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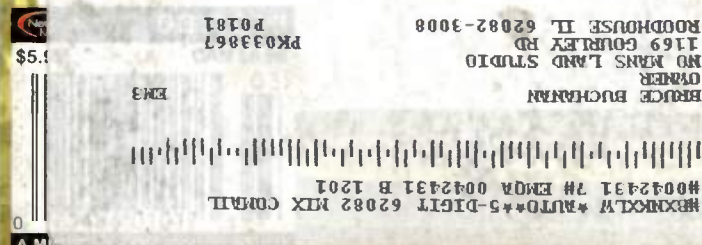
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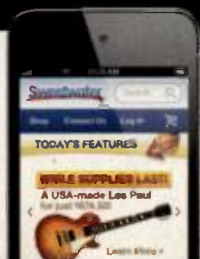


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Photo of Ben Harper and Charlie Musselwhite by Danny Clinch

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insight

A Celebration of Creation

IT'S GRAMMY time! Welcome to our annual issue profiling this year's top nominees.

The awards mean something different to everyone: We all have our opinions on which wins were earned, or which categories are legit, but the truth is, fans drive the success of any artist, and the music industry's highest honors are no exception.

To outsiders, the awards process seems secretive, shrouded in mystery. But in reality, it involves the collective input of 12,000 professionals from all walks of the music business, whose common denominator is their love of music. You're not going to agree with all of the nominations, but that's the beauty of the diversity of our musical community.

Without exception, there is a creative team behind every nominated work. These projects are never the total vision or execution of one person; everyone

along the line, from the songwriter to the mastering engineer, contributes to the success of any great recording.

The nominees profiled in this issue don't have much in common musically, or take the same approach in the studio, but there is a common thread: talent, commitment to their craft, and the ability to create something special that resonates with music lovers. So cheers to the nominees, and here's to another great year in music.



SARAH JONES
EDITOR
sjones@musicplayer.com

COMMUNITY

"IF THERE IS NO RADIO, IT'S GOT TO HAVE WHAT I CALL 'THE WTF' FACTOR. THE SECOND YOU HEAR IT, YOU'VE GOT TO BE LIKE, 'WHAT THE FK IS THIS? IF IT DOESN'T HAVE THAT, IT'S NOT GOING TO STAND OUT. IT'S JUST GOING TO BE WALLPAPER.'"**

Ultra Music CEO David Waxman on being successful in EDM, in *Billboard*, December 22, 2012

The Electronic Musician Poll

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Corrections

In our February issue, in the profile on the Deftones' *Koi No Yokan* sessions, we misspelled producer Nick Raskulinecz's name. In addition, in The Editors' Choice Awards, we mislabeled the "P.A. With A Big Brain" from Line 6. The correct product name is StageSource L3/StageScape M20d. *Electronic Musician* regrets the errors.

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My studio is called Broken Note. It took me two years to complete, but I gutted a 100-year-old caving-in garage in Hollywood, CA, and turned it into what you see in the pics. It's acoustically pretty flat and isolation is excellent, thanks to the room-within-room construction of the iso room. We can play drums at 3 A.M. and not bother any of the neighbors in the close apartment buildings and houses on all sides. I did most of the work myself, with buddies helping out whenever they could. It took an insane amount of hard work and dedication to see it through, but in the end it was very worth it.

ANDY BORES
BROKEN NOTE
HOLLYWOOD, CA



Two views of Broken Note's control room.



ask!

SERIOUSLY . . . WHY SHOULD I BOTHER LEARNING ALL OF YOUR TIPS TO MAKE MUSIC SOUND AS GOOD AS POSSIBLE WHEN PEOPLE ARE JUST GONNA LISTEN TO SQUASHED MP3S ON PORTABLE DEVICES WITH CRAPPY ENCODERS, OVER EVEN CRAPPIER EARBUDS? IS THERE ANY HOPE FOR CONSUMER AUDIO?

SAMUEL JONES
BERKELEY, CA
VIA EMAIL



Not all data compression encoders are the same. Sonnox's Fraunhofer Pro-Codec makes it easy to compress (and analyze) music accurately, with the minimum possible degradation.

