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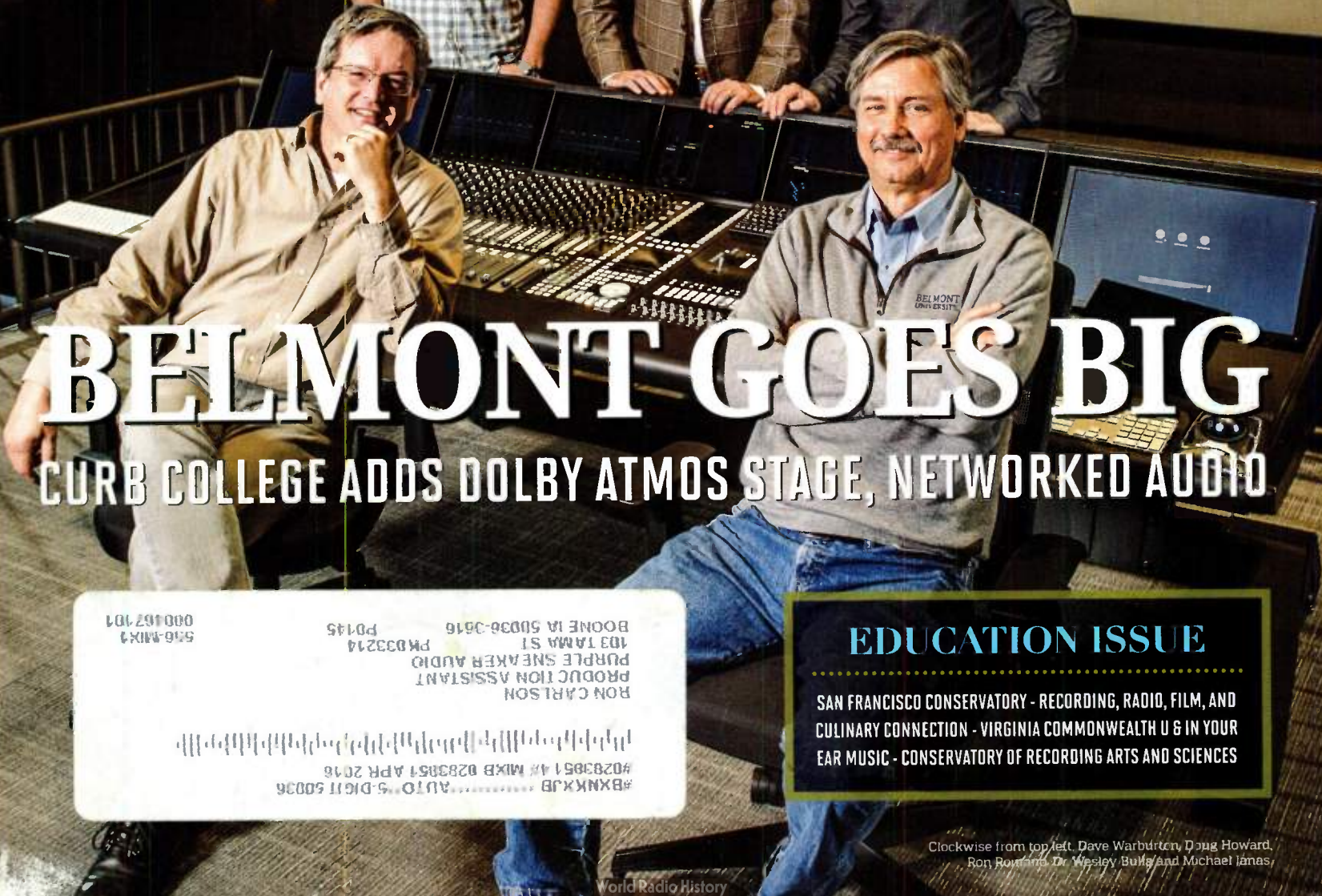
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Clockwise from top left: Dave Warburton, David Howard, Ron Rouffalo, Dr. Wesley Bull, and Michael Janas

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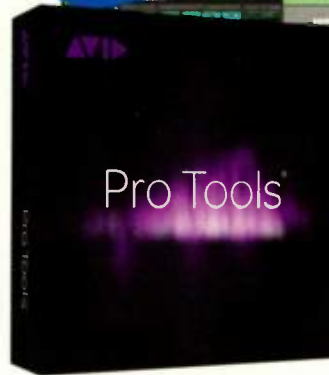
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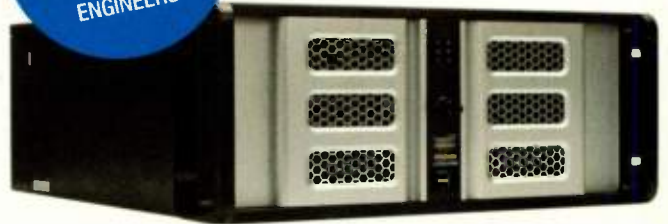
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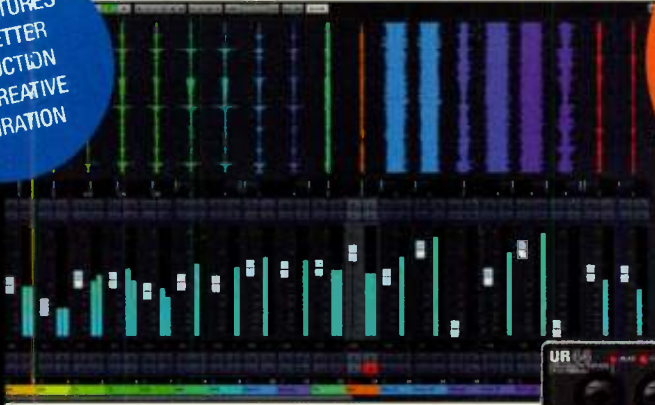


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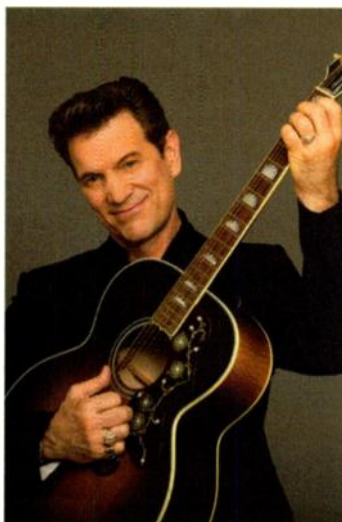
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On the Cover: The new Avid S6/JBL monitoring
Dolby Atmos mix stage at Belmont University, with,
clockwise from top left, Dave Warburton, Doug
Howard, Ron Romano, Dr. Wesley Bulla and Michael
Janas. **Photos:** Andrea Hallgren/Belmont University.

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~ Ed Cherney

(The Rolling Stones, Bonnie Raitt, Jackson Browne, Eric Clapton)



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From the Editor

THE MAKING OF A BELMONT STORY

Sometimes a ready-made story, a good one, just falls into my lap. No pitches from publicists; no looking ahead to see who has a record coming out or who is on tour; no enterprise reporting on the State of the Industry or Trends in Post-Production. Just a good story that I stumble on by being out in the world and interacting with people. In journalism, that type of story is considered Found Gold. On a recent run through Nashville, I found gold at Belmont University.

The embarrassing part is that I could have easily missed this month's cover story, a two-years-in-the-making expansion of the Mike Curb College of Entertainment and Music Business, culminating in the construction of a four-story building housing multiple post-production rooms, centered around the world's first university-based Dolby Atmos mix stage. It's a big story, with tentacles reaching into production, education, workflow and IT-style networked audio. And if Pat McMakin hadn't casually suggested that we "stop by for a quick run-through after lunch," it likely wouldn't be in front of readers today.

I was visiting McMakin, head of Ocean Way Studios Nashville (owned by Belmont), while in town on my travels preparing for Mix Nashville in August. He invited me by the studios to sit in on a 70-piece scoring session for the new *Star Wars* video game; he was feeling particularly proud, as bringing videogame scoring to Tennessee had been a five-year quest, with lots of visits out West, and it was paying off. The room was full, the cues spot-on and there was even a Belmont grad behind the board. He introduced me to Barbara Doyle, new head of the Motion Pictures department, recently transplanted from Southern California. Then we went out for Thai food off Music Row.

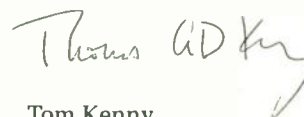
During the meal, he told me about the new building on campus—state-of-the-art everything, with an Atmos stage, a shooting stage, green screen, motion capture, anechoic chamber, 24 edit suites and computer labs. And new offices for staff! And this is in

addition to Belmont's extensive studio facilities already in place, from on-campus to Ocean Way to Columbia Studio A to Quonset Hut. We should stop by real quick if I had a second, he said. I did, and we did. Wow.

It had only been opened two weeks and the parking lots still smelled fresh! I met some people, ran through video control rooms, audio suites, the future home of the Foley pits, and then the Atmos stage, large enough to rival anything in Hollywood, with an Avid S6 at the center and custom JBL monitoring throughout. All rooms are connected with an extensive Focusrite RedNet system, which seems perfectly suited for an educational environment. The idea was to bring all the departments surrounding Media Studies under one roof, fostering collaboration and shared workflow, from screenwriting to shooting to post to marketing/business. It seems a simple concept; it sure is elegantly integrated.

Pat followed up by introducing me to his longtime friend and fellow mid-1970s Belmont grad Doug Howard, who was appointed Dean of the Curb College the previous January after some 30 years in the business along Music Row and 20 years on the Belmont advisory board. Howard quickly deflected all credit to his predecessor as dean, Dr. Wesley Bulla, and his team that included Ron Romano, Michael Janas, and the brand new Dave Warburton. Then he arranged the interviews, took some nice photographs, and a story came to life.

It's not always that simple, nor is Found Gold always a big juicy nugget like Belmont University on the eve of its 125th anniversary celebration. But when you're out in the world, bumping into people who are in their element, good things can happen.



Tom Kenny,
Editor



Sound designer/
re-recording mixer Mark
Mangini delivered the
keynote speech.

Mix Presents Sound for Film: The Art of Sound Design

Truth, honesty, courage, risk, inventiveness...these were the types of words that keynote speaker Mark Mangini, a three-time Academy Award-nominated sound designer/re-recording mixer, used to describe what lies at the heart of film sound design, whether straight-ahead or mind-meld inventive. The art of sound is the art of storytelling, he explained.

Mangini, a principal in Formosa Group, kicked off the second annual "Mix Presents Sound for Film" event at Host Sponsor Sony Pictures Studios, in Culver City, Calif., September 26, setting the tone for this year's theme: "The Art of Sound Design: Music, Dialog and Effects in an Immersive World." Mangini also closed the show by introducing a VIP screening of *Mad Max: Fury Road* in Dolby Atmos, in the William Holden Theatre; he was sound designer and co-supervising sound editor, with Scott Hecker, on the film.

In between, more than 400 attendees were treated to a series of Master Classes on Immersive Sound by Dolby, DTS DSpatial, AID and Auro Technologies, to go with expert panels on Music, Dialog, Effects and Mixing. And in the hallways and mixing stages at Sony, leading manufacturers and organizations in film sound showcased their technologies and talents

Avid showed the world's largest S6 console, recently installed in the Kim Novak Theatre; Dolby showcased its new broadcast and cinema tools; JBL built a truss in Stage 17 to display its mid-field Atmos monitoring system with its 7 Series monitors; Meyer Sound introduced its first new near-field monitor in 25 years, the self-powered Amie; DTS showed its new MDA Creator tools; and Yamaha/Steinberg-Harrison announced a strategic partnership to develop software tools for film sound.

"We couldn't be happier with the way the event turned out," says Tom Kenny, editor of *Mix*. "Sony has been an incredible partner from the outset, and they have always emphasized that while it's at their facilities, it's about the entire film sound community. This year we were excited to have Formosa Group and Warner Bros. team up as sponsors of the VIP party, Music panel and the screening of *Mad Max*. Then to have Dolby, DTS, Auro, Yamaha, Meyer Sound, RSPE, Avid and all these other sponsors return from our inaugural event shows that there is a great interest in the new

technologies and techniques infiltrating film sound. The audience had full exposure."

It was also the second straight year that *Mix* and Sony worked with Event Partners MPSE and CAS, two long-standing organizations serving the editors and mixers of the film and television sound communities. The MPSE sponsored and moderated an expert panel on Sound Effects: How Far Can You Go?, while the CAS sponsored and moderated an expert panel on Dialog: From Set to Screen.

A few highlights from the event included:



Music Panel: From left, Andy Koyama, Bill Abbott, Joseph Magee, Steven Saltzman, Will Kaplan and moderator Dennis Sands kicked off the Expert Panel series with a roundtable on Music: Composing, Editing and Mixing

Beyond 5.1, wherein they discussed the soundtrack's integration into the sound design and the potential (with warnings) of music to extend beyond the screen. Sponsored by Formosa Group and Warner Bros. Post Production Services.



Dialog Panel: Sponsored by CAS, The Expert Panel Dialog: From Set to Screen included, from left, Lee Orloff, Teri Dorman, CAS President Mark Ulano, moderator Jeff Wexler, Gary Bourgeois, Marla McGuire and

Stephen Tibbo. Tips and techniques were revealed from production through the edit and on to the final mix, with an emphasis on how they all strive to keep the production track and work with post to form the basis of any sound design.



Sound Effects Panel: In the world of Immersive Sound, supervising sound editors and sound designers get a lot of attention. The MPSE sponsored the Expert Panel on Effects: How Far Can You Go? which included, from left, Mandell Winter, Scott M. Gershin, moderator David Bondelevitch, Gregory Hedgepath, Richard King and Will Files. Workflow and innovative storytelling proved to be the main topics for working in Immersive Sound.



Mixing Panel: The final Expert Panel of the day, sponsored by DTS, was dubbed Mixing: Immersive Sound, Film and Television and featured, from left: Greg Watkins, Martyn Zub, Jeremy Peirson, moderator Tom Kenny, Onnalee Blank, Mike Minkler and Matt Waters. Mixers are sound designers, too, echoing the theme of the day, and the audience heard the whole range, from *Game of Thrones* to the upcoming *The Hateful Eight*.

For more on Mix Presents Sound for Film, The Art of Sound Design, visit mixonline.com.

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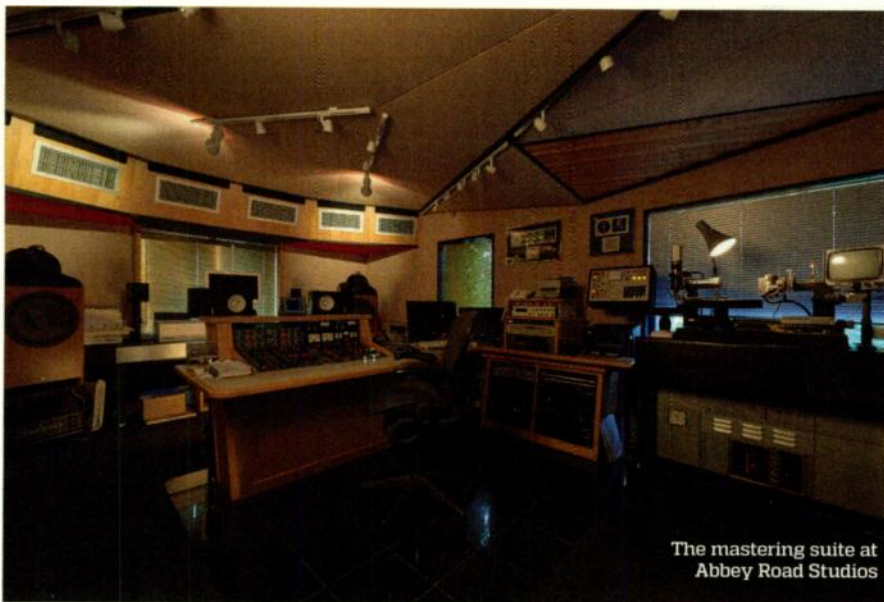


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How to Enter

Submit one original song, no longer than five minutes, to abbeyroad.com/MixMagCompetition. One entry allowed per person. Deadline is November 30, 2015.

For additional contest details, rules, and entry instructions, visit abbeyroad.com/MixMagCompetition.



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The EMI TG12345 Channel Strip plug-in

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plug-in from the Abbey Road Collection.

- One third-prize winner will receive free mastering of one original track.

Sound Explosion!

While most books that accompany documentaries simply repeat images and interviews from the film, *Sound Explosion! Inside L.A.'s Studio Factory with The Wrecking Crew* is a true companion to the popular *The Wrecking Crew* documentary film about the famed group of L.A. session musicians.

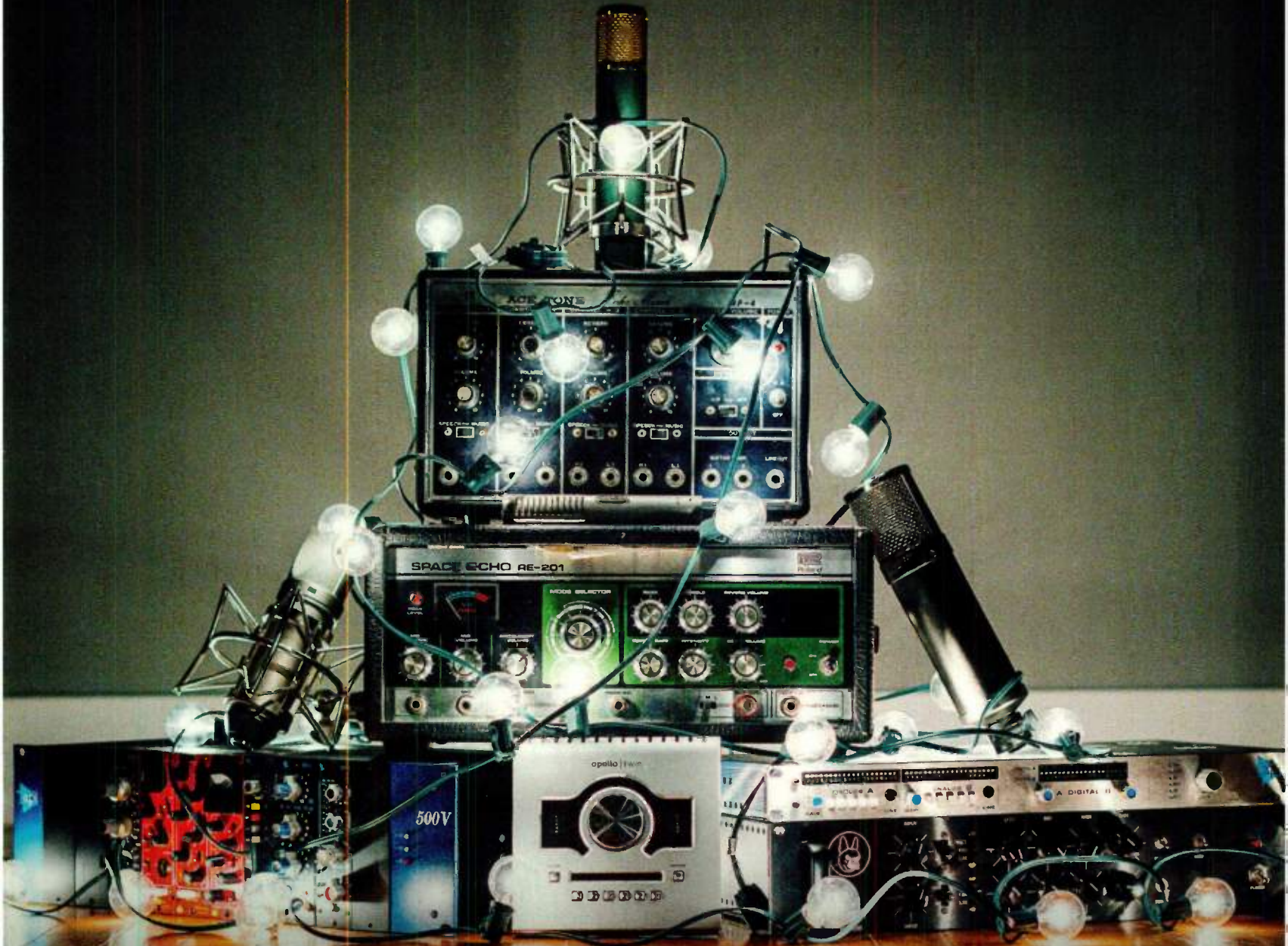
Written by prolific pop music historian Ken Sharp, the book is loaded with hundreds of personal photographs from within Wrecking Crew sessions for artists like The Beach Boys, Frank Sinatra, The Monkees, Paul Revere and The Raiders, The Association, The Mamas & The Papas, and many more. It also makes use of dozens of interviews with musicians and artists who tell the stories of the fabled sessions themselves. Sharp conducted most of the interviews himself over a five-year period, which are supplemented by some interviews from documentary director Denny Tedesco, the son of Wrecking Crew guitarist Tommy Tedesco. Players including Tedesco, drummer Hal Blaine, bassists Carol Kaye and Joe Osborn, guitarist Glen Campbell, keyboardists Larry Knechtel, Leon Russell and Don Randi, trumpeter Herb Alpert, and many others offer a true insider's experience in remembering their work with producers Brian Wilson, Phil Spector, Billy Strange, Al De Lory, Bones Howe and others.

