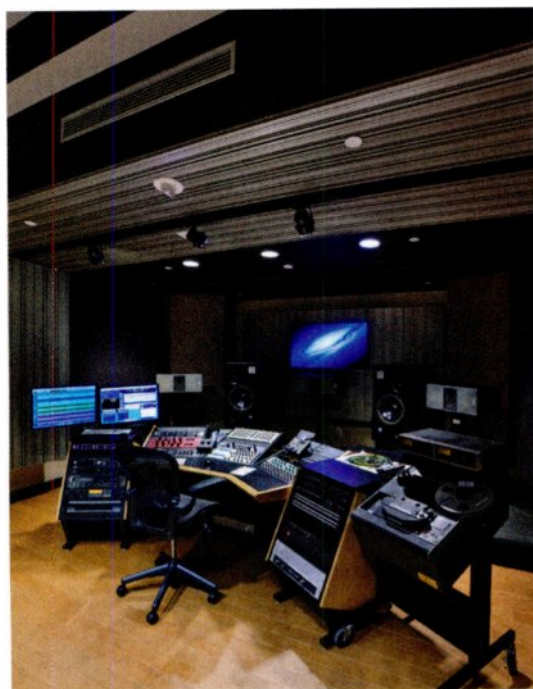


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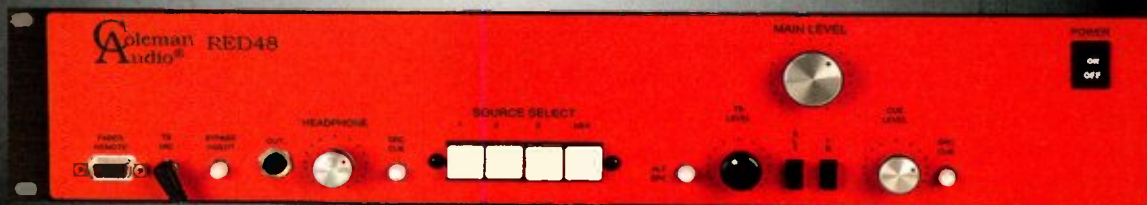
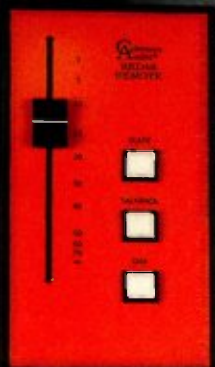
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Want a Job? Adapt!



By Kevin Becka

I just got back from AES and jobs are on my mind. The day before the floor opened, I participated on a panel titled “Career Paths of the Audio Professional.” It was moderated by Paul Freudenberg (Rat Sound), and included myself, engineers Robert Scovill, Fred Vogler, Shawn Murphy, Dave Rat, Brett Valasek (ATK Audiotek), Claudio Lastrucci (Powersoft), and Mario Di Cola (Audio Labs Systems). The panel was evenly divided among independent contractors and business owners, and was well attended with an audience spread across the age spectrum from students and up. Paul took us through a range of questions and we talked about our personal experience, how we got started, and our thoughts on the current state of the industry.

Where we all agreed is that attitude and passion were the chief factors influencing success. One of the big laughs was provided by my quote from engineer John McBride stating: “Nobody ever got fired for bad audio, just for being a dick.” Other panelists chimed in that they’d take an untrained “someone” with great attitude and manners over someone who knew it all, or thought they did.

Opinions differed on questions of training and education, with some panelists saying, “Just do it,” while others were adamant on getting a high level of training—with reservations. More than one of us said early lessons had to be unlearned later in their career, thinking it was a good idea to choose your trainer(s) wisely, especially when there are so many current options.

For me, the often-cited argument that there are no jobs doesn’t hold water; the industry is just more complex. It’s easy to complain, pooh-pooh the state of things and remain stagnant. With that argument and attitude, you’ve already accepted defeat. Yes, production budgets are down, more music than ever is DIY and there is much competition, but that calls for more skills that add to your value as an audio pro. Independent contracting is tough, and always has been. Friends of mine who started as full-time recording engineers have taken on live engineering skills, dividing themselves between workflows. Live sound is booming, with ev-

erything from touring, to club, to houses of worship using much of the same gear. You can always tell how well an industry is doing by the level of investment. Clair Global just opened Rock Lititz, a 1,000,000-plus-square-foot facility designed for tour integration, design and rehearsal serving the live sound industry.

Experienced pros can consult, teach and write as well. There is a hunger for quality knowledge, especially in this age where everyone is a content creator, videographer, bloggers and more. All pros have to accept a fragmented model of income, where more skills add up to more \$\$\$.

But what if you’re just starting out and are developing your skills? Interns abound when you have so many students leaving audio schools and hitting the market. Again, attitude is king. Think

School? No matter what the training path, choose a high-quality program with trainers at a location where others are making a living doing what you want to do. Those parameters marry the “just do it” with more traditional class-based programs and can put you on the fast track.

of yourself as an audio concierge who can offer great communication, service and basic skills, learning more hard skills as you go. School? No matter what the training path, choose a high-quality program with trainers at a location where others are making a living doing what you want to do. Those parameters marry the “just do it” with more traditional class-based programs and can put you on the fast track.

During the show, I chatted with an experienced engineer with deep credits whom I had assisted on some recording sessions early in my career. Over time, his work had shifted from making records to film and live mixing for the major awards shows—he’s a very successful guy who had adjusted his skills with the industry. His main complaint was that film work was largely moving to Canada and Europe, and he was challenged with his work being characterized by banner years followed by others far from it. So, is it tough? It’s always been tough. I remember hearing stories like these throughout my career. Being an indie is not a guarantee, but it allows you to pick your work when there’s bounty, and scratch your head and move forward during a bust.

Blending attitude, passion and skill—in that order—will take you a long way toward making a living at what we all love, making quality sound. ■

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