We feel your pain, and there are three answers. The first is philosophical. I needed a backup Paul Reed Smith guitar for the road, and to meet my budget, Paul offered me a cosmetic reject that he was going to saw in two anyway. (It nonetheless played perfectly.) However, he wanted to make sure I understood that the wood used for the body had a really bad blemish. I commented that as the guitar had been painted, no one would even know it was there. He replied,

"But I know it's there." If you're an artist, you have to give *all* your work your best effort.

The second answer is that higher-quality source material survives subsequent data compression more gracefully, and therefore sounds better even when data-compressed. But the third answer is the most encouraging: Consumers are demanding higher quality. The "Internet standard" of 128kbps MP3 files is giving way

to 256 and even 320kbps files, as well as lossless compression schemes like FLAC and HD-AAC. Also, the market for higher-quality earbuds is growing; consumers are now willing to drop \$100 and more for something offering actual fidelity, and the converters used in consumer devices are improving. So make your music sound as good as possible—if not for now, then for the future, when the standards for consumer audio will indeed be higher. CRAIG ANDERTON



Got a question about recording, gigging, or technology? Ask us! Send it to ElectronicMusician@musicplayer.com.

DJ SHADOW WORKING THE BROOKLYN BOWL

NEW YORK, NY
DECEMBER 12, 2012

Supporting two releases:

Reconstructed: The Best of DJ Shadow and *Reconstructed: The Definitive DJ Shadow* (a super-duper limited edition CD/DVD/LP box set), Josh Davis, a.k.a. DJ Shadow, spun his aromatic sonic cascade before a sold-out NYC crowd. Inserting the occasional sample taken from his landmark Mo Wax release *Endtroducing* ("Bob Wood, national program director of the Chum Group, worked with us in producing . . ."), the harried figure hulking over his Pioneer gear proved that his music remains as singular now as it was in 1996. Mixing all manner of tracks with forward motion as their only common currency, DJ Shadow refused to be pigeonholed, telling the audience, "If you don't like what you hear at first, stick around and you'll like the next thing."