The book is only available through the film's Website: <http://store.wreckingcrewfilm.com> —Matt Hurwitz





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CHRIS ISAAK

By Blair Jackson **13**

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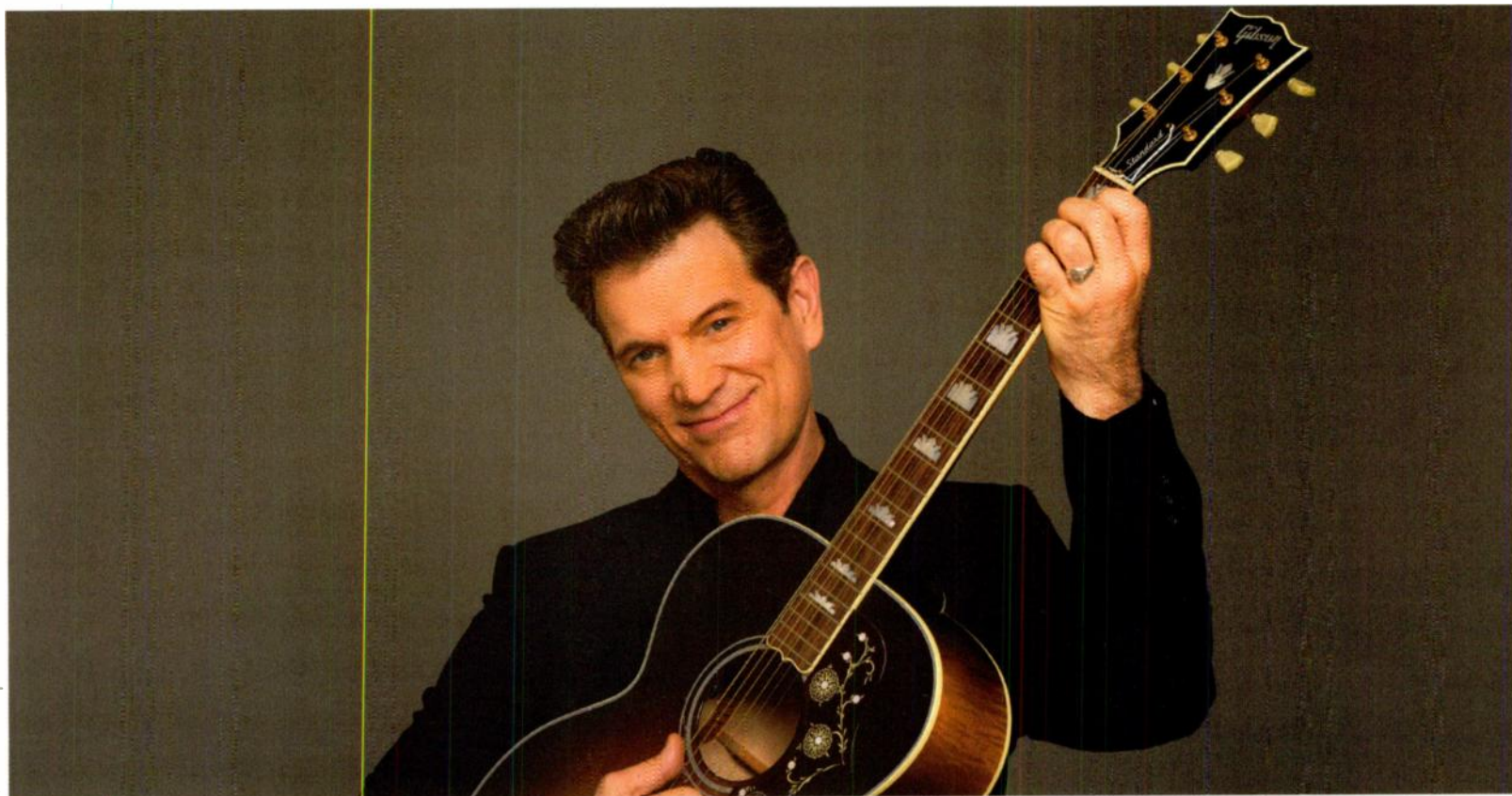
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Photo: Andrew Marpherson



CHRIS ISAAK TAKES A TURN TO NASHVILLE

More Vintage Styles on New Album By Blair Jackson

It's been six years since Chris Isaak put out his last album of new songs, 2009's *Mr. Lucky*. In between, he released an excellent covers record called *Beyond the Sun*, on which he tackled a bounty of 1950s Sun Records tracks by Elvis Presley, Jerry Lee Lewis, Johnny Cash, Roy Orbison and Carl Perkins—perfect, right? What took him so long to do that one?

Now he's back with a new Vanguard release, *First Comes the Night*, and if you're wondering whether his songwriting and musical approach have gone in some bold and unexpected new directions, all I can say is: Don't be silly! Chris

Isaak does what he does, which is what he's always done, which is write wonderful original tunes that stylistically recall his talented forebears from the '50s and early '60s, sings them with an authenticity and conviction that has always taken him out of the category of "imitator," and surrounded himself with musicians who share his passion for re-creating and, as importantly, updating the retro aesthetics he has championed since his first album, *Silvertone*, came out 30 years ago. For a guy whose songs often sound vaguely (or explicitly) like someone else, he is also strangely original.

There's no one quite like Chris Isaak.

If there's a twist to *First Comes the Night*, it is that it was recorded partially in Nashville with a pair of the city's top producers, Paul Worley (Dixie Chicks, Lady Antebellum, Martina McBride) and Dave Cobb (Jason Isbell, Shooter Jennings, Sturgill Simpson), with the remaining songs tracked with his longtime recording associate in L.A., Mark Needham, who's worked with Isaak since 1988's *Heart Shaped World*, on which his biggest hit, "Wicked Game," first appeared. There are a few Nashville stalwarts who played on the album, and yes, some pedal steel guitar turns up on a couple

of tracks, but this is not Isaak's attempt to make the country charts next to Miranda Lambert, Alan Jackson and Kacey Musgraves. It's still him being him.

Isaak admits he was initially skeptical about what Nashville had to offer, but he was quickly won over. "People told me, 'It's not just country. It's a *music* city, with great producers and musicians and people that are into *everything*,'" Isaak says by phone from Australia, where he was spending the fall working as a judge on that country's version of the *X Factor* TV talent competition. "So I went there and I was knocked out. It was like I went to the colony where everyone is like me. Every place I went, people wanted to talk about music or play music."

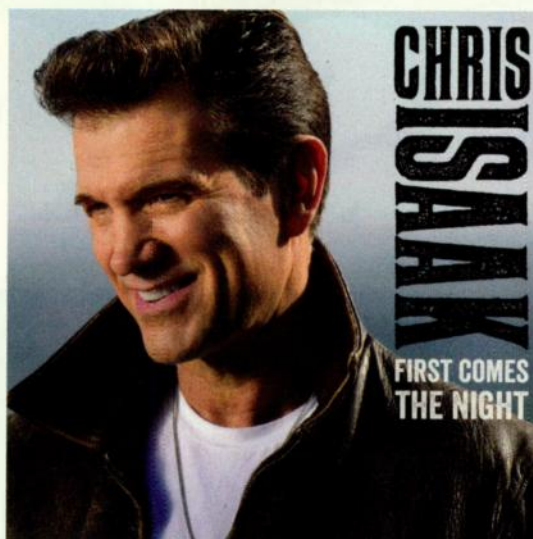
Isaak's first stop was working with Worley: "It's not that I wanted the sound of Lady Antebellum; that's a totally different thing, obviously, but I had the feeling that if a guy is really musical and knows the business and has chops...and brother, did he live up to that—Paul Worley is one of the most impressive men I've ever worked with. He's kind, he's smart and he has a depth of knowledge nobody can top.

"Part of being a great producer is not only hearing it in his head, it's getting it out of somebody else's throat. A lot of producers fail because they're in the other room saying on the talkback, 'One more take.' 'One more take.' 'Let's do another one.' And that means they don't know what to tell you, so they're just saying, 'Again.' Paul was never stumped. He'd come in and he'd talk in terms that were just really specific and detailed: 'I need you to open up your chest voice a little more on this line,' and, 'You don't need to articulate this part of the line so much.' It was really great direction; he has great ears."

The main sessions with Worley took place at the producer's favorite room in Nashville, the Neve VR-equipped Warner Studios, using a combination of Isaak's rhythm section (drummer Kenney Dale Johnson, bassist Rowland Salley and keyboardist Scott Plunkett) and various Nashville session aces, including guitarist Jerry McPherson and drummer Chad Cromwell. Engineer Clarke Schleicher handled the live tracking, with most of the overdubs done later at Worley's own Shabby Row studio, which has a Trident board.

"What I gave to Chris," Worley says, "was a real love for crafting his vocals and pursuing them relentlessly. We spent many, many hours and days doing vocals, allowing him to figure out how he wants to interpret every line and how he wants those lines to pop out. He told me he really fell in love with the process." Isaak has favored the same vocal mic for many years now: a custom model made by Didrik de Geer.

The Nashville sessions with Dave Cobb went down at the venerable Sound Emporium studio A, "Jack Clement's old studio," Cobb is quick to point out. "You can feel Jack's personality in that room, and it was perfect for what we were trying to do, which was to capture old Nashville." Matt Ross-Spang, who was chief engineer at Sun Studios for about a dozen years, cut the live sessions using "this ridiculously good-sounding Spectrasonics desk," Cobb enthuses. "That studio also has some beautiful chambers, which we used a lot. There's no way to fake that sound.



"Chris is definitely one of the best singers I've ever heard; just a beautiful tone and feel when he opens his mouth," he continues. "Whatever that 'it' thing is, he's got it, and he's had it all along. He walks into a room and it's magic. The band was stellar and he was stellar—nailing the vocals live every take.

"It was a blast working with him because I love old Roy Orbison records and Elvis records and Jerry Lee records, and he's the only guy on the planet who can get away with making records that feel that way because he has an authenticity. If he'd been around in the '50s, he probably would have been one of those guys."

Five of the 17 songs on the deluxe edition of *First Comes the Night* (highly recommended; the five bonus tracks are as good as any on the regular album) were co-produced by Isaak and Mark Needham, and recorded by Needham and Ben O'Neill at EastWest and Needham's Ballroom Studio, both in L.A. (Needham mixed the L.A. tracks in the box at Ballroom.) "With Mark, it's always totally comfortable because we've worked together so long and I trust him so much," Isaak says. "I can wonder, 'Is there too much bottom end on this?' and if he says 'No,' then I don't have to ask about it again. He brings so much expertise to everything he does, because he knows so much about different styles of music that it makes you comfortable."

"We've worked together for something like 25 years at this point," Needham comments, "and we work really well together with production ideas, bouncing stuff off each other. He did most of the arrangement ideas when they were writing the tunes. We worked out a few arrangements together. As usual, we cut the majority of the instrumentation live so we'd get that interaction between the musicians."

As for EastWest, Needham says, "We've cut in there before and I've tracked there a lot; it's one of my favorite rooms ever—I just love the sound of that room. It's not too big, but it *sounds* big, and the sightlines are great. It's one of those rooms that just feels comfortable to play in, and of course the first thing I'm looking for is that everybody's comfortable when they're playing."

Even after all these years together, Needham still marvels at Isaak's dedication to his craft and endurance in the studio. "Usually after two or two-and-a-half hours with a singer, I'm calling the session because you can hear more differences in the vocals and they're starting to get a little strained. But with Chris, he can go on for a phenomenal length of time and still sound great. It's scary sometimes that he sounds so strong after four or even six hours."

So, three different producers, four different mixers (Schleicher, Needham, Cobb and Darrell Thorp, who mixed two of the Cobb tracks), a bunch of studios and session players in addition to Isaak's Silvertone band (which also includes versatile guitarist Hershel Yatovitz and percussionist Rafael Padilla), yet it all fell together beautifully to become an instant Chris Isaak classic.

Says Dave Cobb, "It was so much fun; that's the thing. He's the most easy-going guy. 'I think everyone could take a lesson from Chris Isaak in how to be a good person and incredibly talented at the same time, and make great records.'" ■



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THE STONE FOXES, 'TWELVE SPELLS'

Engineer George S. Rosenthal's parents assembled a demo studio in their live/work warehouse in the late '70s, when the elder Rosenthals were musicians in the city's punk and experimental music scenes. Rosenthal has pursued a recording career, and gradually has transformed the space into a pro facility called The Complex SF.

He recently tracked the alt-rocking Stone Foxes' latest, *Twelve Spells*. "Initially, the idea was just to get their demos sounding as good as possible so they could shop them to labels and producers," Rosenthal says. "But we realized, they have such great ideas, they didn't really need anyone giving them overarching aesthetic decisions; they just needed help to maximize what they were already going for. They ended up making the whole album here."

One of the hallmarks of *Twelve Spells* is the great overdriven '60s punk sound of Shannon Koehler's vocals: "When they play live, Shannon usually has a bullet harmonica mic going through a small amp [to get that sound], but we weren't having good luck capturing that in the studio," Rosenthal says. "Instead, we ended up recording with two mics,

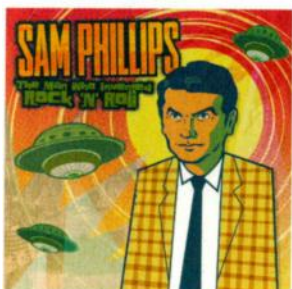


Photo: Jon D. Harham

an Electro-Voice 664A going straight to a Silvertone amp, and a Peluso 251—a clean large-diaphragm tube condenser. The Silvertone had nice clarity but also the drive we needed.

"On some songs, we also used a guitar pedal on his voice that I had bought as a teenager: a Boss 59 Bassman emulator. One day when we were testing out the vocal drive solutions, we threw it into the chain and it got a great vocal quality. I don't think we used it every time, but I know Shannon wanted to buy that pedal off me for a while."—Barbara Schultz

COOL SPIN SAM PHILLIPS: THE MAN WHO INVENTED ROCK 'N' ROLL

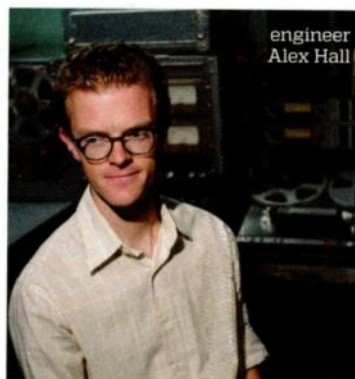


Just cross everything else off of your Christmas list and buy these two things for every music lover you know: Peter Guralnick's upcoming biography of rock 'n' roll pioneering studio owner/engineer/producer Sam Phillips, and the companion double album: *Sam Phillips:*

The Man Who Invented Rock 'n' Roll (Yeproc). The album comprises 55 songs, chosen by Guralnick himself, that represent the greatness and the significance of Phillips musical legacy.

The collection includes the gutty blues recordings by artists such as Howlin' Wolf, B.B. King and Joe Hill Louis who inspired Phillips to start his Memphis Recording Service, as well as the young stars that put it on the map: Jerry Lee Lewis, Roy Orbison, Johnny Cash, Carl Perkins and, of course, Elvis Presley. This deep and beautiful collection also displays Phillips' affinity for the religious music he grew up with, as well as early country, rockabilly, jump blues, etc. This is a collection of songs that belong in every record collection, produced by the man who revolutionized the music industry in his time.

—Barbara Schultz



engineer
Alex Hall

BELLFURIES, 'WORKING MAN'S BLUES'

The Bellfuries' latest album was recorded in Hi-Style Studios (Chicago) by engineer/musician Alex Hall. *Working Man's Blues* reflects what Hall and Hi-Style capture so well: vintage rock 'n' roll with modern attitude. "They've been playing together a long time and play together really well," Hall says.

"This studio works really well with a band that's ready to track live."

Hi-Style was built by in-demand upright bass player Jimmy Sutton (JD McPherson, Andrew Bird, Koko Taylor, etc.), and Hall has honed his approach to recording stand-up:

"Bass can be a beast, and each one is different," he says. "One big problem that engineers can run into is, you wind up with holes; certain notes come through strong and others disappear. I'm lucky because Jimmy has house basses that record well.

"Jeff [Seaver] played a King bass into an Altec 639 birdcage mic, which is a combination ribbon/dynamic. It sounds bizarre by itself on full range, but it's magical on bass. I position it on the high string side, probably above the F hole, depending if he's slapping or plucking. With slapping, if you get too far up toward the fingerboard, it sounds like a rubber band; and if you get too low, then it's just boomy low end. The chain beyond that is the mic pre's in two Ampex MX10 mixers, into a Berlant tape machine.

"Working live forces you to ignore bleed, which people struggle with a lot with upright bass, especially if you've got a high-end-y sound like cymbals bleeding into the bass mic. You have to make the bleed work, and once you accept that, maybe the sound of the off-axis drums and the bass mic causes you to move the overhead to compensate, and maybe that combination sounds really groovy. I love that kind of stuff."—Barbara Schultz

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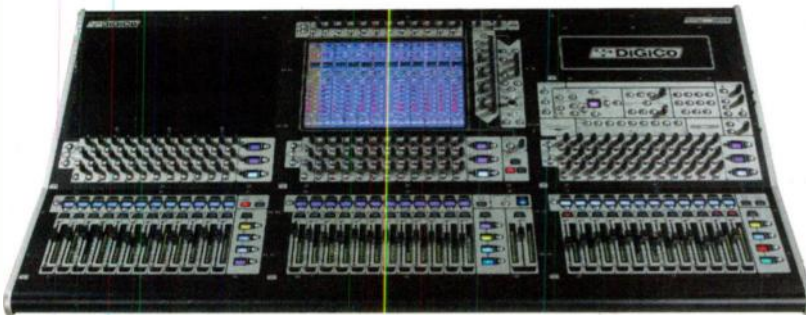


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 - ✓ FX Package
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Classic Tracks

By Robyn Flans



"THOSE WERE THE DAYS"

Mary Hopkin

Who could possibly predict that a five-minute recording of a Russian romance song composed in the early 1900s with English lyrics written in the early '60s, recorded in July 1968 by a green 17-year-old Welsh folk artist, produced by a Beatle, and arranged by a jazz nerd with unlikely instrumentation would result in a Number 2 on the *Billboard* charts?

Engineer Geoff Emerick says "Those Were the Days," produced by Paul McCartney and sung by artist Mary Hopkin, appealed to the public because of those unique qualities.

"It was so different for the time," Emerick says. "Everyone loved it. It was one of those things like Paul's 'Mull of Kintyre,' with the bagpipes. That record sold like two-and-a-half million records in two weeks. [It was Wings' biggest hit in Britain.] Who knows about these things? We were always looking for something different, something spectacular every time we worked."

(For those new to *Mix*, Emerick engineered many Beatles records under producer George Martin and received Grammy Awards for his work on *Sgt. Pepper's Lonely Hearts Club Band* and *Abbey Road*. He continued to work with McCartney during Wings.)

The story with Hopkin and "Those Were the Days" is that model Twiggy saw the singer win the British talent show "Opportunity Knocks" and recommended her to McCartney, who then signed her to Apple Records. McCartney brought "Those Were the Days" to the table after hearing it in a London club performed by the English lyricist Gene Raskin.

Arranger Richard Hewson remembers the earliest moments of his involvement. He had recently graduated from the Guildhall School of Music & Drama in London, during which time he and a gentleman by the name of Peter Asher had been in jazz band together. Hewson knew nothing about pop music.