PHOTOGRAPH AND TEXT BY KEN MICALLEF





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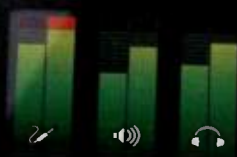
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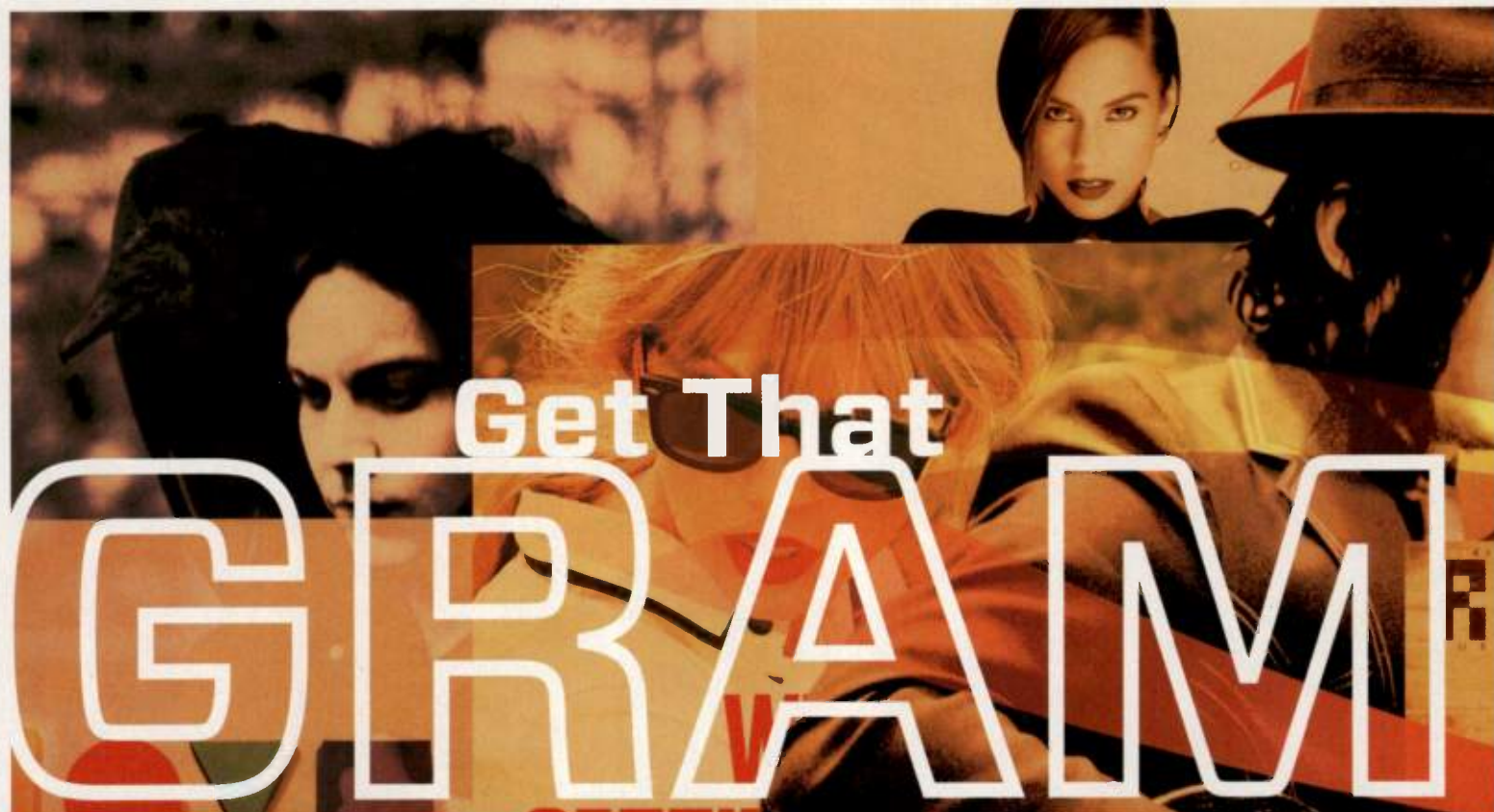
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Get That GRAM

Artists, producers, and engineers share the recording secrets behind this year's biggest nominated projects

COMPILED BY BARBARA SCHULTZ



SALAAM REMI

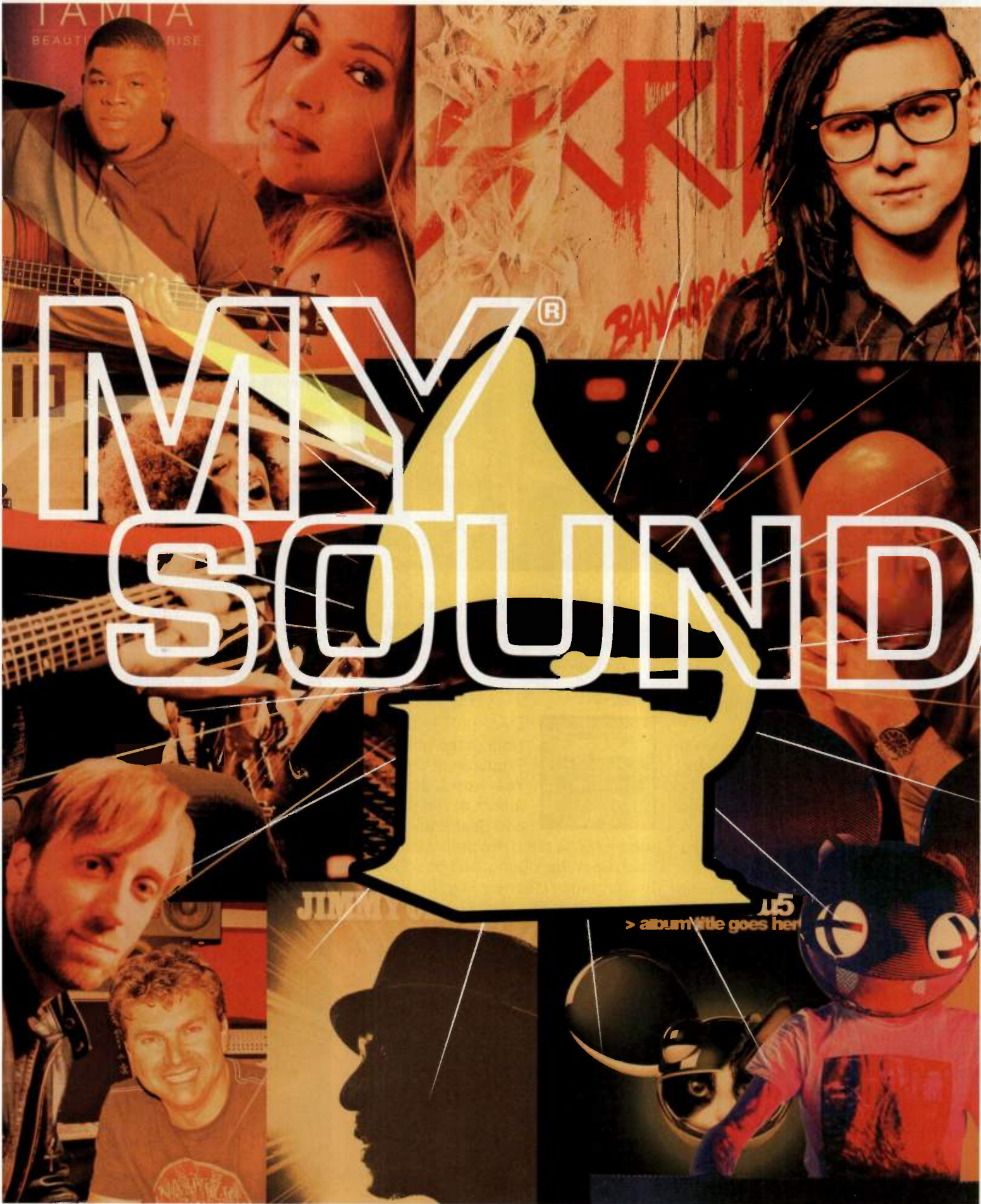
Nominated for Producer of the Year, Best R&B Song (Tamia, "Beautiful Surprise")

Remi is recognized this year for a wonderful range of R&B projects, including Tamia's Number 6 album, as well as big records from Anthony Hamilton, Amy Winehouse, Nas, Miguel, Usher, and

Alicia Keys—a huge variety of sounds that seem to come out of different decades. As a composer, musician, and producer, Remi's versatility stems from his feel for the personality of each song and each artist. We asked him to compare his approach to Tamia's "Beautiful Surprise" to his production of Keys' "Girl on Fire."

"On Beautiful Surprise, once I had the song, I thought about my favorite Tamia record, which is 'I'm So Into You.' I thought, I want something that feels like a cousin to that, in that '90s feel, so I pulled out my [E-mu] SP-1200 and brought up some old Linn Drum and Oberheim DX-type sounds. I programmed it out with sounds I had since the '90s, and then I pulled out my Roland JV-880, and used some of my older keyboards to get the overall flow. I put the track together to sound like what sounded to me like a classic Tamia record.

"'Girl on Fire' was something in Logic that I was playing around with, with a guitar sound, and Alicia started singing different things to it. Jeff Bhasker was there, and he had started playing changes on Alicia's [Yamaha] CP70 and took it more in the direction of a classic, singer/songwriter approach. But then drumwise, we went to a big Billy Squier "Big Beat" thing. Then it was also [engineer] Ann Mincielli and Jeff spreading it out so the bass came out one side, the high part came out the other side, and Ann did a bunch of splits and sent it to some amps to really give it more of a whole band feeling."