"Stravinsky, Ravel, Miles Davis, Bill Evans, John Coltrane—I was studying orchestration and I was playing in a jazz band at the time," Hewson recalls. "Peter Asher was a friend of Paul McCartney's because Paul McCartney was going out with his sister at the time. I was at Peter Asher's house and Paul was there with Jane and Peter said, 'Oh Richard, Paul is looking for an arranger to do a record with this girl called Mary Hopkin. You can do arranging, can't you?' I said, 'Of course I can,' never having done an arrangement for a record before." He had, however, worked on *Blow-Up* with Herbie Hancock while still in college.

Hewson and McCartney spoke about what the producer had in mind for the arrangement, which only amounted to an instrument called the cymbalum. Interestingly, the percussion teacher with whom Hewson had been studying had a cymbalum.

"It's a Hungarian instrument that is like a piano without the lid on, hit with hammers," Hewson explains. "That's the ding, ding, ding sound you hear on the song. He said that's all he had in mind, and, 'After that, do what you like.' So I wrote the arrangement, and not knowing pop music, that's why it doesn't sound like the pop music of the time."

"I immediately liked the use of the cymbalum, which John Barry used to use in a lot of his film scores," Emerick comments.

As Emerick recalls, "I think we took a day out of the Beatles' schedule so Paul could do this. We did it in Studio Number 3, Abbey Road."

Emerick is the first to admit, that since the recording was 50 years ago, some memories have faded completely and some are vague, but he knows the equipment at Abbey Road included a Studer 4-track and REDD.51 console "with the Telefunken amps in it."

"We did it on 4-track, 1 inch, because we didn't have half-inch in England," Emerick says.

Most likely they recorded the orchestra first at Abbey Road. Emerick recalls also present in the control room was McCartney's English sheep-dog, Martha.

Besides the cymbalum, Hewson arranged instrumentation for one clarinet, two trumpets, one trombone, a banjo, guitar, bass, tuba, six violins, four cellos and drums.

As for the orchestra, Emerick says, "It was screened off to the best



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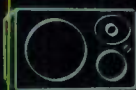
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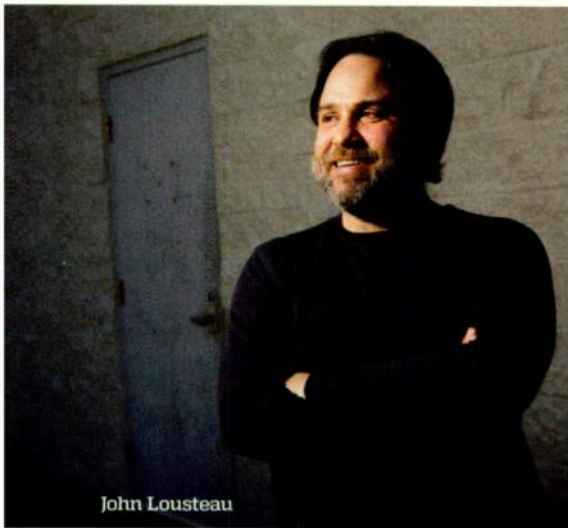
KH 810



KH 870

JOHN LOUSTEAU & TEENAGE TIME KILLERS KEEP IT RAW, ANGSTY WITH DEBUT

By Lori Kennedy



John Lousteau

Photo: Andrew Stuart

Channeling their inner teens—that’s what the members of metal supergroup Teenage Time Killers had in mind for recording their debut album, *Teenage Time Killers: Greatest Hits, Vol. 1*.

“We wanted to make an album that sounded, or at least felt like we did when we were teenagers in our parents’ basements and garages killing time after school making music,” says engineer/producer/mixer/drummer John “Lou” Lousteau. “The original idea was to do a very quick EP with Reed [Mullin] on drums and vocals, and Mick Murphy on guitar. We wanted to do five songs tracked and mixed in a week. So the approach was to make it very raw and natural-sounding.”

Teenage Time Killers consists of Reed Mullin (Corrosion of Conformity) on drums and vocals, Mick Murphy (My Ruin, The Birds of Satan, Chevy Metal, Neanderthal) on guitar and bass, and Lousteau on production, engineering, mixing and drums. The list of contributors is extensive and reads like a roster for heavy metal royalty (see mixonline.com for full list of special guests), and includes the likes of Dave Grohl, Corey Taylor, Nick Oliveri, Jello Biafra, Matt Skiba and Randy Blythe. Lousteau, who engineered, produced and mixed the album, is chief engineer at Grohl’s Studio 606, where the album was made.

Lousteau was able to capture the high-energy, frenetic, crushing guitars and fast-paced beats by recording drums and guitar live; additional guitar, bass and all of the vocals were overdubbed. “There is what we call ‘the live room’ at Studio 606,” Lousteau says. “It’s a big room that’s great to record a drum kit in. We set up Reed’s drum kit in the live room and had Mick’s guitar cabinet isolated in the smaller iso booth. Mick and Reed would then play the original rhythm tracks live together wearing headphones.”

Teenage Time Killers: Greatest Hits, Vol. 1 was recorded to Pro Tools. At least half of the vocals were recorded in different studios, with tracks sent to the vocalists to do on their own, so tape would have made the process harder logistically. But Lousteau took a tape-like approach in that he didn’t do any digital editing. “There weren’t any click tracks used in recording the basic tracks, and we left everything very natural and raw,” he says. “That certainly comes across on the album.”

All of the automation, EQ and compression at the mix was done in the box and then summed out of the studio’s Neve 8028 monitor section. “The monitor section of the Neve sounds really big and open,” Lousteau says. “The studio has a small EMT plate that sounds really good, so that was used as a hardware insert.”

With nearly 20 vocalists on the album, half of whom recorded at their own studios, Lousteau tried to make each song stand on its own when it came to mixing. “That’s probably one of the main reasons the album has a mixtape quality to it,” he says. “Again, it was one of those things where we tried to just accept the fact that vocal sounds were going to be different instead of stress about it. We were always really stoked about everything we got back from the different singers.”

For the vocals recorded at Studio 606, Lousteau kept a consistent vocal chain, using a Shure SM7 into a Neve channel, along with a Distressor inserted for compression. “To me, it’s a very simple chain that sounds really good for an ag-

gressive vocal,” he says.

A Shure SM57 combined with a Royer R-121 were Lousteau’s go-to mics to capture heavy rock guitar sounds, running into Neve mic pre’s and then straight into Pro Tools. “I usually print the two mics separately, but on this album I did bus the two mics together, so I only recorded one guitar signal,” Lousteau says. “We really wanted a streamlined approach on this album without a lot of tracks going on.”

In addition to the raw vocals, the album’s guitars also have a familiar edgy sound throughout. “That consistency in the guitar sound is really Mick’s hands,” Lousteau says. “I met Mick when we were 16 years old, in Knoxville, Tennessee, and he really is one of the best guitarists I’ve ever heard. He’s pretty much on every song on the record, with other cool guitarists pitching in as well on some overdubs.” For Murphy’s setup, Lousteau used a Laney Ironheart amp and a Laney 4x12 cabinet.

While the album took more than two years to complete, there weren’t that many recording and mixing days—it was all about scheduling for the band members and special guests. “Reed and Mick laid down all of the basic rhythm tracks in about 8 to 10 days over two different sessions,” Lousteau says. “Dave [Grohl] came down and put bass on 11 songs in one day. We weren’t in a big hurry to finish because we were getting such cool performances from everyone involved. We just accepted that we were dealing with a lot of different people’s availabilities and schedules, so we took our time.” Once they had all of the tracking finished, Murphy and Lousteau got together and mixed the entire album in about four days.

“It’s one of those records where we tried not to overthink anything or spend too much time trying to fine-tune things,” Lousteau concludes. “We would try to get a quick vibe when it came to tracking and mixing and just keep moving. It really was a lot of fun, because most sessions aren’t really like that—which is okay, too, but it’s fun to go the complete opposite direction once in a while.” ■



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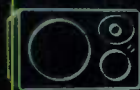
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Paul McCartney

Mary Hopkin

Richard Hewson

Emerick says he would have used Coles 4038 mics on the brass, Neumann U 47s or 67s on the strings, a Neumann M 49 or 50 on the banjo and guitars, and possibly a Coles 4038 on the drums. He also says that he would have used a U 47 on Hopkin's vocals. "I would have gone through a Fairchild 660 limiter," he says. "It would have been on the fourth track of the 4-track."

"The orchestra was probably recorded mono or just stereo, which would have given us two 2-tracks for orchestra, one for the rhythm track and one for vocals," Emerick says.

Though Hewson doesn't recall any of the contracted musicians on the session, one player does stick out.

"I'm pretty sure Paul played guitar on the session," Hewson recalls.

While Mary Hopkin does not give interviews, she did email a corroboration about the guitar. She also addressed a question about McCartney, who was known to slap his thigh for rhythm on her album, *Postcard*.

"It's hard to remember all the exact details from so long ago but here are a few answers for you," she wrote. "I did not play guitar on 'Those Were the Days.' Paul played acoustic guitar. Paul's thigh slap was on my second single, 'Goodbye,' where he and I played the two rhythm guitars. I don't recall who played the drums on 'Those Were the Days,' but

of my ability. We didn't have any gigantic sound baffles. They were just sort of cheap things. Number 3 Abbey Road is not as big as Number 2, and it was a bit of a squeeze. I got the best separation I could get between the brass, the woodwinds and so forth."

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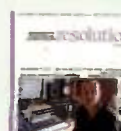
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since it was a full, orchestral arrangement [by Richard Hewson], I believe it was a session player, though Paul sometimes played additional drums [often enhancing Ringo's basic pattern] on the *Postcard* album tracks."

Both Emerick and Hewson recall that Hopkin was very shy and somewhat nervous.

"In the photograph of me, Paul McCartney and Mary in the studio, you can see her arms are folded tight around her body. Her body language shows she's very nervous," Hewson says.

Hewson says he does not recall that the recording of the orchestra took more than six attempts.

"I don't remember it being like 'The Long and Winding Road,' which I did later with Phil Spector," he says. "That was a madhouse. That job came through Paul very soon after."

A personal memory for Hewson was when McCartney called him over at some point during the day. "He said, 'Come over to lunch, I'm meeting Twiggy,' so we all had lunch—Mary, Twiggy, Paul McCartney and me—and that was a big deal," Hewson says.

Memories are vague on whether the track was cut all in one day or over the course of two, but the children's choir, brought over from the Corona School, was recorded at Trident Studios.

"Whenever you wanted a choir of children on records back then you contacted an organization called the Corona School [Wikipedia has it as Corona Theatre School, which closed in 2013]. There would have been about 15 of them maybe," says Emerick, who remembers that Trident had a mixing console of their own make and an 8-track. Emerick says he might have used C-12s on the children's choir.

"It was different from everything around," says Hewson, who remembers that the song hit Number 1 in England the day he got married the first time. "Part of why it was different I think is because I wasn't a pop musician. It doesn't seem like an American-type record at all."

Hewson laughs as he reveals he was paid about 30 American dollars for his work on that record. "Arrangers don't get royalties. They just get a fee. I got 25 pounds, which is about \$30. But people said, 'You got a career out of it, didn't you?' So I did get lots of gigs when it reached Number 1. My fee went up for 'Long and Wind-

ing Road.' I got \$40 for that." Seventy-one-year-old Hewson still plays music in the UK with the RAH Band (Richard A. Hewson), which still does records.

"So I guess that \$30 started off my career that has kept me going all these years." ■

"Arrangers don't get royalties. They just get a fee. I got 25 pounds, which is about \$30. But people said, 'You got a career out of it, didn't you?' So I did get lots of gigs when it reached Number 1."

—Richard Hewson

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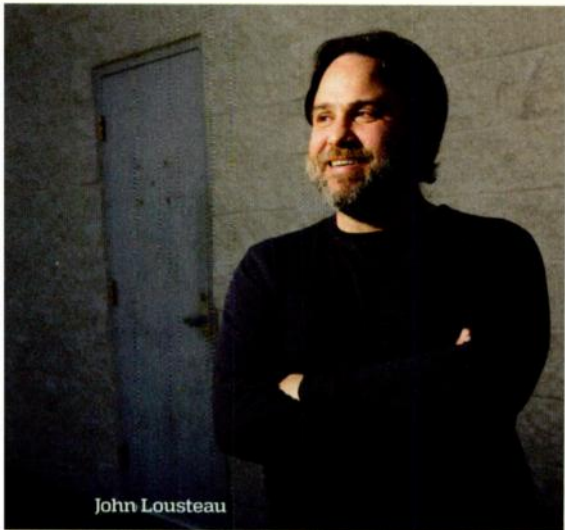


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JOHN LOUSTEAU & TEENAGE TIME KILLERS KEEP IT RAW, ANGSTY WITH DEBUT

By Lori Kennedy



John Lousteau

Photo: Andrew Stuart

Channeling their inner teens—that’s what the members of metal supergroup Teenage Time Killers had in mind for recording their debut album, *Teenage Time Killers: Greatest Hits, Vol. 1*.

“We wanted to make an album that sounded, or at least felt like we did when we were teenagers in our parents’ basements and garages killing time after school making music,” says engineer/producer/mixer/drummer John “Lou” Lousteau. “The original idea was to do a very quick EP with Reed [Mullin] on drums and vocals, and Mick Murphy on guitar. We wanted to do five songs tracked and mixed in a week. So the approach was to make it very raw and natural-sounding.”

Teenage Time Killers consists of Reed Mullin (Corrosion of Conformity) on drums and vocals, Mick Murphy (My Ruin, The Birds of Satan, Chevy Metal, Neanderthal) on guitar and bass, and Lousteau on production, engineering, mixing and drums. The list of contributors is extensive and reads like a roster for heavy metal royalty (see mixonline.com for full list of special guests), and includes the likes of Dave Grohl, Corey Taylor, Nick Oliveri, Jello Biafra, Matt Skiba and Randy Blythe. Lousteau, who engineered, produced and mixed the album, is chief engineer at Grohl’s Studio 606, where the album was made.

Lousteau was able to capture the high-energy, frenetic, crushing guitars and fast-paced beats by recording drums and guitar live; additional guitar, bass and all of the vocals were overdubbed. “There is what we call ‘the live room’ at Studio 606,” Lousteau says. “It’s a big room that’s great to record a drum kit in. We set up Reed’s drum kit in the live room and had Mick’s guitar cabinet isolated in the smaller iso booth. Mick and Reed would then play the original rhythm tracks live together wearing headphones.”

Teenage Time Killers: Greatest Hits, Vol. 1 was recorded to Pro Tools. At least half of the vocals were recorded in different studios, with tracks sent to the vocalists to do on their own, so tape would have made the process harder logistically. But Lousteau took a tape-like approach in that he didn’t do any digital editing. “There weren’t any click tracks used in recording the basic tracks, and we left everything very natural and raw,” he says. “That certainly comes across on the album.”

All of the automation, EQ and compression at the mix was done in the box and then summed out of the studio’s Neve 8028 monitor section. “The monitor section of the Neve sounds really big and open,” Lousteau says. “The studio has a small EMT plate that sounds really good, so that was used as a hardware insert.”

With nearly 20 vocalists on the album, half of whom recorded at their own studios, Lousteau tried to make each song stand on its own when it came to mixing. “That’s probably one of the main reasons the album has a mixtape quality to it,” he says. “Again, it was one of those things where we tried to just accept the fact that vocal sounds were going to be different instead of stress about it. We were always really stoked about everything we got back from the different singers.”

For the vocals recorded at Studio 606, Lousteau kept a consistent vocal chain, using a Shure SM7 into a Neve channel, along with a Distressor inserted for compression. “To me, it’s a very simple chain that sounds really good for an ag-

gressive vocal,” he says.

A Shure SM57 combined with a Royer R-121 were Lousteau’s go-to mics to capture heavy rock guitar sounds, running into Neve mic pre’s and then straight into Pro Tools. “I usually print the two mics separately, but on this album I did bus the two mics together, so I only recorded one guitar signal,” Lousteau says. “We really wanted a streamlined approach on this album without a lot of tracks going on.”

In addition to the raw vocals, the album’s guitars also have a familiar edgy sound throughout. “That consistency in the guitar sound is really Mick’s hands,” Lousteau says. “I met Mick when we were 16 years old, in Knoxville, Tennessee, and he really is one of the best guitarists I’ve ever heard. He’s pretty much on every song on the record, with other cool guitarists pitching in as well on some overdubs.” For Murphy’s setup, Lousteau used a Laney Ironheart amp and a Laney 4x12 cabinet.

While the album took more than two years to complete, there weren’t that many recording and mixing days—it was all about scheduling for the band members and special guests. “Reed and Mick laid down all of the basic rhythm tracks in about 8 to 10 days over two different sessions,” Lousteau says. “Dave [Grohl] came down and put bass on 11 songs in one day. We weren’t in a big hurry to finish because we were getting such cool performances from everyone involved. We just accepted that we were dealing with a lot of different people’s availabilities and schedules, so we took our time.” Once they had all of the tracking finished, Murphy and Lousteau got together and mixed the entire album in about four days.

“It’s one of those records where we tried not to overthink anything or spend too much time trying to fine-tune things,” Lousteau concludes. “We would try to get a quick vibe when it came to tracking and mixing and just keep moving. It really was a lot of fun, because most sessions aren’t really like that—which is okay, too, but it’s fun to go the complete opposite direction once in a while.” ■

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ZAC BROWN BAND *JEKYLL + HYDE TOUR 2015*



Mix caught Grammy Award-winning Zac Brown Band when they played at the Toyota Amphitheater in Wheatland, Calif., in mid-October.



"I'm mixing on a DiGiCo SD7," says **FOH engineer Eric Roderick (at left)**, pictured with **Preston Soper, FOH Tech (center)** and **Vic Wagner, Crew Chief/Systems Tech**. "I made the switch to this desk three years ago. "My typical approach to the mix is vocal harmony first followed by the rhythm section, Zac's acoustic, then the rest of the instruments for a balanced mix. This year we have added a four-member choir and a three-piece horn section, so finding space for the eight band members and this addition has been challenging. With the release of the new album *Jekyll and Hyde* this year, Zac has been adamant that the band perform and I mix the new songs as close to the studio version as possible.

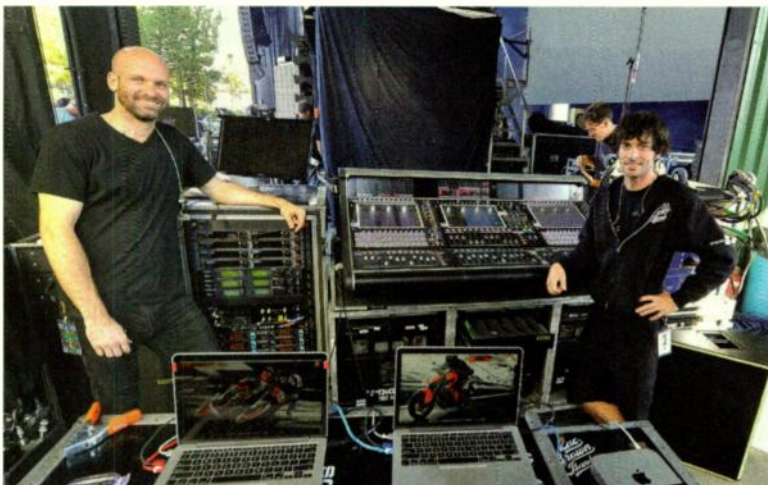
I use Waves plug-ins—the C6 multiband compressor, the CLA-2A and H-EQ are used on the L/R bus; the C6 and CLA-2A are also used on various vocals and acoustic inputs."

Wagner and Soper are using L-Acoustics Soundvision to render each venue in 3D. Rational Acoustics Smart I/O, Focusrite RedNet 4 mic preamps, a half-dozen ISEMcon EMX-7150 measurement mics, a Venue receiver from Lectrosonics, and a Ruckus Zone Flex T300 wireless access point and tablet are also used to tune the system.

"We truly have put together an A+ audio team this year," Roderick says. "Along with Vic and Preston we have P.A. Tech Chris Demonbruen for quite the package. They make mixing on this K1 system truly a pleasure."

Sound Image is providing the P.A. "In a typical shed hang, there are a dozen K1s per side on the mains and six K1-SB cabinets per side," Roderick says. "KARA cabinets, three per side for the main/underhangs, 20 K2 enclosures join in for aux coverage. In addition, there are 12 SB28 subs on the ground and six more KARA boxes for front fills."