Get That GRAMMY SOUND



Jack White



JACK WHITE

Nominated for Album of the Year, and Best Rock Album (*Blunderbuss*), and Best Rock Song

("Freedom at 21")

White's self-produced solo album shimmers with '70s-rock-god electric guitars, delicate keyboard work, and emotional distress. The album was tracked mainly live to analog in the artist's Third Man Studio, and was engineered by White's frequent collaborator Vance Powell. Debuting at Number One, *Blunderbuss* also charted with three singles: the Grammy-nominated "Freedom at 21," the violently poetic "Love Interruption," and "Sixteen Saltines," with its punchy drums and massive electric guitar sound:

"I was testing a reverb tank," White explains. "I just wanted to see if the reverb was going to last long enough for whatever we were going to record that day. I just kept playing that riff, and I was like, 'Man, record this riff real quick. I'm starting to like this riff.' [Laughs.] It was just me testing this Fender reverb tank from the '60s. Some of them don't sound very good. They all sound different. So I was checking it. It has a Dwell knob, and I was trying to see where to put the Dwell knob and how long it was going to last. I think it's just got two guitar tracks both

playing the same thing in stereo. That was it. And it was all acoustic instruments besides that, which was kind of funny. Acoustic violin and acoustic bass. And my Telecaster and my Airline amp into two 12-inch speakers."



DAN AUERBACH

Nominated for Producer of the Year Non-Classical, Album of the Year, and Best Rock

Album (*El Camino*), Record of the Year, Best Rock Song, and Best Rock Performance ("Lonely Boy")

What a huge year for Black Keys singer/guitarist Dan Auerbach. His production of Dr. John's psychedelic-roots album *Locked Down* was nominated for Best Blues Album as well contributing to Auerbach's presence in the Producer category. And the Number 2-charting *El Camino*—co-produced by Danger Mouse and recorded in Auerbach's studio, Easy Eye—is a triumph for the Keys' inspired, vintage approach to rock and soul.

"We're going through all of these tubes and transformers, so tape is not as necessary," Auerbach says. "Everything is literally either going through giant old transformers that were hand-wound in the late '60s or '50s tube gear.

Sometimes both. Old tube mics or ribbon mics or a great old dynamic that already pre-EQs things. We've gone through a lot of gear; you find out what works for you, what gets those sounds. But it has less to do with tape than it does miking technique and the arrangements. When I record a band, I like to track to a 1-inch 8-track tape machine. But when we do a Black Keys record, I step away from the engineering side of things and try not to think about it so much. So I can just focus on the songs."

"Brian did the *Grey Album* with Jay-Z but he hasn't done a hip-hop record since then," Auerbach adds, commenting on Black Keys' relationship to Brian Burton, a.k.a. Danger Mouse. "He's not a hip-hop producer. He's a musician who plays guitar and keyboards, and he listens to The Troggs. We have a lot in common, musically. The only thing we talked about was keeping everything simple. There's things Brian has done in the past with Gorillaz, Broken Bells, and Gnarls Barkley where there's atmospherics, psychedelics. He's copping the '60s feel but making it modern and that's what we like to do. We're not trying to be retro, we just appreciate those old sonics."



JOE CHICCARELLI

Nominated for Best Engineered Album, Non-Classical (Jason Mraz: *Love Is a Four Letter Word*)

Chiccarelli is equally great working with Jack White's Raconteurs as he is tracking My Morning Jacket, The Shins, Bon Jovi, Kronos Quartet, or the pop record he's recognized for this year: Jason Mraz's Number 2 album, *Love Is a Four Letter Word*, recorded in Sunset Sound (L.A.).

"Producing and Engineering *Love Is a Four*



Joe Chiccarelli

Letter Word is certainly a career highlight," Chiccarelli says. "Jason is a true professional. Truly one of the best singers I've ever worked with. His ability to morph into different styles of music but still be true to his own voice is impressive. He never runs out of ideas for harmony vocals, and has a keen sense of how he wants to be perceived as an artist. The sessions with a group of L.A.'s best studio musicians were totally fun and inspired. Getting to work with Tony Maserati was a pleasure. His attention to detail and his commitment to the song is outstanding."

Chiccarelli also reveals some of his technical choices on the album: "[Jason] was in a nice, comfortable booth for acoustic guitar and a vocal. He always records his vocal with a Telefunken 251. He has his own and we used that, and/or Sunset Sound's 251. They went through a Wunder Audio PQ1 preamp and then a Mercury Audio Pultec, a Retro 176 limiter, and then an API 550A EQ. I would kind of get the bottom end out of the Pultec and the top end out of the API."



ESPERANZA SPALDING

Nominated for Best Jazz Vocal Album and Best Long Form Video (*Radio Music Society*),

Best Instrumental Arrangement Accompanying Vocalist(s) ("City of Roses")

The winner of the 2011 Best New Artist Grammy, versatile jazz bassist Esperanza Spalding has performed a rare trick: drawing listeners of all ages and persuasions to a jazz album. Her Number 10 *Radio Music Society* incorporates elements of pop, funk, R&B, and hip-hop, with a horn section, keys, strings, and drums all artfully arranged around her sweet, agile voice.

"All sorts of things affect the arranging decisions you make," Spalding says. "Some of it comes from a really solid understanding of composition and harmonic arc and what works in a harmonic chord and who's doubling what effect. What effect does this or that technique have? And a lot of the time you're following a more intuitive feedback loop, where you're just listening to what a song needs and how we can get it there."

"That can often be something that lies outside a particular arranging rule or technique, but you find it based on a feeling for the song, or maybe it was something you heard that had nothing to do with arranging. For instance, I went to the Amazon rain forest before I finished this

project, and I think hearing the polyrhythms in that music and the multiple interlaying melodies probably affected some of the decisions I made. So, I get ideas from everywhere and anywhere."



MIXER SERBAN GHENEA

Nominated for Record of the Year, for Kelly Clarkson's "Stronger (What Doesn't Kill

You)" and Taylor Swift's "We Are Never Ever Getting Back Together"

This mixer to the stars works in his three-room private facility in Virginia Beach, VA, where engineer John Hanes checks in incoming projects and lays everything out in Pro Tools for Ghenea to mix. Both Hanes and Ghenea are recognized this year for work on two break-up songs: Clarkson's is an empowering fist-pumper, whereas Swift pokes a little fun at on-again/off-again romance.

"I mix inside the box," Ghenea says. "I love the Waves plug-ins. I love the Channel Strips from Metric Halo, which I've been using for a long time. Also McDSP, Sound Toys, Softube—nothing too crazy. I do need a lot of options, because sometimes we get things with a specific effect going on that wasn't printed, so I have to be able to play that and make sure it's the way they intended it."

"The biggest challenge these days is the track count. Some of these songs are just huge, and it can be hard to make sure you can run all the tracks and still be able to have processing available to do what you want. A lot of times, they'll leave all the backing vocals laid out there, and then I'll work on the blends a bit—make sure everything's where you want it to be—and then I just bounce it, not necessarily to a stereo pair, but to a few groups so that I can still tweak stuff but



not have to have four or six voices of each note.

"Obviously on a pop song, or any song, the vocal is the most important thing, because that's the artist's signature and that has to come across no matter what the track is all about. But even more importantly, the way the song feels and makes you feel is the key. It has to connect with the listener and make you feel something, whether it's happy, sad, angry. . . . How you get there is hard to explain, but you know when it's working."



SKRILLEX

Nominated for Best Remixed Recording, Non-Classical ("Promises," Skrillex & Nero Remix),

Best Dance/Electronic Album (*Bangarang*) and Best Dance Recording ("Bangarang," featuring Sirah)

A year ago, Skrillex told *Electronic Musician* that he didn't make "radio-friendly songs." Radio play or no, Skrillex, the stage name of Sonny Moore, has practically become a household word. The dubstep producer/artist/remixer took home three Grammys last year, when he was the first DJ ever to be nominated in the Best New Artist category. This year, he's nominated for three more, for *Bangarang*, a wild confluence of processed and invented sounds and sampled vocals:

"Sometimes I pre-record [vocals] with an SM58 into whatever soundcard is in my computer," Skrillex says. "When I'm tracking, I'm using different vocal compressors: [PSP] VintageWarmer with multiband compressor/limiter, [iZotope] Ozone; I do most everything in Ozone. There is so much sh*t you can do with it: multiband, compression, everything. I'll take [Celemony] Melodyne and detune it for vocals. From there, I render it to audio, and start manually chopping it up in Ableton Live, using the pitch envelopes and the transpose wheel right in Live and doing manual pitching

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of the melody for all that crazy editing. I even use that Chris Lord-Alge [CLA Vocals] plug-in from Waves for vocal effects.