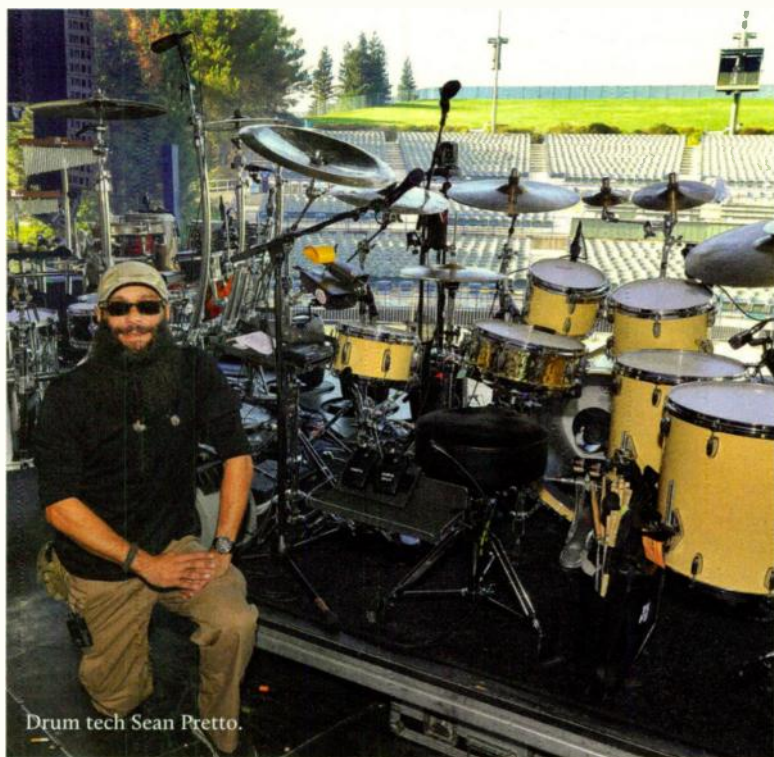




Monitor engineer Andy Hill, at right, with **Jake Bartol, RF/Monitor Tech**, is mixing on a DiGiCo SD7. "I've been using this console for about three years," Hill says. "It's my first time back on a DiGiCo product since the D5. I really enjoy the flexibility that it has and I think that sonically the desk sounds great. A big thanks to Matt Larson at DiGiCo for taking care of us with support."

"Being able to have 15 VCAs is huge for me, as the band has 13 people, plus guests," Hill continues. "It's a lot to keep track of with 110 inputs from the stage and the band members plus guests. We are sharing SD-Racks on one fiber loop, which makes sending signals between me and Eric (at FOH) very easy, which is great for our extensive talkback system, as well as cuts down on real estate in monitor world. I use all internal effects; I think the compressors onboard also sound very nice."

Band members are all on in-ears. "We use Sennheiser 2000 Series IEM and JHt6 In ears," Hill explains. "In my opinion there is nothing better sounding than the JH ears. A shout-out to Jerry Harvey for making the best sounding in-ears on the planet. We uses wedges for the precision player as well as for guest artists; all wedges are Sound Image MA212."



Drum tech Sean Pretto.



Guitar tech Chad Weaver with miked guitar amps (inset).



The band is Sennheiser-endorsed. Pictured: the rack gear at monitor position, along with the wireless mic package.



Front-of-house engineer Eric Roderick mixes on a DiGiCo SD7.





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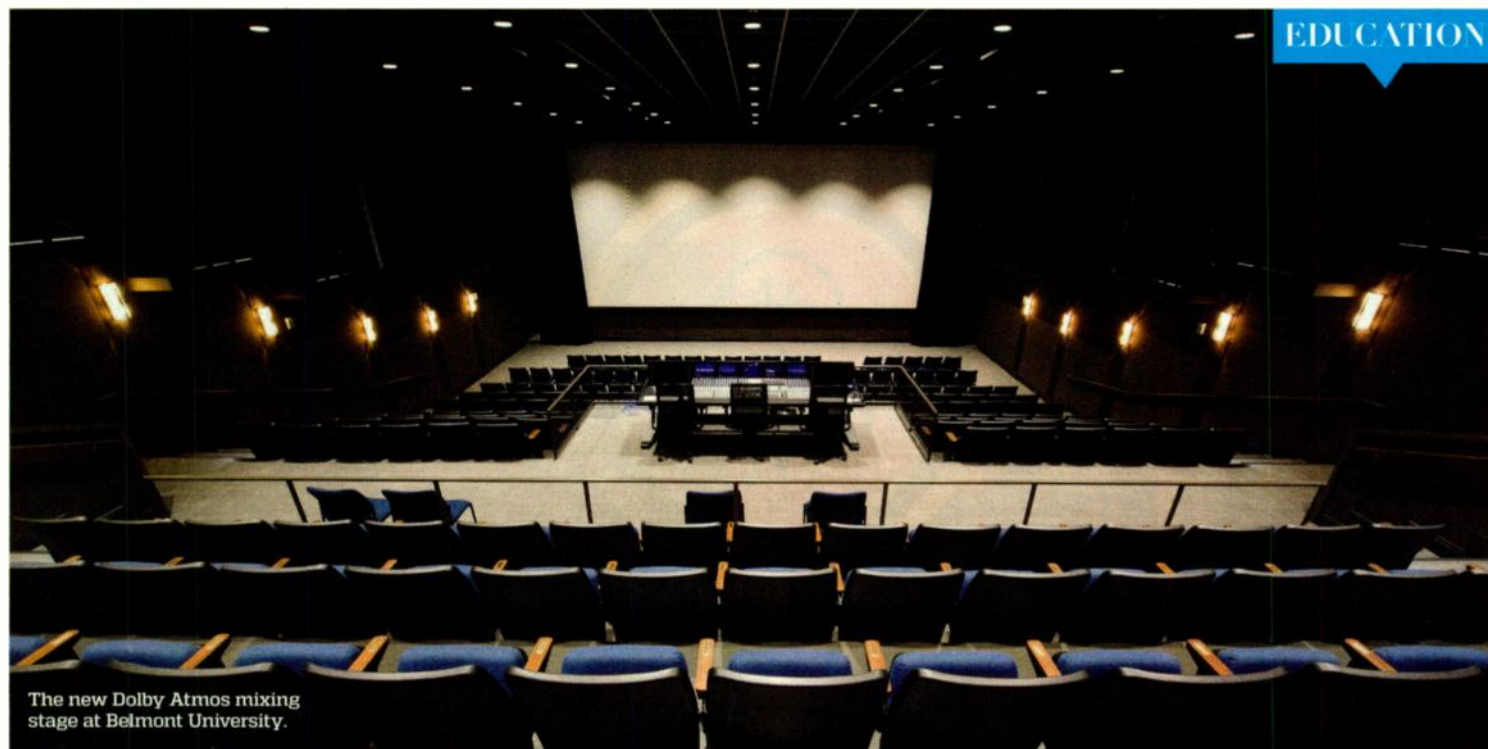
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On the Cover

By Tom Kenny // Photos by Andrea Hallgren/Belmont University

BELMONT UNIVERSITY

Mike Curb College of Entertainment and Music Business



There's a magic in strolling around a college campus in the early fall, much like the thrill of walking up the ramp to a baseball game at the age of six and seeing a major league field for the first time. The energy, the contained-yet-vibrant environment, and, at least on the campus, the intermingling of so much creative curiosity, as if separate disciplines are bouncing off of each other and everybody wants to partake.

Belmont University, sitting atop Music Row in Nashville and this year celebrating its 125th anniversary, is a living portrait of university life, with its meticulously maintained lawns, student quad, brick buildings and 19-year-olds in a hurry. With the August opening of the new ground-up, four-story complex housing the Mike Curb College of Entertainment and Music

Business, it's also a living portrait of the new music and media industry.

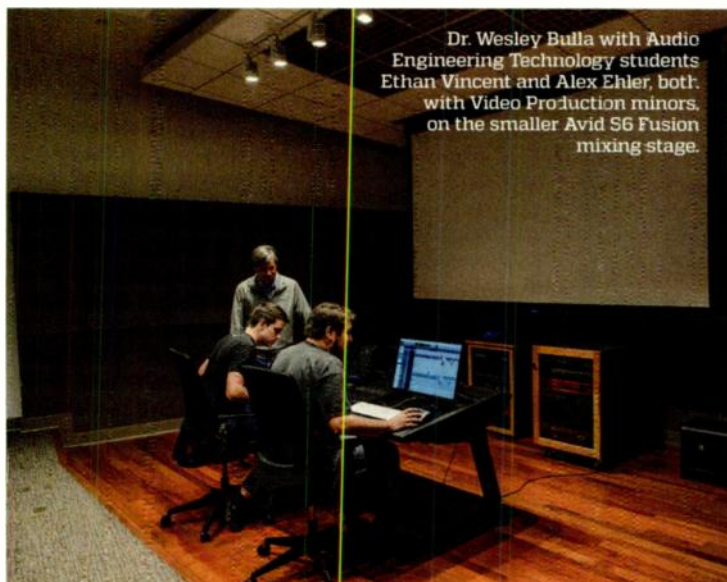
Belmont already had a wealth of recording studios in its range of facilities, both on-campus and at Ocean Way Nashville, Columbia Studio A and Quonset Hut on Music Row, when a new building to house a dining hall was proposed on campus. In early 2013, senior leadership at the university challenged faculty and staff across all departments to come up with ideas for the other three floors.

In March, after surveying faculty and staff, Dr. Wesley Bulla, then dean of the CEMB, submitted a proposal to add Immersive Sound and networked audio facilities to the Audio Engineering Technology program, while at the same time bringing Music Business, Motion Pictures, Media Studies, Songwriting and Entertainment

Industry Studies together under one roof.

"We had outgrown our computer labs, offices, and general workspaces, but not necessarily our studio spaces," Bulla says. "[Belmont] President [Bob] Fisher gave us the charge to 'dream big,' 'think about the future,' 'create something new,' and 'don't replicate what we already have.' Our framework for thinking was, 'What's next for the Curb College?' So we used this as an opportunity to address and meet modern production and teaching/classroom needs, specifically, network-IP based production spaces, emerging immersive audio formats, and collaborative teaching spaces. Plus, the Media Studies and Motion Pictures programs needed updated facilities and a home base."

The proposal was accepted, and ground was broken on the new 134,000-square-foot R.



Milton and Denice Johnson Center in Summer 2013. Roughly 24 months later, the new Curb College debuted, with the first university-based Dolby Atmos stage in the world, pictured on this month's cover, as its centerpiece. The building also houses a smaller film/TV mix stage, 26 edit suites, a shooting stage, green screen room, video and broadcast control rooms, a Foley stage (coming in the spring), and four computer labs. Media is shared over a 5x 64TB Avid ISIS 5500 server; interconnection is through an advanced Focusrite RedNet system.

COLLABORATION

Audio Engineering Technology and Music Business were already the two largest degree programs in the Curb College, and they had been adequately covered by facilities, albeit in various locations. The growth, then, is all about the future of media production, through the addition of post-production facilities and modern workflows, with collaborative instruction the overriding goal.

"Students in the audio program will learn about film production and how to create audio and sound for film—from small format media to large-screen DCP compliant immersive productions and live events," Bulla explains. "Students in the film program will learn about audio and sound production and how to incorporate quality sound into their vision for a film. Both students will benefit from working together on film, video, and media projects. Aside from the story/screenplay, the downfall of amateur, semi-pro, and student film production is usually the sound design and quality of the audio production. Our goal is to change that. Student films coming out of Belmont will have great writing, great videography, and equally great sound—not to mention great music."

"The new studios bring students the opportunity to not only learn how to use the equipment but to learn how it all applies in the real world," adds Dave Warburton, the recording and film studios manager recently transplanted from NBC/Universal in Los Angeles. "For our Motion Pictures majors, the Johnson Center includes everything you'd find in a modern post facility. They're able to cut their picture using Media Composer and manage their media on an Avid ISIS server. They'll cut sound in edit rooms on Pro Tools rigs with industry-standard plug-ins. They'll take their locked picture to the color-grading suite and use DaVinci Resolve for color correction, compositing, and VFX. They'll bring it all together to do their final mix in a purpose-built mix stage using the same mix consoles the pros use. We're talking about

implementing classes or labs with a focus on media management and media security, as well as a class about the importance of IT-style networking in rooms and facilities that have more CAT-5 cable than XLR. The goal is for students to be as prepared as possible to start their careers."

Central to both the teaching methods and the facility operation is the Focusrite RedNet Dante-based network system, with each room serving essentially as a node. "In each of these room-based networks our goal has been to keep the signal flow entirely in the digital realm from source to amp/speaker over the Dante Network," explains Ron Romano, staff IT specialist. "Each room consists of a RedNet 5 as the interface with Pro Tools, and then we send and receive the audio from other various RedNet devices such as the RedNet 4 mic pres. The RedNet 4s are great because the pre-amp controls can be integrated into Pro Tools for remote control, allowing the engineer to stay in the session and even recall the settings with the Pro Tools session in the future. From there, each of these RedNet 'room-based' networks can be connected together on a larger RedNet network to collaborate from room to room, or in the future, even building to building."

"Our sound reinforcement students already gain experience in using network audio during our student-produced showcases in the 5,000 seat Curb Event Center," adds Michael Janas, instructor, Audio Engineering Technology and the director of Recording Studio Operations. "RedNet is a proven platform by which we chose to base our entrance into network audio for studio and post-production."

FACILITIES

While the entire building is wired for the new world of production, the new Dolby Atmos stage, based around an Avid S6 console and custom JBL monitoring, represents the scope and scale of the entire project.

"We knew we wanted and needed a screening theater and we already knew we needed a large format mixing stage," Bulla says. "Surround sound was always in the picture. We have been teaching audio for media for years in a music studio adapted for Foley and 5.1 mixing. We were given the charge to 'dream big' and 'think about the future'—immersive sound is the future of film mixing, and object-oriented IT-based audio is the future of sound production. Dolby is the prevalent player in film sound—whether immersive or standard surround in 9.1, 7.1, etc. Atmos was the logical choice. It's nice to know the facility will serve and enhance multiple programs."

Both the Atmos stage and a secondary mixing stage are outfitted with 24-fader Avid S6 Fusion consoles. Playback is Pro Tools 12 HD Native and the record system is Pro Tools 12 HDX. Connection between Pro Tools 12 and the S6 is via RedNet 6 MADI units, along with RedNet 5 Pro Tools bridge. JBL speakers, BSS processing and Crown DCi amplification are used in the mixing stages, 7.1 mixing control room, and in the Foley control room. Five 64TB Chassis of Avid ISIS 5500 Server for building-wide media storage are accessible from the Atmos room and every other room, including the 26 edit suites, four computer labs and the video control room on the first floor.

"It was important to us that we looked at the film and recording systems so that rooms were collaborative with each other," Romano says. "In order to do that we couldn't just build a great room then go to the next floor and build another great room. We wanted to build great rooms and a great building as part of a great campus. Not only did we standardize on several technologies like RedNet and audio over the Dante Network to achieve

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The Core Builders

Projects of this scale, by necessity, are a team effort, incorporating many talents inside and outside of the university, including the Russ Berger Design Group on studio design and acoustics. The principals involved included:

From the University: Bob Fisher, President; Thomas Burns, Provost; Steve Lasley, CFO; Wesley Bulla, Former Dean, Curb College; Rick Bengtson, Faculty, Media Studies Dept.; Will Akers, Former Chair, Motion Pictures Program; Mike Janas, Director Recording Studio Operations; Ron Romano, IT/Technology Coordinator.

From Outside the University: David Minnigan, Darrell Lambert (Architects, Earl Swenson Associates); Bill Trivett (Construction Design/Budget Supervisor, Earl Swenson Associates); Russ Berger, Richard Schrag (Acoustic Designers, Russ Berger Design Group); M3 Technology Group; Media/Broadcast Integration & Technical Services, Inc. (M/BITS); Marshall Graphics; Vintage King Audio; SimplyMac; Manios Digital Film, Cartoni USA; Tri-State Theater Supply.

this, but also using consoles from the Avid series you can move through this building and work on an S3, an S5 Fusion and an S6 as you progress from room to room. From an educational standpoint, a student can come to Belmont and truly put their hands on the full production experience in one building.”

Doug Howard came aboard as the new dean of the Curb College of Entertainment and Music Business early in 2015, and while he graduated from Belmont in the mid-'70s, spent 30 years on Music Row and has been on the board of advisors for nearly 20 years, he gracefully acknowledges that he walked into a dream. And he properly gave credit where it was due throughout the reporting of this story. We'll give him the final word.

“When I walk through the halls of the new Johnson Center, I have to think back to my first semester on campus as a student, when we only had one analog 8-track studio located in the basement of the business school. That same semester in 1976, we were all elated to expand to 16 tracks after the purchase of a used Ampex MM1000 thanks to a number of \$20 donations made by many of the students. It is an honor to be back on campus to serve as the dean of Curb College, especially at this very special time in the program's history. Our students, faculty and staff are all so very grateful to the university trustees, president and senior leadership for having the vision and commitment to provide such a world-class facility for the next generation of industry creators and leaders that will graduate from Belmont University.” ■

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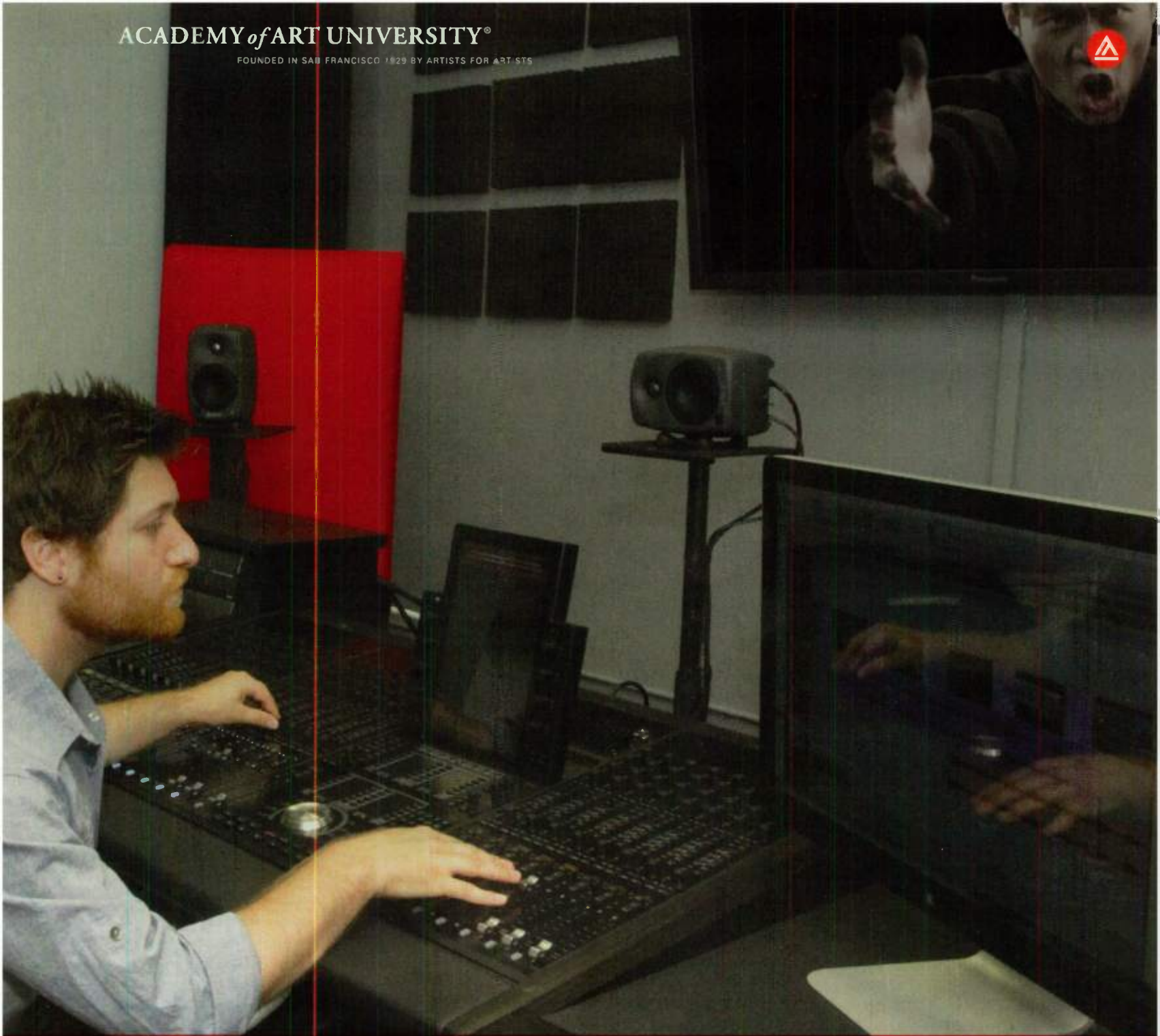


Image provided by Bob Toy

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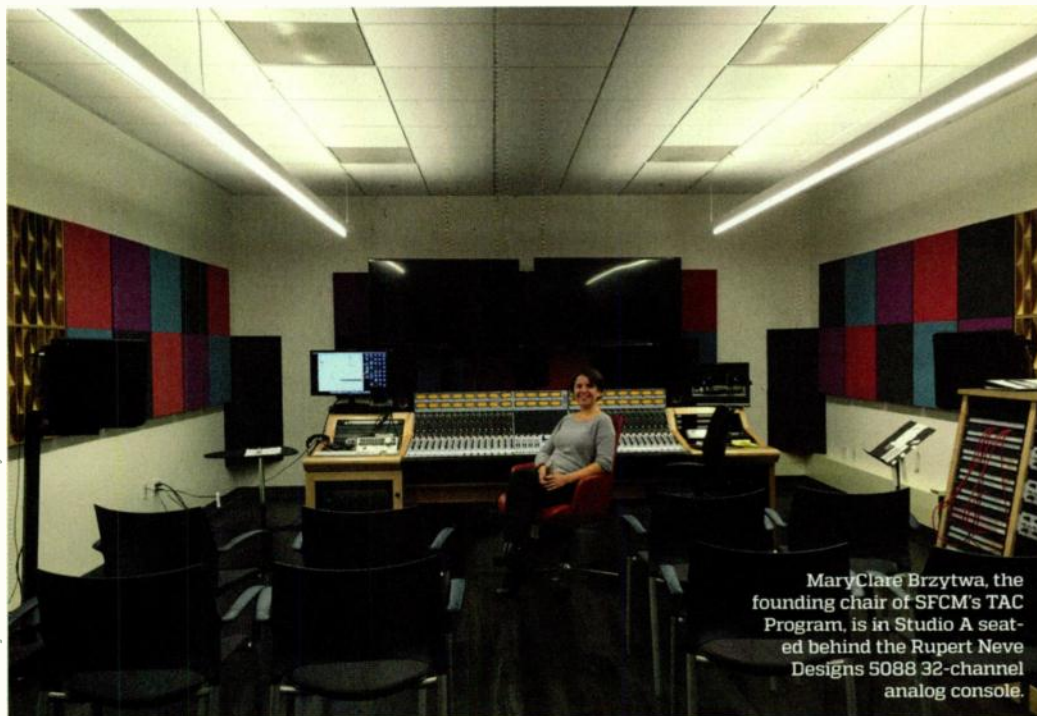
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San Francisco Conservatory of Music

Technology and Applied Composition Program Debuts This Fall

BY MATT GALLAGHER



MaryClare Brzytwa, the founding chair of SFCM's TAC Program, is in Studio A seated behind the Rupert Neve Designs 5088 32-channel analog console.

Photo courtesy of San Francisco Conservatory of Music

Founded in 1917 and incorporated in 1923, the San Francisco Conservatory of Music (SFCM) has educated generations of top-caliber classical musicians from around the world, offering instruction in orchestral instruments, theory, composition and voice. Long part of the cultural heart of San Francisco, the institution built a reputation for excellence early in its history and helped to launch the careers of such distinguished alumni as violinists Yehudi Menuhin and Isaac Stern, conductor/pianist Jeffrey Kahane, guitarist/composer Julian Lage, composer Aaron Jay Kernis, pianist/composer George Duke, and guitarists Andrew Hull and David Tanenbaum, who currently serves on the faculty.

SFCM began a new chapter in 2006, when the school relocated across the city from 1201 Ortega Street in the Sunset District in the western part of town, where it had resided since 1956, to its present location at 50 Oak Street in the Civic Center. In its new location, SFCM became part of a newly forming, centrally located performing arts district in the immediate neighborhood that includes Davies Symphony Hall, War Memorial Opera House, and SFJAZZ Center, which opened in 2013. SFCM renovated and refurbished the 1914 structure, which at one time housed a YMCA with a swimming pool, and includes a ballroom that SFCM worked to preserve and incorporate into its new facilities.

On July 1, 2013, David H. Stull, who was Dean at the Oberlin Conservatory of Music in Ohio, became president of the oldest conservatory on the West Coast and brought with him a strategic vision for the future. As the Dean at Oberlin, Hull oversaw the development of a state-of-the-art recording studio and record label. Part of his mission for SFCM involved initiating a new curriculum and degree program in music technology for composers, as well as building top-notch audio facilities into the classrooms in the basement of 50 Oak Street for the program and other conservatory students and faculty.

This fall, SFCM welcomed its first class of 15 students enrolled in a new undergraduate degree program: Technology and Applied Composition (TAC). The curriculum integrates an education in music composition with an education in music and audio technology. TAC students learn recording, sound design,

and film and videogame scoring under the direction of SFCM's in-house faculty and visiting faculty from the film and game music industries, including Leslie Ann Jones (Skywalker Sound), Jeff Beal (*House of Cards*), Dren McDonald (*Transformers*), Austin Wintory (PlayStation 3's *Journey*), among others. TAC is sponsored and supported by sE Electronics, Meyer Sound, Rupert Neve Designs, Electronic Arts and Skywalker Sound.

When Stull was appointed as SFCM president, he invited his colleague from the faculty at Oberlin, composer/musician MaryClare Brzytwa, to join the SFCM faculty and develop the TAC program's curriculum, design its studio spaces, select and purchase new audio gear, and teach.

"He said, 'I've got a job out here for you,'" Brzytwa recalls. "How'd you like to pick out some music technology toys?' And I said, 'Yeah!' [Laughs.] It was a big job. We had to get the program voted on by the faculty. We had to go through a whole process where it was a committee voting on building the studios. Then we had to get the curriculum approved, course-by-course, with the committee. That took about a year. And while we were doing that I was also planning these studios; that took another year. And then in the summer [of 2014] we actually began installing and integrating the equipment.

"It's really educational for the students to be creative and experiment



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SFCM students participate in a recording project in the TAC Program's Live Room, which is networked to other control rooms.

with different recording techniques and scenarios,” says Brzytwa, who is Associate Dean of New Media and Music Technology, and Chair of TAC. “They’re artists first, and technicians second. But we’re treating the technology very rigorously. We’re setting the bar pretty high! [Laughs] They seem to be enjoying it so far. If they have to work with a programmer as a composer, they’ll have a shared vocabulary, and not be bogged down by trying to understand the technology.

“All of us teaching in TAC are musicians,” Brzytwa says. “Jason [O’Connell, Director of Conservatory Recording Services] is a violinist and a violist; I’m a flutist. So we’re coming from a place that has a deep passion

for music. Recording is part of the compositional process for our students in 2015. Learning to record, learning to use sample libraries, learning to mix—all of those things come together to make a craft and an art.”

Brzytwa points out that electronic music has long been present at SFCM, dating back to the 1960s, when it was a “hotbed of experimentation,” presenting its Sonic Series of concerts featuring artists such as composer Terry Riley. Former composition professor Alden Jenks was director of the SFCM’s Electronic Music Studio for approximately 40 years. Under the TAC initiative, Brzytwa and O’Connell, who joined SFCM in 2007, revamped and greatly expanded upon the foundation that Jenks had established. They have also preserved Jenks’ contributions and legacy at SFCM, including an oral history project and restoring some vintage gear that Jenks brought in.

“When I got here it was mainly a performance school,” O’Connell says. “My job was to capture concerts, and I would train the students on how to do it. Outside of [Jenks’] class, it was the only [opportunity] that students had to use microphones or computers, or anything. It’s exciting, the frontier, being a founding member of this program.”

Brzytwa oversaw the construction of integrated audio facilities over three months in 2014. She notes that, fortuitously, the basement rooms constructed prior to SFCM’s 2006 move-in were already floating, in anticipation of expanding the school’s music technology offerings.

“Jason and I decided on [installing] the Rupert Neve Designs 5088 [32-channel analog console], and that dictated the rest of the infrastruc-

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ture of the rooms," she says, "figuring out how much room we had to run pipe in the ceiling, because it's pretty full already and we had to patch these rooms. We had to add audio tielines throughout the building and network it all. We decided to go with a MADI system to save some space in the ceiling, and that's worked out really well because we have this portable cart now that we can take into any of the halls, and it gives us a lot more capabilities to send [audio] back and forth and listen without latency. All of the cables for the whole [facility] were perfectly measured, all created right here in-house."

Taurin Barrera, Director of TAC Studios, joined the program as construction took place. "I started out coordinating all these different parties: facilities, IT, security, and making sure that everything was going according to plan," Barrera says. "It was a bit tricky to integrate these state-of-the-art modern systems with some of our more aged infrastructure. This [program] is a new angle for the conservatory to take. Here we are building what appears to be this monolith of technology in the basement. I think a lot of the other members of the SFCM community were really intrigued but also wondering, 'What are they doing down there?'"

TAC studio facilities comprise Studio A, which is networked to all three of the conservatory's halls and a Live Room, built around the Neve console and featuring a Meyer Sound HD 5.1 monitoring system and Galileo DSP; Studio B, a project room with a full complement of hardware and software synths, and sound libraries; the flexible Live or "improvisation" room; and a Digital Audio Keyboard Lab with 14 preconfigured Mac-based workstations

(Pro Tools, Logic Pro X, Final Cut Pro, Sibelius, and more).

"A lot of the music technology ends up speaking for itself," Barrera says. "We're putting new ideas, tools and concepts out in front of people, and you instantly see that this person is really going to dive in."

Brzytwa, Barrera and O'Connell all point out that the TAC program and its facilities are piquing the interest of SFCM faculty in other departments. "Some faculty have never done anything in this realm [using technology], and all of a sudden they're starting to do new and crazy things," O'Connell says with a laugh. "And hopefully they're going to encourage their students to take classes with us. That's been our approach to winning over the school."

O'Connell also oversees a work-study program: "We hire the students from the classes to work as recording engineers for pay," O'Connell says. "They get to work with me and Taurin, and we do 500 recordings a year for concerts, and we have all these recording sessions we do. We also record the orchestra and the opera. We do the live sound for all the concerts, the A/V for all the classrooms, and assist all the faculty."

"We're trying to create students who are well educated, productive, contributing members of society who engage in the arts [and have] a broad set of skills that are taught very well, at the highest level with the best possible resources and equipment," Brzytwa concludes. "I think we're getting there. If our students go out and they do a bunch of different jobs, and they're all successfully employed in some field related to the arts or to technology or to science, I think I will feel very successful." ■



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Making a Recording Connection

Education Model Based on Apprenticeship Tradition

BY LILY MOAYERI



Mentor Cameell Hanna (left) and apprentice Jake Kiyokane at Serenity West in Hollywood, Calif.

Walking into Recording, Radio, Film, and Culinary Connection (RRFC), you first notice the walls, which are covered with pictures of Larry King, Oliver Stone, Dr. Drew, and Judge Mathis, among many others. These are the partners and endorsers of the RRFC, a licensed apprenticeship program located in Los Angeles Center Studios' entertainment-based complex. The program, which serves all of the United States, Canada, the UK and Australia, receives approximately 40,000 annual applicants year-round across its four divisions.

James Petulla conceived the program in 1983 with the first of the school's four divisions: Radio Connection. Originally from a small town in Pennsylvania, Petulla started his career in radio in high school, at 16 years of age. Moving across the continent with the program director from the one-horse town radio station, by the time he was 23 Petulla was working in rock 'n' roll radio in the Bay Area. He was approached by the 20-campus Columbia School of Broadcasting to teach a course. Here, Petulla advised his students on how to break into the business, namely, by physically being at a radio station.

"In radio, there's always fluctuation," Petulla says. "The morning guy wants a better job, the guy working the graveyard shift is tired of it, the girl doing the news doesn't want to commute across town. During that movement there's an opening. You don't go to the stack of resumes and colleges; you hire who you know. The fact that my student was already at the radio station, they'd hire him to do the board op or push gospel tapes on Sunday

morning. They hire whoever is already in the door."

In the early days, Petulla ran small ads in magazines like *Rolling Stone* and *Mix* simply stating, "get into radio." Calls would come in from all over the United States, and from hearing the person's voice, Petulla could gauge whether they were right for radio. Asking for the caller's three favorite local radio stations, Petulla would then leverage his extensive list of radio contacts at the stations, reach at least one program director and ask to give his person an interview, and if they passed that stage, an apprenticeship at the station.

Fast forward six years and Recording Connection was added, following the same model, with Film Connection coming in 2000, and Culinary Connection in 2013. The model is simple: on-the-job, one-on-one, apprenticeship-based training from a mentor in your field of inter-

est who is local to where you are based, while following a set curriculum at home with the option to take advantage of online tutoring. You work at your own pace, full time or part time, with as little as two days or as many as five days a week onsite with your mentor. RRFC charges under \$10,000, which includes the online tutoring and the software programs used in your course of study. While federal aid is not available, the school offers payment plans and private loans through Tuition Options.

In order to get to this point, however, the applicant has to pass a three-tier interview process. Of the 40,000 fee-free applications, RRFC accepts, at most, 1,500 students a year. Ten individuals in the Admissions Department call every single applicant for the first tier of interviews. These 10 have all completed a post-secondary education in one of the fields RRFC offers and are, or have worked, in those fields. They also have gone through a rigorous 30-day interview training process. Their job is to filter through the applicants, speaking to them frankly about their expectations and determining whether they have realistic goals. If necessary, these 10 also speak to the families of the applicants, to get a better understanding of the applicant's mindset. This interview process could take up to two weeks and multiple conversations that include questions about how long the applicant has been involved in their particular industry of interest, what type of experience they have in it, and how passionate they are about it. Previous experience is not a requirement, but it does determine how much weight is given to each area of questioning.



James Petulla (left) and Brian Kraft.



Rafa Sardina and Brian Kraft

“The only reason we don’t accept everyone is because of the nature of what we do,” says RRFC’s Chief Academic and Operating Officer, Brian Kraft. “We’re sending people to some of the most important recording studios, radio stations and film companies in the world, including United Recording, The Engine Room, Serenity West, The Record Plant, Quad Studios, Colorado Sound, ESPN, ABC, and literally thousands of boutique studios and film companies. These are legitimate businesses, and those mentors only want people that really want this, want to bleed for it, sweat for it and cry for it. What we’re trying to find is the kid who has made three terrible short films on his iPhone and is obsessed with it and knows a lot about horror films and Quentin Tarantino and is a geek for it. We’re looking for the girl who is in a band and has played guitar for nine years, can show us songs she’s written and now wants to get to the place where she can record them herself. We want to introduce that type of person to our mentors.”

If the applicant passes the first stage, they arrive at tier two of the interviewing process, the Head of Admissions Department, which is, essentially, more of the same but with 11 individuals who have more experience in vetting. At this point the interviewers also determine

which mentor within an hour’s driving distance of the applicant would be a good fit. They know what the mentors are looking for, they know their availability, and can ascertain if it would be a good match.

Once the applicant has passed this tier, they are set up with and prepped for an interview with their mentor at their place of work. That is the third tier, and the one that determines whether or not they are accepted to the school. During this interview is also a good time for the applicant to vet RRFC by asking the mentor—someone clearly established in their field—whether or not RRFC is the right place for them, and the best way to enter that field.

Now enrolled in one of RRFC’s programs, the student interacts with Student Services. Every two weeks or so, someone

from RRFC will call the student to make sure they are getting what they were promised and addressing their concerns and questions.

Student Services also regulates the mentors, making sure they are doing their part, following the curriculum and giving the student the required one-on-one time. Another aspect of Student Services is the aforementioned online, screen-sharing tutoring, which is available Monday through Friday from 9 a.m. to 6 p.m. PST, but the student can request a different time that works better with their schedule. The online tutoring is a particular perk, as the student can pursue learning other software on top of what they are learning as part of their course of study.

For Recording Connection, the lessons include written portions, which students complete online and bring to their mentor. The mentor has access to the answers to these assignments, and will go over the student’s work with them. Then comes the hands-on portion to the same assignment, which the mentor then directs the student through. The time it takes to complete the online portion is up to the student and their ability and availability, but is typically four to eight hours a week. The private lesson with the mentor

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 **AKG**
by HARMAN

New at VCU, IYE

Training Tomorrow's Jack of All Trades

BY MARK R. SMITH



Students set up drums at IYE.

The moment of this particular revelation isn't exact, but it happened several years ago: It occurred when Carlos Chafin, then new in his role as adjunct faculty at Virginia Commonwealth University, could see that the gears of evolution were in motion in the audio post-production industry.

Chafin, longtime president of In Your Ear Music & Video Production of Richmond, Va., and adjunct faculty at VCU's School of the Arts, recalls the days of the specialist, when post professionals simply honed and applied their finest skill. Those days are gone.

In response, at the behest of Chafin and a host of others, VCU is set to debut its Advanced Media Production Technology post-baccalaureate undergraduate certificate program. The program, which will operate out of IYE's Broad Street studio in the city's Shockoe Bottom area, will offer college grads the opportunity to learn a specialty, while providing the varied background needed to meet the emerging market's demands. In essence, it's the best of four-year-degree-meets-hands-on-training.

RETURN ON INVESTMENT

The 24-credit AMPT certificate is targeted toward students with a bachelor's degree who are pursuing the study of advanced digital media

production and post-production techniques; the aim is to blend creative skills with the technical expertise required to compete for employment. The program costs \$14,500 for two semesters, with VCU's aim being to educate the students in one year—and prevent them from having to dig out of debt for years (and maybe more years).

"VCU has been the number one-ranked public arts school in the country for many years [according to *U.S. News & World Report*], with 17 arts schools under roof," Chafin says, "and we've come up with a unique solution. This new program is a great add that will offer our students the option to learn all of Adobe CS, Avid, Steinberg and other standard industry-specific software platforms, as well. And if they can creatively drive those programs, they can get a job."

He believes that aspiring audio/video production and post professionals "need a college degree first," he said, and that

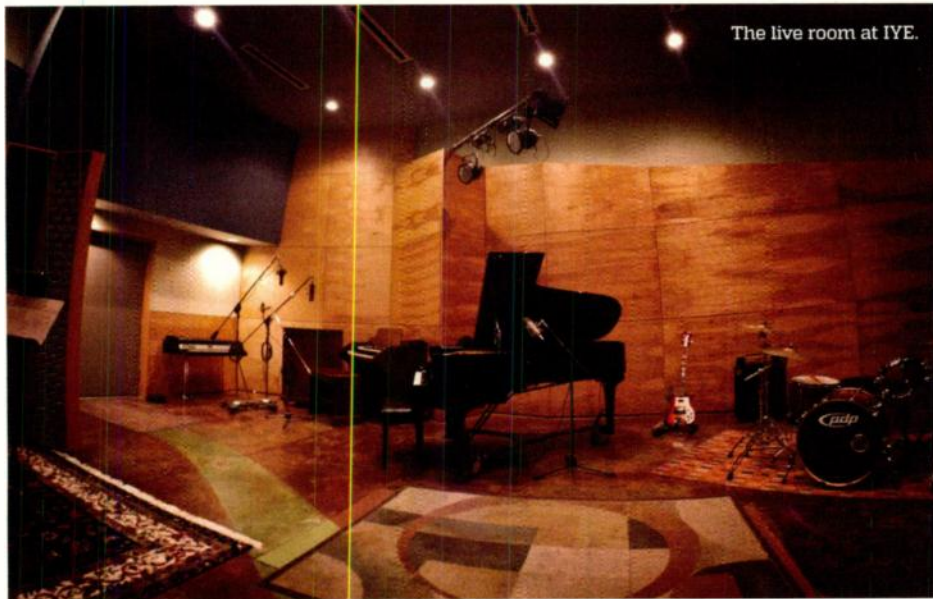
the AMPT program will prevent them from "pigeonholing themselves after making a huge investment."

And, too often, huge investments are just what students are making today, and the payoff is too often absent. For example, Chafin pointed to a music student who was studying the harp at Oberlin College & Conservatory, in Ohio, which charges \$65,000 per year for tuition and fees. Digging out from a \$260,000 (plus other college expenses) hole is a rather daunting start of what should be a promising career. "How can she make that money back? She quit after one year," he said. "Most students and people of modest means can't even apply, let alone make the equation work."

REAL-WORLD VIEW

In addition, Chafin feels that what's being offered on the market today can leave job candidates somewhat lacking in one discipline or another.

"Students who come out of virtually any art college will know the creative side of the equation, but will be lean on the business side. And students who go to a technical school or a community college know the mechanics of Photoshop, for instance," he said, "but lack the art background that they would gain at a [four-year] college, learning about painting, sculpting or sound design."



The live room at IYE.

That four-year degree often equates to “a much better-rounded person,” Chafin says. “When you’re in school, you need to learn other things. Some business skills are obviously very important. And we don’t want the students to just know them, we want them to apply them. There’s a big difference.”

While the AMPT program has been in the works for years and was just recently approved by the State Council of Higher Education in Virginia, VCU “has essentially been piloting some of the courses during the past several years,” says Matt Woolman, executive director of entrepreneurship for VCU’s School of the Arts. “The classes have been filled primarily by music students, but when we open it up to all students this winter, we think the classes will fill up with students from a range of majors.”

The university is “expecting more entrepreneurial types, like one guy who wants to start a record label” to enroll in the program, Woolman says. He added that, while there “are a number of vocationally oriented programs at trade schools and at community colleges,” he hasn’t heard of any similar programs at other four-year colleges and universities around the country.

“We want to present well-rounded graduates from the AMPT program to the market,” he says, noting that while it grew out of VCU’s music program, “we designed it so anyone from any major could enroll and heighten their skill set.”

IN THE CREATIVE VILLAGE

Woolman said that VCU is accepting applications for the programs’ January kickoff, which will be held at IYE—a multimillion-dollar facility that “would cost VCU too much money to replicate on campus”—while capacity questions are addressed. “We’re hoping for at least 10 students in our first class and plan to have a cap of 20.”

While the foundation of the AMPT program was laid many years ago, crafting it into a polished product took a village-type effort, as Chafin started gathering several stakeholders from around Richmond “about two years ago,” says Steve Humble, director of production and development at The Martin Agency, also of Richmond.

The first step was to determine what kinds of skills were needed in the new work place. “It’s very important that young people coming out of school understand the various editing tools in Final Cut Pro, Avid,” etc., says Humble. “Some of these kids were coming out of school without having much hands-on experience. So we’d usually have to take six months to a year to get them acquainted with them before they could become a high-value employee.”

And at a large agency, like TMA, Humble is looking for producers who know a little more. “They don’t have to turn the knobs, but they have to understand how Final Cut Pro, for instance, works and occasionally get up on the box and handle it,” he said, adding, “We don’t have audio mixing now, but we will in the future.”

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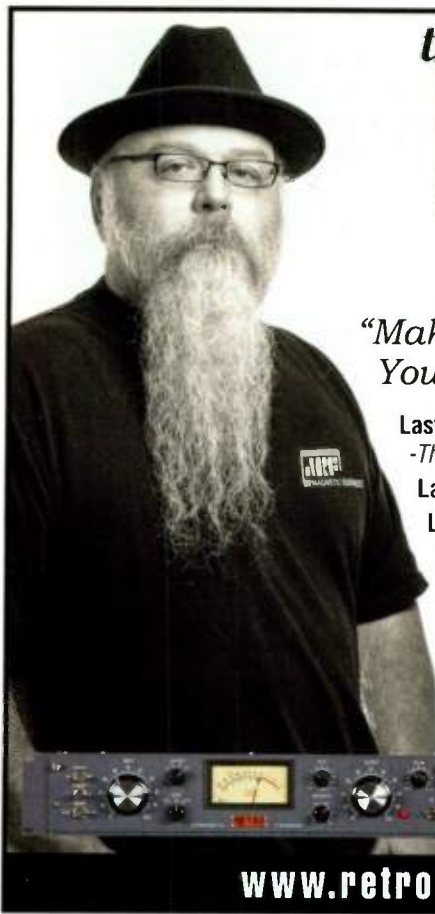


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by HARMAN



the
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Last Book Read: *Are We Still Rolling? by Phill Brown.*

Last Movie Seen: *Goldfinger*

Favorite Beer: *Red Stripe*

Last Accomplishment: *Waking up this morning.*

Greatest Accomplishment: *Still to be determined.*

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**-Vance Powell Producer/Mixer
(Jack White, Red Fang,
Chris Stapleton, The Sheepdogs)**

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BOTH SIDES NOW

Frank Scheuring, co-owner of Capital Post Production in Merrifield, Va., and a graduate of Full Sail University, said he's seeing job listings online "all the time" for video editors, but "the people who post the jobs also dictate that they want applicants who are able to not only video edit, but also know motion graphics, audio and color grading," he says. "Sometimes they want someone who can shoot, too."

Unfortunately, says Scheuring, the pay is "not equivalent to those five jobs and is often less than what one of them should be getting." Still, he sees what is transpiring in the industry. "During the last six-to-eight years, there has been a consistent decline in the budgets [of] the majority of cable TV shows and corporate work, and the turnaround is faster."

On the other side of the coin is the specialist's perspective. "It's also tough for people who have been concentrating on shooting, color correction or another single discipline throughout their career," Scheuring says. "They'll do a better job than someone who does four different things. I prefer the old way, because I think it leads to better quality. But it's not that way anymore. Many companies are hiring one or two people to handle all media—including shooting, graphics, audio—instead of an advertising company, a marketing firm or a post house. It's a smart business move for the companies, but not always a great one for the talent," who can be spread too thin.

But he also offered that he, as co-owner of a post-production firm, is among those who have worn multiple hats. Scheuring's focus has always been sound—but says that he's also "been doing some video editing lately. And enjoying it." ■



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CRAS Adds Two New SSL Control Rooms to Tempe Campus

BY LORI KENNEDY

For 35 years, the Conservatory of Recording Arts and Sciences (CRAS) has been providing students with the training and experience needed to thrive in the ever-changing—and challenging—recording industry. Now, the school has added two new control rooms, F and G, both equipped with SSL AWS948 consoles and Pro Tools 10/11 HDX.

The most unique design feature is the central recording studio bookended by the identical rooms. For daytime classes and clinics, the control rooms run separately, splitting the microphone inputs for sessions. Kirt Hamm, administrator at CRAS, says the school chose the AWS consoles because of their hybrid nature. “We currently train the students on multiple large-format analog consoles, including two SSLs, two APIs and two Neoteks,” he says. “We felt the SSL AWS was the next logical step. The analog signal path, as well as the DAW control, fits our students’ and the industry’s educational needs.”

Training in the new AWS rooms takes place during the last six weeks of the 36-week on-campus portion of the curriculum. At that point, students already have an in-depth knowledge of signal flow, console operation, studio interconnect and Pro Tools operation.

“During the first two weeks of AWS training, we focus on intense console operation in the control room environment,” Hamm says. “Over the remaining four weeks, the classes focus on actual live recording, mixing and editing sessions. Having partnered with soundBlade, we expanded the curriculum, exposing our students to the world of mastering as well.”

Hamm says the school put together a knowledgeable, savvy design team, representing many combined years of studio design and construction. The team included Alex Otto (studio design contractor), Jeff Harris (CRAS technical director and studio acoustician), Michael Jones (director of education and studio owner), Tony Nunes (CRAS instructor and manufacturer liaison) and Hamm.

Construction of F and G included a radical teardown of classroom environments and a complete build out of the two AWS control rooms, as well as the centralized recording space. Having a space of approximately 70x24 feet to work with, the team built three spaces that measure roughly 20x22 feet each. The team also managed to build a 6x10 isolation booth



Photo: Jason Losett



Photo: Sandi Miller

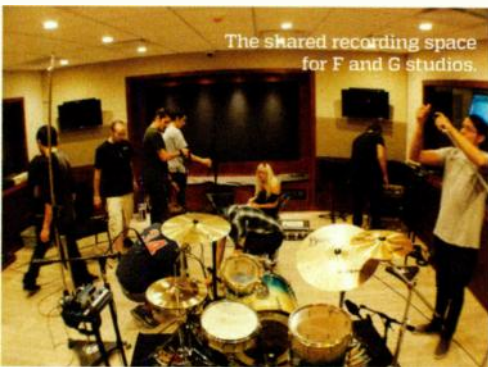


Photo: Jason Losett

in each of the control rooms. “We sought out design space in our control rooms to allow our students even more recording space,” Hamm says. “Industry input from our Advisory Board of Studio Managers, and the instructors who will actually be teaching in these rooms, provided a team effort.”

In addition to the SSL AWS console and Pro Tools, both rooms also include Sonnet Thunderbolt expansion chassis, Apogee Big Ben master clock and Rosetta 800 interfaces, soundBlade HD mastering software, Mytek 8x192 ADDA mastering converters, iZotope RX3 and RX4 audio restoration software and Ozone 5 and 6 mastering software, McDSP Everything Pack plug-in bundle, ATC SCM25A reference monitors, and Sound Anchor monitor stands.

“The equipment and software choices are dictated by the industry we serve, and, with that, we hone the skills necessary for our students to excel,” Hamm says. “We chose the ATC reference monitors because of their excellence, and we found them in many of the studios we visit. Through the educational collaboration between CRAS and iZotope, CRAS now provides, and teaches, an iZotope bundle in our students’ Laptop Recording Package, which includes Ozone, RX-4 and Insight. In addition, we equipped the racks with analog gear from Empirical Labs, Manley and BAE Audio, to name a few.”

Students are allowed to use these new rooms on their own after-hours. The audio and video tielines between rooms allow the students to use the entire space for isolation and recording. Because both control rooms have large isolation booths, the second control room can act as additional studio space. Students can choose to use one AWS control room, have the main studio, two large isolation booths, and the other control

room as a recording space. CRAS used this design technique to marry spaces between its Neotek and API control rooms, and its SSL 4000 G+ and digital control room environments, as well.

“We’ve found that this practice allows our students to make the best—and the most—use of the space and technology that CRAS can afford them during their 24/7 access,” Hamm says. “Nothing prepares a student for the industry like running their own sessions. The students may book the rooms for their continuing projects in music, post and broadcast production. Since we opened the new rooms, they are booked every night!” ■

COOL TOOLS UNDER \$500

(HARDWARE VERSION)

BY STROTHER BULLINS

I entered the industry in 1997, fresh out of college and following three internships: a record label (Metal Blade in Simi Valley), then NRG in North Hollywood and finally, Masterfonics in Nashville. After aligning analog multitracks in school to live a Pro Tools existence upon graduation, I hit the scene at a time when the future was largely digital and on a screen. In Nashville we used Studer D827 48-track and Otari DTR-900 32-track digital tape recorders and exclusively SSL analog mixers—4000 E/Gs to one of the first J9000s in town, but fully, only for a time; the youngest producers were in the hallways, editing in Pro Tools via then-new Mackie HR824 studio monitors. It was a fun and innovative time.

Even so, today is the most exciting time I've witnessed in pro audio. Our main commercial studio haunts aren't where they used to be, and the tools needed even five years ago have changed considerably; innovation gives us so much functionality that we used to pay for now as a courtesy. Which means we can buy more things.

In using \$500 as a top figure to purchase essential tools, hardware version, I'm suggesting a relatively small group of products below. In no way am I excluding gear by suggesting similar products. Buy the best you can afford within budget, and if you don't know all the best brands, you could do worse by following these suggestions, gleaned by countless conversations with end users, commissioning reviews for years with pro end users and friends, and/or personal experiences.

Under-\$500 pro audio products don't have to be beneath burgeoning pros—that is, unless you buy toys. Luckily, the MI/Pro Audio world

offers enough solutions below this price point that skilled recordists can make it all happen with comparably low-cost gear and a nearly free DAW.

All prices quoted are street prices, or what you'd expect to pay before taxes and/or shipping.

MI TOOLS



Roland Cube 80 GX

Roland Cube 80 GX guitar/instrument amp, \$399. It's always good to have a flexible, clean-capable instrument amplifier on hand, and I've been consistently impressed with Roland's Cube Series. Some of the

best guitar tones I've heard live also shocked me when I learned they were coming from an affordable Roland Cube. Here I've suggested the powerful Cube 80 GX, an amp powerful enough, yet small and affordable enough, to always have as a backup or go-to studio-tracking amp.



Line 6 Firehawk FX

Line 6 Firehawk FX processor/USB I/O, \$449. Line 6 continues to provide musicians with superior, user-friendly

amp simulation. For those recording lots of rock bands, a USB-ready processor with comprehensive tones available is ideal to have on hand. In my experience, you just can't go wrong with Line 6 for affordable, surprisingly great guitar tones.



Ludwig Questlove Breakbeats drum set

Ludwig Questlove 4-piece shell pack drum kit (drums only), \$399. Why am I suggesting a drum kit? Fact is, we often find ourselves in recording situations in-

volving troublesome drum kits. Perhaps a troublesome kit's wood and build quality is fine, but it resonates with rattle-prone or squeaky parts, or perhaps drummers arrive with bad, dead drum heads (and no extra cash for replacements), etc. Audition this neat little 4-piece kit on site at a retailer dealer, and even insist on a display if it's tuned, sounds and looks good. You'll appreciate always having a surprisingly versatile, punchy drum kit that's easy to play and position.

ESSENTIAL MICROPHONES

Assuming those audio types with \$500 burning a hole in their pockets already own a handful of cardioid dynamic handhelds—like the ubiquitous Shure SM57 at \$99—below are some great bargains I've found in the realm of studio-grade transducers.



Sennheiser MK 4

Sennheiser MK 4 cardioid large diaphragm condenser (LDC) microphone, \$299. This is simply a great-sounding microphone, versatile and arguably uncolored. Most sources in front of this mic

are translated transparently. Close-miked vocals and instruments—even speaker cabinets and drums—are large and rich via the MK 4's notably open proximity effect. The drawback? It might be slightly flavorless, but never too influential, either. That said, it's the perfect gig bag LDC, as generally no one ever minds using a Sennheiser.



Audio-Technica AT2020USB+

Audio-Technica AT2020USB+ condenser microphone, \$149. A-T's standard AT2020 being a solid yet affordable cardioid large diaphragm condenser, I'd recommend having its USB version as a go-to gig bag solu-



Avantone CV-12

tion. It sounds great and allows direct-to-CPU overdubs and “idea scratch pad” usage nearly anywhere.

Avantone CV-12 multipattern tube condenser (AKG C12 clone), \$499. In my experience, the Avantone brand has offered a solid stream of very good mics. These are ideal for drum room mics, so buy one and plan ahead for two.



beyerdynamic MCE 86 II

beyerdynamic MCE 86 II electret condenser shotgun microphone, \$379. Electret shotgun microphones—such as beyerdynamic’s MCE 86 II—are small-diaphragm condensers, possessing key design features making them the only choice for some recording and live tasks. The MCE 86 II is an affordable and truly superb-sounding hypercardioid shotgun, one I would recommend to anyone. It sounds fabulous and full-range, boasting a rich 50 Hz-18 kHz frequency response. It’s lightweight for its size (0.2 pounds), and ruggedly built with a work-ready, no-scratch finish.



sE Electronics Voodoo VR2

sE Voodoo VR2 active ribbon microphone, \$499. More than a decade ago, I became very well informed on the manufacturing processes of sE Microphones, a Chinese manufacturer of unique pro-grade options. The Voodoo VR2, not new, was introduced in a flurry of ribbon releases just a few years ago. It still stands as a versatile, useful ribbon with the benefit of active elec-

tronics, perhaps \$1k less than comparable products. Again, a pair would be golden, so plan ahead to eventually own two.



Shure KSM137

Shure KSM137 cardioid small diaphragm condenser microphone, \$299. Shure’s small condensers have always been affordable favorites of mine, handling detailed and delicate sounds just as well as SDCs costing hundreds of dollars more. The KSM137 is a solid investment, even after you’ve bought pricier SDC options in the future. At \$299, the KSM137 pushes our budget for a pair but may be worth buying together anyway.

PLAYBACK TOOLS



Mackie FreePlay Personal P.A.

Mackie FreePlay Personal P.A., \$399. The Free-Play Personal PA is the result of Mackie’s latest and greatest brainstorm: a super portable “swiss army knife” sound reinforcement problem solver, quite useful in many applications both personal and professional. The black polymer-encased 9.5 x 17.8 x 9.1-inch FreePlay chassis best resembles a new century “boom box.” It seems to be built well and is primarily designed for portable, on-the-fly use, weighing in at 11 pounds. It’s a stereo playback system—left and right high-frequency drivers with a shared, green-tinted 8-inch LF woofer. A built-in 4-channel digital mixer plus effects, two mic/line preamps, an 1/8-inch input

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Elite Acoustics Designs Sunburst Gear M3R8

and 1/4-inch monitor output comprise the FreePlay's simple I/O scheme.

Elite Acoustics Designs Sunburst Gear MM Series M3R8, \$230. Elite Acoustics Designs' Sunburst Gear M3R8 could be the most useful multipurpose monitoring tool I've ever used. Is it a studio monitor, instrument monitor, sound reinforcement speaker, portable DJ/KJ rig, remote-location battery-powered portable P.A., or a 3-channel mixer with limited EQ? Actually, it's all of those and more. The magnetically shielded, front-ported M3R8 features a 5.25-inch woofer and 1-inch tweeter; three input channels featuring XLR and TRS inputs plus eighth-inch auxiliary jack with volume knob; three-band master EQ; long-lasting 15-plus hour rechargeable battery; AC/DC operation; separate USB input and charge ports; and 35 mm bottom pole mount with a very sturdy overall build quality and road-ready design.



JBL LSR308

JBL 3 Series LSR308 studio monitor, \$249. JBL's affordable 3 Series of active two-way studio monitors is one of the best-sounding, truly affordable studio monitors I've found. At \$249 each, the largest 3 Series model—the LSR308 featuring an 8-inch woofer, 1-inch tweeter with JBL's proprietary Image Control Waveguide and dual-amped (56 W each) power per driver—provides accurate, non-fatiguing playback.

The secret is in its design, benefitting by trickle-down technology from

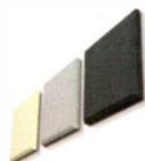


IsoAcoustics ISO-L8R

JBL's premium studio monitor technology, the M2 Reference Monitor.

Auralex, IsoAcoustics or Primacoustic Studio Monitor Accessories, from \$79. Decoupling even an average pair of studio monitors from a desk notably improves speaker performance and reduces vibration transfer; as a result, work improves.

Auralex, IsoAcoustics and Primacoustic each offer effective, and quite different, speaker isolation products. I've used Auralex's ProPad (from \$149 per pair), IsoAcoustic's ISO-L8R (from \$79 per pair), and Primacoustic's Recoil Stabilizer (from \$89 per pair). Each brand is a fine option worth considering; choose based on monitor dimensions, workspace/desk type, seating height, etc.



Primacoustic Broadway panels

Primacoustic Broadway acoustic treatment panels, from \$229. Working in a small residential room—bedroom, dorm room, cellar, or attic—often presents challenges not easily fixed with a \$500 budget. However, treating the area right at the monitoring position can help battle acoustic anomalies in helpful ways.

I've had great luck with Primacoustic's Broadway 6-pound glass wool absorptive panels, starting with a few, adding along extra models and shapes as I "tighten" the acoustics of my small work space. The London 8 room kit is designed for 100-square-foot spaces for \$229 street.

For Strother's complete list of cool tools under \$500, please visit mixonline.com.

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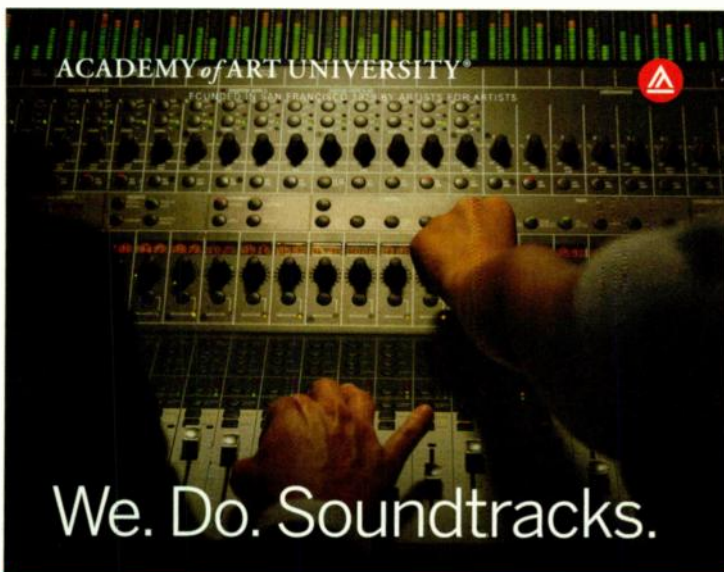
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- B SE Munro Egg 150 Studio Monitors
- C Behringer X32 40-Channel, Digital Mixer
- D Neumann TLM 102 Large-Diaphragm
- E Moog Minimoog Voyager Monophonic Synthesizer
- F Neumann TLM 107 Multi-Pattern Large Diaphragm
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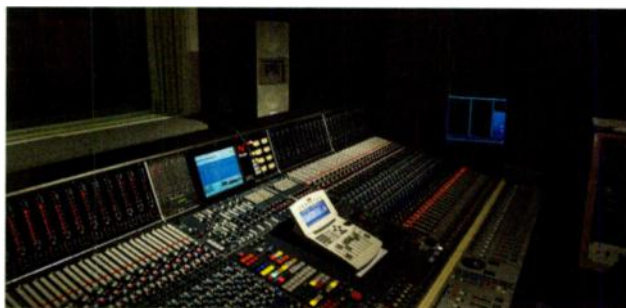


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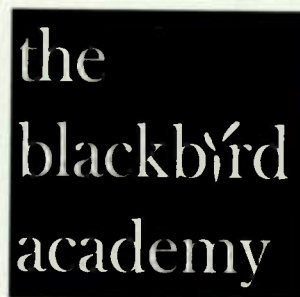
The Bachelor of Music in Sound Recording Technology (SRT) provides students with the fundamental skills necessary for a career as an audio engineer. Portions of the curriculum are devoted to classes focusing on recording techniques, songwriting, music production, live sound, the music industry, and sound for

film & theatre. The final semester of the SRT program is reserved for an internship where students receive specialized workplace training with approved professionals. In addition to taking traditional music courses, SRT majors perform in an ensemble specializing in pop music. Four semesters of individual lessons on wind instruments, brass, percussion, strings, piano, or voice are necessary to earn the degree. Other options to fulfill this requirement include studying acoustic & electric guitar, drum set & percussion, electric bass, or keyboard & synthesizer. General studies supplement the curriculum and include courses in musical acoustics and electronics.

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Tech // new products



SLATE RAVEN MT12 MULTITOUCH CONTROLLER

27-inch Touch Screen for Your DAW

The new Raven MT12 from Slate Media Technology (\$999) is the most affordable Raven yet. It features a 27-inch backlit LED multitouch display (1920x1080), six-touch capability for movement of various features for better hands-on control, a customizable multifunction toolbar, and plug-and-play

operation with a computer using a standard HDMI or DVI cable and USB 2 connection. Also new is the Raven v3 software update that now supports Pro Tools (10, 11, 12), Logic Pro X, Ableton Live 9, Cubase 8, Nuendo 7, Studio One 3 and Digital Performer 8 and 9.



JOEY STURGIS MENACE TONE- FORGE AND TRAN- SIFY PLUG-INS

Metalcore Sonic Manglers

Toneforge From Joey Sturgis Tones (\$65)

is a series of virtual guitar and bass rigs designed by producer Joey Sturgis (Devil Wears Prada, Kiss The Gunner). Menace, the first in the series, is an aggressive metal amp built to power through guitar leads and riffs. Transify (\$65) is an affordable tool for manipulating the dynamics in a mix and allows for total creative control over the transients in a production. Features include: four frequency band ranges, a built-in per-band clip circuit, and I/O controls for matching levels and optimizing gain staging.



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NEAT BEE MICROPHONES

New Look, Sound and Operation

From a team of innovators, including the co-founders of Blue Microphones, comes the King Bee (\$349) and Worker Bee (\$199) microphones. The King Bee features a 34mm center-terminated condenser capsule with external polarization. Features include a fixed cardioid pattern, 140 dB SPL (2.5k ohms, 0.5% THD), internal noise level of 6.5 dB-A (IEC 651), and a custom transformer balanced output. The Worker Bee offers a fixed-charge backplate, permanently polarized 24mm diameter condenser capsule, 145 dB SPL (2.5k ohms, 0.5% THD), identical noise specs as the King Bee, and a dynamic range of 134 dB (@ 2.5k ohms). Both mics come with the Honeycomb pop filter and custom shockmount, they are compatible with the optional Beeline quad conducted XLR cable.



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WAVES AUDIO COBALT SAPHIRA

Advanced Harmonics Shaping Plug-in

Waves Cobalt Saphira (\$149) promises to give your mixes analog musicality, depth and “glue” by adding rich harmonics to your tracks and separately shaping the various qualities of the harmonics you are adding. Controls and features include Edge and Warmth—for separately controlling and balancing even and odd harmonics; a 4-band EQ, seven Harmonics modes, and a tape simulator with five tape speeds for adding wow-and-flutter modulation in order to give your tracks extra musicality and depth.



NYRV AGENT PLUG-IN AGGREGATOR

Unified Control Across Different Processors

Agent from NYRV Systems (\$249) allows the mapping of 16 plug-ins simultaneously to your hardware controller. Users can develop a series of channel strips designed to meet the needs of particular tracks (drums, vocal, guitar, etc.), save them and recall them in any project on any DAW, simplifying and speeding up your mix setup. Agent hosts up to 16 VST or AU effects plug-ins per instance and features dynamic DSP allocation, internal routing, order, wet/dry, and gain controls, and mapping of up to 96 parameters to the Agent control surface. The software runs on all major DAWs and features cross-platform presets.



SONARWORKS REFERENCE 3 PLUG-IN

Playback Calibration System

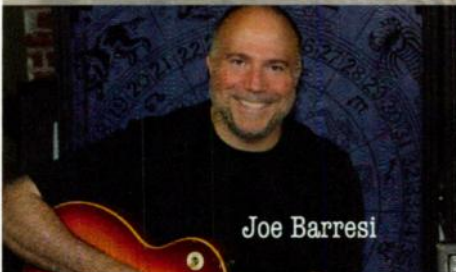
Reference 3 (\$219 plug-in only; \$299 plug-in w/mic bundle) is an acoustic calibration system using DSP algorithms to correct the frequency response of speakers. Features include filter architecture developed in-house and optimized for optimum measured and heard performance, switching between three different filter types—minimum, mixed and linear phase with up to 16,000-point resolution, and guaranteed measurement accuracy for speaker calibration—<2.5dB (25 points), <0.9dB (70 points). The plug-in is available for OSX and Windows in VST, AU, RTAS and AAX Native formats.

Ribbon Evolution Continued

R-122 MKII



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AND BASS CUT**



Joe Barresi

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Joe Barresi

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The M-5000C (\$TBA) is the newest addition to the growing line of



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YAMAHA DXS18 SUBWOOFER

1020W 18-inch Boomer

Joining the DXS12 and DXS15 models, the DXS18 from Yamaha (\$1,949) delivers the highest output level of the series, as well as the lowest frequency range capability. Powered by a 1020W Class-D amplifier, the DXS18 houses an 18-inch woofer with a durable 4-inch voice coil in a sturdy bandpass-type plywood enclosure. Other features include 136 dB maximum SPL, extended LF response down to 32 Hz, and Yamaha's proprietary DSP technology with original D-XSUB processing for additional control of the low-frequency range. The DXS18 also offers a Cardioid Mode setting for sound systems with two or more DXS18 speakers, effectively reducing the energy directed toward the stage while increasing bass levels directed at the audience.

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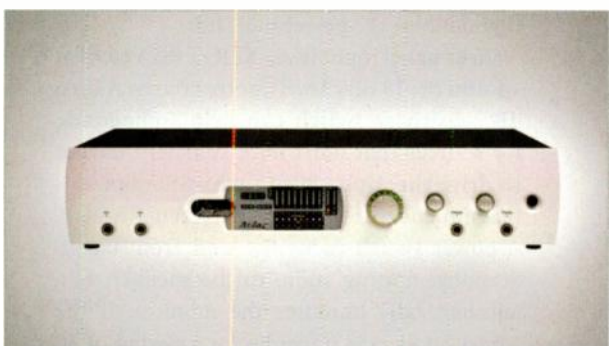
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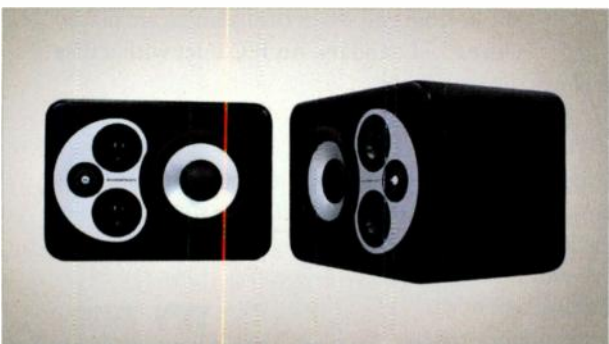
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Tech // reviews

FOCAL ALPHA 80 MONITORS

Two-Way Speaker Offers Great Imaging and Extended Low End



The Focal 80s are powered by 100 watts (woofer) and 40 watts (tweeter).

Having established itself as a respected manufacturer of pro studio monitors, Focal recently turned its attention toward creating speakers for musicians and home studio owners. The result is the Alpha Series, a line of three active, two-way near-field monitors. Differences between the models are based primarily on cabinet and woofer size, amplification and maximum SPL. At the top of the series is the Alpha 80 reviewed here.

INSIDE AND OUT

The Alpha 80 provides a frequency response reaching down to 35 Hz and a maximum SPL of 109 dB at one meter, which should be loud enough for anyone with common sense. Power is supplied via Class-A/B amplification: 100 watts for the woofer and 40 watts for tweeter.

The Alpha 80 includes an 8-inch low/midrange-frequency driver with a Polyglass cone and a 1-inch aluminum inverted dome tweeter. Focal recommends that the tweeter be situated at ear height, and the cabinet may be oriented upside-down if necessary. The 15mm MDF cabinet is finished with a black laminate

and features curved side panels, precluding horizontal placement. At the bottom of the front panel are dual ports and a company logo that doubles as a power indicator.

Rear panel input is via XLR or RCA jacks at +4 dBu or -10 dBV levels, respectively. A 0/+6 dB sensitivity switch can help compensate for sources that don't have sufficient output to drive the Alpha 80s to max SPL, but it is recommended that sensitivity remain at 0. A power switch turns the unit from Off to Standby; routing audio to the speaker then automatically unmutes the monitor. If the Alpha 80 detects no audio for a period of 30 minutes, it enters Auto Standby mode to conserve power. Two rotary pots enable shelf adjustment of low (+/- 6 dB at 300 Hz) and high (+/- 3 dB at 4.5 kHz) frequencies to compensate for rooms that tilt the spectral balance; the LF control is also useful for trimming the bottom end when the cabinets are placed close to a boundary. An IEC inlet with a fuse

holder completes the rear panel.

INTO THE STUDIO

I used the Alpha 80s for mixing and tracking, initially placed approximately three feet from the front wall upon stands that decoupled the cabinets from the support platform, and brought the tweeters to ear height (Focal supplies four rubber pads that may be attached to the bottom panel to decouple the cabinet from its stand).

The Alpha 80s are a bit larger than the average 8-inch near-field, and they have a solid build quality, so you'll want stands that have a sufficiently large platform and provide stable support.

TRY THIS

The Alpha 80's amplification circuitry incorporates high- and low-shelf equalization controls to help compensate for placement, or for listening environments that unfavorably impact the speaker's tonal balance. When the speakers are placed against the front wall of the listening room, an unwanted boost in low-frequency content may result due to reflections from that wall. To compensate and correct for this, use the Alpha 80's LF Shelf (300 Hz) control. Setting it to -3 dB for placement against a wall, or -6 dB for placement near a corner should restore the speaker's natural tonal balance.

I fed audio to the Alpha 80s from either a Dangerous Monitor ST or a MOTU Traveler interface via the XLR inputs (I try to avoid RCA connectors whenever possible), starting with the EQ trims at 0. Both audio inputs are active at all times so you can leave two sources connected, but it is your responsibility to make sure that only one input is feeding audio to the Alpha 80 at any time.

The first thing I noticed was that they throw an extremely stable center image. When I listened to some of my mixes that were in-progress, the lead vocal presence was startling—almost as if there were a center speaker, and delays and reverb could clearly be heard emanating from the left and right sides. The Alpha 80s provided excellent separation and resolution of instruments and vocal parts, and clearly revealed subtle changes in a mix, such as a snare reverb that varies when the chorus begins, or a synth doubling up on a bass line.

For most of my sessions the EQ controls remained flat, with the exception of some mix sessions where the speakers were placed against the front wall. For those sessions I placed two GIK Acoustics 244 Bass Traps directly behind the speaker cabinets to reduce reflections. The manual states that the LF shelf should be reduced a few dB for such placement, and Focal's advice is well-taken: bottom end was overblown when the cabinets were against the wall, but changing the LF control to -2 or -3 dB cleared this up, along with improved clarity between kick, bass and toms. I actually preferred this arrangement more than placing the speakers several feet from the front wall. I'd like to have click-stops on the EQ trim controls, not so much for repeatability but for confidence that both speakers are set the same. Regardless of placement, I felt that the Alpha 80's robust bass response occasionally caused me to mix vocals a hair louder than they needed to be once I heard them on other systems.

The Alpha 80's bottom is balanced nicely by the inverted dome tweeter, which produced crisp and clear highs, revealing sibilance when it was present on vocal tracks but never causing ear fatigue. The HF shelf con-

PRODUCT SUMMARY

COMPANY: Focal

PRODUCT: Alpha 80 active near-field monitor

WEBSITE: www.focal.com

PRICE: \$599 each

PROS: Extended low-frequency response. Maintains tonal balance at low listening levels. Solid imaging.

CONS: No detents on EQ trim controls. Auto Standby may not be defeated. It ain't winning any beauty contests.

trol is subtle, operating over a range of only ± 3 dB—which I consider a good thing because even if you crank the HF control to maximum you won't take someone's head off with excessive high end, or create problems with the mix translating to other systems. Having said that, I left it flat.

SONICALLY CONSISTENT

I loved that even though the Alpha 80s have the ability to play way louder than my taste, their timbre maintains consistency at low volumes. When played quietly (80 dB SPL), you don't feel

like you're missing anything. You can still hear thump and get a sense of size from the kick drum and bass without it sounding sloppy. My mixes were rich in the bottom when played on other playback systems, with a "rightness" in the bottom-end balance between kick drum and bass. Focal's spec for the LF response is accurate and not just an optimistic estimate. I measured a usable response down to 35 Hz—though output dropped off very quickly below that (barely audible at 31.5 Hz).

SOMETHING TO LOVE

The Alpha 80 meets Focal's goal of creating a musician-friendly monitor that excels in low-frequency reproduction and should play loud enough to rouse the neighbors. The cabinets are a hair on the large side compared to other near-fields employing 8-inch drivers, but don't confuse the Alpha 80 with a boom box—there's way more here, including a smooth, accurate midrange, stable imaging and the ability to tailor the monitor's response to complement its surroundings. The onboard amplification provides plenty of headroom, even when running loud (mid-90 SPLs). Other monitors at a similar price point don't offer the extended low-end reproduction of the Alpha 80. If that's an important part of your work, you definitely need an audition. ■

Steve La Cerra is a New York-based recording and live sound engineer.

10MX

Rubidium Atomic Clock

Antelope Audio's legendary Atomic Reference and Acoustically Focused Clocking Technologies are now housed in the astonishingly powerful 10MX Rubidium Atomic Clock.

The new 10MX, occupying just 1U rack space, offers a plethora of 10MHz outputs, as well as an ultra stable Word Clock signal.





The PAU 805 features four high-headroom, transformerless preamps.

design. Instead, the input structure is designed to accommodate hot input levels while providing enough gain to treat lower-level signals.

UNDER THE HOOD

Apparently, engineers who have heard the 805 have compared it to an API mic preamp. I found this interesting, as a considerable amount of an API preamps' character comes from transformers and the rest from the discrete op amp. The 805 has no transformers, and this definitely works to the advantage of a preamp designed for fast transient response and low distortion. The top panel should be made of glass so that everyone can see the slick, clean-looking and stylish PCB, loaded with giant capacitors and an array of other components. The other eye-catching feature was the large custom toroidal power supply, which is a key component in establishing high headroom with minimal distortion.

I was surprised when I didn't see discrete op amp circuits, only unidentifiable ICs shrouded in heat sinks. Apparently the designers auditioned countless discrete and IC op amps, seeking a circuit that performed as well in practice as it did on paper. The eventual winner was an unknown in the preamp game but was chosen for its "pleasant and original" character. I can't argue with the results, because the 805's sound is truly unique.

IN USE

I first tried the 805 when miking an electric guitar played through a slightly dirty tube amp. I placed a large-diaphragm condenser about a foot-and-a-half away from the speaker in a room with wood floors and a warm, slightly reverberant sound. The 805 captured the amp nicely, in a way that was similar to an API preamp, with a sparkly clarity that didn't seem to push as much as it merely exposed detail and articulation in the upper midrange. This charac-

teristic showcased the pick's attack and the harmonics imparted by the amp's tube gain. The top end was ear catching—so open and clear. I've miked guitar amps in that room countless times and don't ever remember hearing the room sound come through in the recordings like I did with the 805.

The 805 reproduced lower-frequency sounds (i.e., the bottom end of the amp and the resonance of the room) in a way that sounded very true to life. The balance lent itself nicely to a bass plugged directly into the DI input of the 805. Once again, the bottom end was full, and quick thumping notes stayed tight and were never overstated. The buzz and bite of the strings and pickups cut through, providing a clear definition of each note. When designing the 805's DI function, special care was taken to impedance-match the TS and XLR inputs to their respective input sources. The DI, providing high impedance by using discrete JFET transistors, brings a great mix of rich-sounding, vintage-inspired tone, met with supreme clarity and well-defined bottom end of a modern circuit. Whether using it for bass or electric guitar, the sound was always truly remarkable.

The preamp was impressive when miking any type of drums or percussion instrument. Even in the presence of the loudest hits there was plenty of headroom. I never wound up turning the gain all the way down. The sound was always crisp on top and round and full in the bottom end, without a hint of distortion from the circuit. Drums captured with this pre lent themselves well to EQ and compression in the mix. Any feature of the hit, whether it be the attack or the body of the drum, could be re-focused using dynamics processors and stayed pristinely clear due to the clean capture. With other preamps, boosting certain frequencies reveals distortion artifacts that were merely being masked by other frequencies. This never seemed to be the case with the 805.

When using the unit to record speech, the clarity of the consonants and

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Sound on Sound on A7X

"An outstanding monitoring solution."
Audio Technology Magazine on TEC-Award-Winner A77X

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PRODUCT SUMMARY

COMPANY: PAU Audio

PRODUCT: Model 805

WEBSITE: www.pauaudio.com

PRICE: \$1,500

PROS: High headroom. Sounds great on a wide variety of instruments.

CONS: No highpass filter.

the balanced chest resonance provided a really nice track. The overall sound was clean and quiet enough that it seemed like the 805 might be a good candidate for Foley recording. When recording punches, breaking glass, and other loud, quick sounds, a small-diaphragm condenser and the 805 got the job done very well. There was enough headroom that I could back it off and never need a pad. The 805 proved to be one of the fastest pre's I've heard.

When recording quiet sounds like cloth, I was surprised by how much gain there was. There were a few instances when I felt like I was getting close to maximum gain and still looking for more. There always seemed to be an extra push that came without any noticeable noise from the circuit. The same proved true when using passive ribbon mics. Recording fingerpicked bluegrass instruments like acoustic guitar and banjo, a ribbon mic can give a pleasant old-timey tonality and also keep a banjo from sounding too harsh. Not only did the 805 have plenty of gain, with headroom to spare, but it was the hands-down favorite in terms of sound. Other preamps sounded dark and needed a little EQ to hype the top end, but the 805 made the banjo sound just like it did in the room. All of the top-end detail was there, without being quacky, and once again, the room was perfectly intact.

When recording an acoustic guitar with a condenser mic, I did some A/B comparisons between the 805 and some other transformerless, solid-state preamps. Against a Millennia HV-37, the open, sparkly upper end of the

805 seemed to be a primary difference. The low end from both seemed similar, but overall, the top end of the HV-37 was definitely darker. Granted, the HV-37 could probably have been considered the more accurate sound, but given the nature of the instrument, the coloration of the 805 worked nicely. When compared to the solid-state transimpedance side of a Universal Audio 710, the bottom end of the 805 seemed a bit fuller. Both seemed to slightly hype the

top, with the 805 seeming to have a bump around 4 kHz, while the 710 was pushing closer to 10 kHz. Both were interesting and useable but I preferred the sound of the 805 with its more substantial bottom end.

THE VERDICT

If you have extra line-level inputs on your interface and are looking for a set of preamps to feed them, this could be the perfect solution. Their clean, punchy sound with just the right amount of coloration means they sound good enough that you can just leave the recordings alone, or season them to taste after the fact. Aside from that, you would be hard-pressed to find a faster, better-sounding mic pre for drums and percussion. If your pre's are flattening out drum sounds or breaking up when faced with loud hits, you have to give the 805 a try. ■

Brandon Hickey is a recording engineer based in Phoenix.



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RØDE NTR RIBBON STUDIO MICROPHONE

Versatile, Great-Sounding
Active Transducer



The RØDE NTR is active, featuring an in-house wound transformer and a FET buffering amplifier.

Made entirely at an in-house manufacturing plant in Sydney Australia, RØDE's NTR is the company's first ribbon microphone. The NTR is a large microphone; it's 216 mm tall, 65 mm wide, and weighs over a kilogram with the internal transformer, base assembly and XLR connector contributing to its heft.

It is an active mic with a 1.8-micron ribbon and features an internal shock-mounted motor assembly, obviating the need for an external shock-mount. When the mic is not in use or being moved, the shock-mount and ribbon motor are locked down securely using an included "travel" screw. The NTR's internal aluminum casting contains a large step-up transformer and FET-based buffer amplifier. The transformer develops most of the voltage gain, with the amplifier providing the low-impedance (200-ohm) XLR balanced output. The NTR draws 4.5mA of 48-volt phantom power, has a maximum output level of 8 dBu, handles up to 130 dB SPL; noise measures 15 dBA.

IN STUDIOS

Setting up the NTR is no different than with any large studio microphone. It comes with the RM2 swivel-type mount that threads into the base cover. I found the mount to somewhat limit precise positioning of the mic. The mount's knob for tightening down the swivel is a bit large, and although it makes it easier to use, I couldn't always plug in an XLR cable once I had the mic in a desired location.

My first use was a pair of NTRs as drum overheads. The drummer's kit was set up to project lengthwise down Musicians Institute's Studio A. Ceiling height was 12 feet, and I had the NTRs spaced three feet apart over the drummer's head and about three feet above the kit. I used standard-size stands and booms for this close setup, but if you want them higher up in the air, you'll need larger boom stands. The studio's SSL Duality mic preamps were set at minimum gain with no attenuation pad or highpass filter required.

Listening to only the two NTRs, the low frequencies of the kick, toms and snare were in good balance—relative to the cymbals—actually a better balance than when I stood out in front of the kit in the studio! Out there the drummer's cymbals were loud and abrasive but (back in the control room) the NTR had them sounding smooth, not harsh. I could hear the sound of the room, as well as leakage from the adjacent guitar and bass amps.

I found that I could lessen the pickup of leakage and reflections from the left and right walls on either side of the drum kit by positioning the NTR's side null points (perpendicular to the front and rear pattern lobes) so that they were aimed at the left and right walls. At the same time, the drum's sound and room's ambience and reflections were evident coming in the front and rear of the NTRs.

I was pleased with the NTRs as overheads; I got a great balanced coverage of the entire kit that mixed well with the presence provided by the close mics on the kick, snare and toms. I checked and found good mono compatibility when summing both overhead tracks to mono in the monitor mixer.

Back at my Tones 4 \$ Studio, I got an excellent and immediate electric guitar sound using a single NTR placed as close as possible and aimed at the center of the dust cover of the 12-inch speaker in my Fender Blues Junior amp. By comparison, my usual dynamic microphone sounded nasally no matter where I placed it on the speaker. The NTR is placement-sensitive—it will let you know immediately when you've got it on the sweet spot or not.

I had no overloading issues using my PreSonus AudioBox iTwo USB inter-

face, with any tone changes made on the amp clearly heard. I found no need to exaggerate the amp's treble or bass tone controls to compensate. When centered on the dust cover, it reproduced the sound of the amp exactly as I heard in front of it—including the booming low end I had dialed in. This mic worked well to reproduce the thick low end of chunky, drop-tuned guitars; my monitor's subwoofer got busy.

At LAFX Studios, I recorded a Yamaha C7 grand piano with two NTRs. I first tried placing the mics as if they were cardioids 24 inches apart—just in front of and directly aimed at the hammers—rock 'n' roll-style. But the reflections off the inside of the piano's lid coming into the back of the NTRs made for a "boxy" sound. Moving both mics out from under the lid and at the edge of piano's curve and aiming back at the hammers produced a great big fat rich sound with solid lows and smooth highs.

I used the studio's API console with the mic preamps set to minimum, no pad or EQ. With so much audio to work with, it would be easy to dial in any finished sound with EQ/compression right away or later during a mix. I had complete flexibility.

For fun, I tried the same setup but flipped the NTRs around with the rear of the mics aimed back at the hammers. Some ribbon mics have a brighter sound on the rear because of the way the ribbon is positioned within the magnet structure. However, not with the RØDE NTR; they sound the same.

For a lead vocal recording, my female singer's voice and technique were pleasantly complemented using a single NTR. The singer's voice tended toward a hard and harsh sound especially when singing loud. With a Pete's Place Blast Filter (metal popscreen), the RØDE NTR smoothed out her edginess greatly. It was important to keep her aimed at the NTR to maintain a bright sound, and in that way when singing loud

and hard, the NTR was brilliant yet full-sounding for her.

EXTRAS

RØDE also offers the SMR shock-mount with Rycote Lyre suspension and integrated metal pop filter. Apart from a longer Stereo Bar (due for release soon) for mounting two NTRs side-by-side such as I used for pianos or for Blumlein pairs, RØDE has no plans for any future mount choices for this mic.

The company recommends removing the travel screw completely before use. I had no problems with it rattling by leaving it threaded in the top of the mic so it wouldn't go missing. A threaded "blind hole" drilled somewhere on the mic's body for interim storage might be a good update at some point.

The RØDE NTR active ribbon microphone comes in a black matte finish and has a one-year ribbon replacement guarantee during the warranty period. With online registration, there is also a 10-year extended warranty available. A local RØDE distributor would replace the entire ribbon motor assembly, and if outside of warranty, it will cost \$120. Check the Website for a list of local distributors.

I tried the NTR on many different sources with great success on most. For any source with a percussive edge like drums, pianos, electric guitars or vocalists with their own edginess, the NTR is invaluable in obtaining a flattering and lovely sound instantly. ■

Barry Rudolph is an L.A.-based engineer and educator. You can visit his website at www.barryrudolph.com.

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AUDIO-TECHNICA AT5045 MICROPHONE

Rectangular Capsule, Stellar Performance



While rectangular capsules on mics aren't new, they are relatively new to Audio-Technica. The company's first product featuring this interesting design was the AT5040, which debuted in 2012 with four tightly spaced rectangular capsules in the same body. The fixed-cardioid AT5045 reviewed here sports a single rectangular capsule in an attractive, slender body.

decision in the middle of a session. I had the mic in my car, so we put it up and gained it with a Neve 1073 preamp/EQ on the way to Pro Tools. Tambourines have a love/hate relationship with some mics. Some can't handle the jangly tran-

There is no pad, roll-off, or much in the way of capsule protection, other than the thin metal grille at the top of the body and an included slide-on foam pop filter. The snap-in metal mic clip is the best design I've ever seen, clipping in and locking with a small metal toggle. Its position is variable up and down, and you can move the mic side to side within the mount. I had a pair of the 5045s (AT5045SP) for the review that came in a sturdy, custom foam-lined box that stored the mics, clips and foam filters.

SO WHAT'S DIFFERENT?

A rectangular capsule offers features that, when done right, can correct inherent problems found in traditional capsule design. From my Pearl ELM-C review in the July 2005 issue of *Mix*: "The traditional circular capsule design carries a flaw: Its primary resonance can be sonically detrimental, especially when it resides in the audible range. Damping can help, but it does not eliminate the problem. Larger capsules improve signal-to-noise but add to the problem by lowering resonance further into the audible range." So, a rectangular capsule reduces resonance while increasing surface area. It also offers exceptional rejection at the top and bottom of the mic, allowing you to keep cymbals, and other noisy neighbors out of your tight mic placements around a drum kit.

My first experience with the 5045 was on a tambourine overdub. It was a last-minute

TRY THIS

When recording acoustic guitar and vocal at the same time, position a pair of 5045s as you normally would on the guitar but angle them so the tops of both mics point at the singer's mouth. The natural null point at the top of the rectangular capsule will greatly reduce the vocal leakage in the guitar mics. Using a more directional figure-8 condenser mic for the vocal and pointing the null point of the "8" at the instrument will keep the guitar out of the vocal mic.

sients and make the upper range sound clipped and unnatural. The 5045 sounded great right out of the box with no EQ added—exactly like a tambourine. On another session I put the 5045s over a drum kit with great results. The cymbals were well rendered at the high end while the kick, toms and snare were beefy with plenty of stick hit and body. Once again minimal to no EQ was needed.

Because of the mic's ability to handle hot transients, I wanted to try them up close on other drums—for starters, two Craviotto Maple toms. Side-address mics are always easier to place around drums because they can be nearly vertical, while pointing the top and bottom toward cymbals and the kick. This is where the high "rejectivity" (not a word, but I think I'll coin it) of the 5045 helped to keep cymbals and other drums out of the tom tracks. While getting sounds, the output was so strong that I had to use an inline pad before the preamp to keep from overloading the input. After the pad was engaged, the mics gave no hint of breaking up no matter how hard the player hit. I added bit of 100 Hz, cut at 470 Hz, and then some high-midrange to bring out the stick hits. The EQ, new heads, and 5045s made the drums sound bigger than life in the mix. On another kit, I used the mics at the top and bottom of a classic Slingerland snare. Once again I used inline pads and fed the outputs to a pair of 1073 pre-amp/EQs. The snare sounded natural and sat right where it should in the mix.

The pair of 5045s sounded great on acoustic piano with the pair placed over the hammers and a third mic, an AKG D19, placed close to the soundboard inside the third hole from the tail. The 5045s were panned in stereo while the AKG was panned center and heavily compressed with an LA-2A. The 5045s sounded great by themselves, but adding the compressed D19 in the center brought up the body and presence of the piano. I cut the tracks without EQ.

At this point, being that the mic seemed to excel no matter where I put it, I placed one outside of a kick drum, with two other mics inside the drum on a pillow, and a Yamaha Subkick outside with the 5045. The Shure and Yamaha sounded as I expected, providing the beater definition and boom needed. The 5045 needed some EQ help, and while it provided some good tone, it would not be my first choice. Next I used the 5045 on a bass cabinet with great results. It handled the high output of the cabinet with ease and sounded great without EQ.

The AT5045 is a stellar microphone. Apart from the average results outside a kick drum, I could find no downside in any application. It sounded great

PRODUCT SUMMARY

COMPANY: Audio Technica

PRODUCT: AT5045/AT5045SP

WEBSITE: audio-technica.com

PRICE: \$1,399/\$2,499

PROS: Sonically superior microphone. Easily handles high SPL. Great mic clip.

CONS: Not a great kick drum mic.

on sometime-problematic hand percussion like tambourine, and shakers, which can sometimes seem strident through a condenser mic. On drum overheads, the overall sound of the kit was excellent, as were the cymbals. On acoustic piano, it captured the full range of the instrument and was bright without bringing too much unnatural shine to the top end. Like a great pair

of ribbon mics, a sweet tube vocal mic, and stand-up, go-to dynamic microphones, the AT5045 is a new instant classic that should be in everyone's mic locker. Get one (or two). ■

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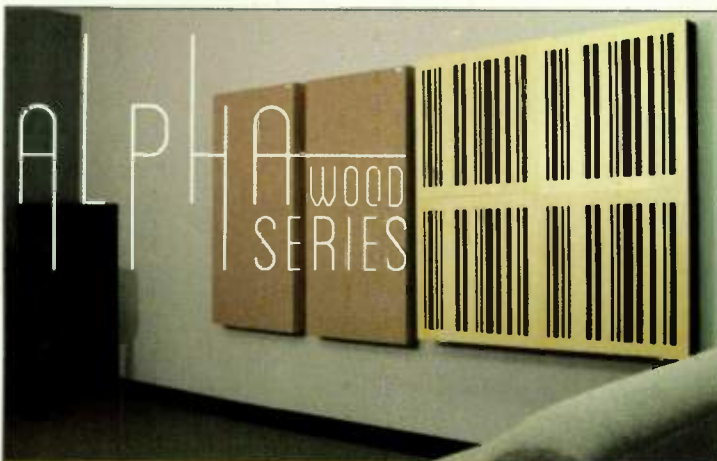
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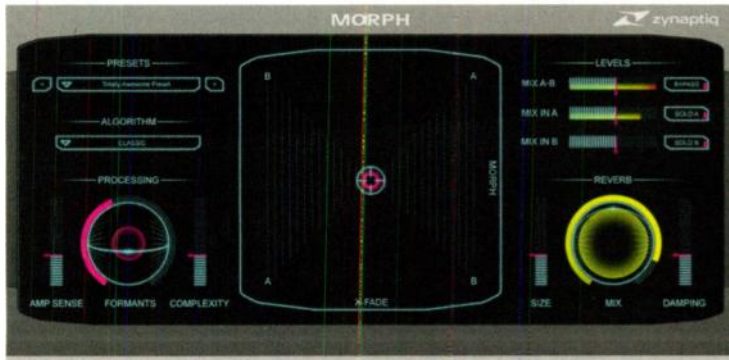


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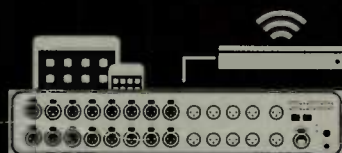
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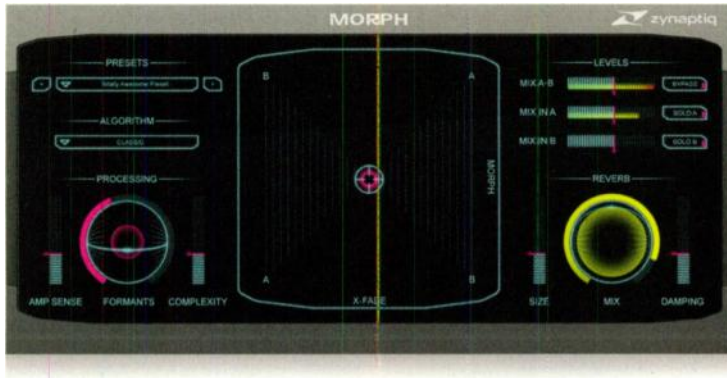


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The Latin Grammys



By Kevin Becka

Certain words bring certain images to mind. In music, when you think of “Grammy” you probably think of the February awards show at the Staples Center in L.A., where artists like Taylor Swift, Kendrick

Lamar and Ed Sheeran share the spotlight.

But what about the Latin Grammys? The show is in its 16th year and takes place in Las Vegas on November 19, 2015. The Latin Grammys recently hit my radar when I was asked to write technical reviews of the 10 nominees for Record of the Year for the show’s printed program book.

Where “Latin” music excels is the sheer variety. In Mexico alone there’s norteño, ranchero, corrido, mariachi, banda, zacatecano, duranguense, grupera, bolero, cumbia, pop, ska, rock and more. And that’s not even talking about what Brazil, Spain, the Dominican Republic, Puerto Rico, and Central America bring to the list. This year’s nominees for Record of the Year are engineered and mastered by a varied group of pros, some you may recognize.

“Ese Camino” by Julieta Venegas was mixed by Héctor Castillo and mastered at Sterling Sound in New York. The artist grew up in Tijuana, Mexico, speaks English, Portuguese and Spanish, plays guitar and keys, and has won five Latin Grammys and one Grammy Award. “Ese Camino” is straight-ahead pop and has a hook that you can’t get out of your head.

“Un Zombie a la Intemperie” by Alejandro Sanz was mixed by Sebastian Krys and Rafa Sardina and mastered by Sterling Sound’s Tom Coyne. Sanz is from Spain and has won 15 Latin Grammy Awards and three Grammy Awards, including three times for Latin Album of the Year. The driving mid-tempo ballad is a great platform for Sanz’s voice, which has a deep fundamental tone and a misty top note that makes him instantly recognizable.

“Disparo al Corazón” by Ricky Martin (yup, that Ricky Martin) was engineered by Enrique Larreal, Lee Levin, Carlos Fernando López, Ricardo López Lalinde, Julio Reyes Copello, Guillermo Vadalá, and Dan Warner and mastered by Antonio Baglio. This sweet ballad has some great-sounding tracks that conveys all the slickness you’d expect from a crossover artist of Ricky’s caliber.

“Hasta la Raíz” by Natalia Lafourcade was mixed by Cesar Sogbe and mastered by José Blanco. Lafourcade comes from a talented family—her father is French-Chilean musician Gastón Lafourcade and her uncle is writer Enrique Lafourcade. Her voice has an inquality that centers the simple arrangement right off the

bat and keeps you entranced from intro to fade.

“Tus Besos” by Juan Luis Guerra was mixed by Allan Leschhorn and Ronnie Torres and mastered by Adam Ayan. Guerra has won 15 Latin Grammy Awards, two Grammy Awards, two Latin Billboard Music Awards and has sold more than 30 million records. “Tus Besos” is styled after American 1950s doo-wop and features tightly harmonized and expertly arranged wall-to-wall vocals.

“Ella Es” by Leonel García was mixed by Curt Schneider and mastered by Gavin Lurssen. Born in Mexico City, García was part of the successful duo Sin Bandera until he broke off to be a solo artist. The sparse and beautifully arranged “Ella Es” is sweetly sung by García and guest musician/actor Jorge Drexler, the first Uruguayan to ever win an Oscar.

“La Vida Entera” by the band Camila features Marco Antonio Solís, was mixed by Peter Mokran and mastered by Bernie Grundman. Camila has won three Latin Grammys, three Billboard Awards and has sold more than 2 million albums worldwide. This track features a world-class orchestral recording as the foundation for their dramatically charged vocals.

“Será” by Café Quijano was mixed by Luis Villa and mastered by Miguel Ángel González. The group consists of three singing brothers: Manuel, Óscar and Raúl Quijano. The arrangement and performance on this track is among the best in the group of 10 nominees. The three brothers’ vocals blend as only siblings can, adding just the right vocal performance over a perfect track.

“Encanto” by Miguel Bosé was mixed by Dan Frampton and mastered by Antonio Baglio. Musician/actor Bosé was born in Panama and was a teen idol in Europe in the ’70s with seven Top 10 disco hits. He was given the Latin Recording Academy’s Person of the Year in 2013. The slickly produced track is all constructed inside the box with no live players—a great bed for Bosé’s deep vocal styling.

“Fiesta” by Bomba Estereo was mixed by Manny Marroquin and mastered by Ft. Lauderdale’s Mike Fuller. The Colombian band features Simón Mejía, Liliana Saumet and Julián Salazar. This song is in-your-face, high-voltage music that gets my top vote. Saumet’s vocal is perfectly treated, pushing it right to the top of the driving song, which is expertly arranged and mixed. The hook is brilliant.

No matter who wins the statue in 2015, the Latin Grammy nominees will from now on be on my list of things to add to my playlist. Even if my Spanish skills are wanting and I’m not sure exactly what they’re saying, I don’t want to miss out on the great music, styles, and artists I have missed in the past by not broadening my focus ■

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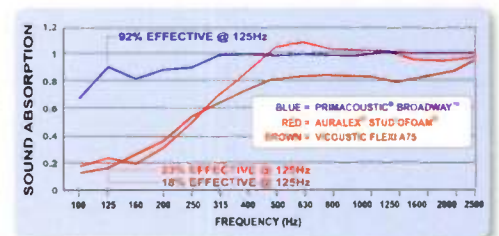


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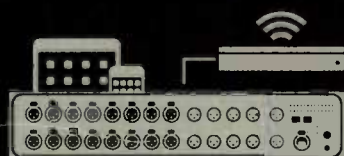
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