"I like vocals; they are fun to resample and they sound cool—the same as how you like a piano in a sampler. Vocals sound really fun and playful and they make me feel nostalgic in some way when they are chopped up like that. Aphex Twin's 'Windowlicker' is a perfect example of that. That is one of the first things I heard as a kid that I really loved. Or even, 'To Cure Weakling Child' from the *Richard D. James* album. It had all these really sick vocal chops; I thought that was genius."



FRANK OCEAN

Nominated for Record of the Year ("Thinkin Bout You"), Album of the Year, and Best Urban Contemporary

Album (*Channel Orange*), Best New Artist, Best Rap/Sung Collaboration, and Best Short-Form Music Video ("No Church in the Wild," Jay-Z & Kanye West Featuring Frank Ocean & The-Dream) Frank Ocean's massive success with *Channel Orange* (Number One R&B, Number 2) stems from strong songwriting and his decisiveness in the studio. This inventive artist knows what he's after sonically, especially when it comes to his vocal performance.

"Frank stands out from a lot of artists because of his depth," says engineer Pat Thrall. "There are some humans who hear music on other levels and who are incredibly sensitive to the nuance and subtlety in a musical performance. It's a spiritual understanding of music, and I've only met a handful of people throughout my career who I feel have that gift. Frank is one of them. He truly communicates his pain or joy through his voice and lyrics in a way that is undeniable."

"I was brought in at the end of the record to help Frank finish the vocals to perfection. He has amazing pitch and time, and works on his vocals forever. He is a true perfectionist. He is fearless in his ideas and wanted to try some electronic harmonies. I used a combination of Melodyne and Waves Ultrapitch 6 to achieve that effect."

"He wanted to re-cut some vocals, so we did that one day at Westlake studios. Frank produces his own vocals, so the engineer's job is to just make sure he is going in clean and that you're keeping up with him and not stopping his flow."



DEADMAU5

Nominated for Best Dance/Electronic Album (>Album Title Goes Here<), Best Remixed Recording

Non-Classical ("The Veldt Tommy Trash Remix," Featuring Chris James) The alter ego of DJ/electronic musician/remixer Joel Zimmerman, Deadmau5 scored big this year with a Number One Electronic album that also rose to Number 6 on the *Billboard* album chart and yielded a Top 40 Modern Rock single ("Professional Griefers," featuring Gerard Way). His studio rig is massive and ever-changing, and includes a surprising amount of hardware.

"My compressors and limiters are all outboard," Deadmau5 says, "just because I like the way the physical ones behave. And I have all these modular synths; I'm loving this gnarly-ass Modcan [a collection of rack modules for complex, evolving monophonic voices and external signal processing] I commissioned [Modcan founder Bruce Duncan] to do, and that was a f**king eight-month build. But it was all worth it; there are lots of oscillators and options, just a big happy-accident machine, really."

"Definitely the analog delays are great, and the frequency shift is all analog, too," he continues. "Frequency shifts are a real horror to program, and even then, to have it sound really great you have to invoke some oversampling algorithms on rendering and stuff like that. There are things like that that you just can't get a computer to even get close to doing, at least in near real time."



JIMMY CLIFF

Nominated for Best Reggae Album (*Rebirth*)

Jimmy Cliff and producer Tim Armstrong made

magic in Sunset/Sound Factory Studios last year, pumping up Cliff's always beautiful, traditional approach to the genre with the Rancid frontman's Jamaica-by-way-of-The-Clash influence. In fact their Number One reggae album, *Rebirth*, even has a brilliant cover of "Guns of Brixton" off of *London Calling*.

"We were all in the studio just jammin' and having fun and we started playing 'Guns of Brixton,'" Armstrong recalls. "Jimmy was killing it with the nyabingi [a Jamaican drum], and J's wife was in there filming it. We were super-happy and fired up. The next day, before Jimmy came in, we looked at the footage and we thought it was awesome, so we took that original free-form 'Guns of Brixton' jam, set a tempo to that, and we tracked it for real. So when Jimmy came in, we had 'Guns of Brixton' already rockin', and he loved it! I've got the acoustic Fender, and then that electric is me with a '71 Gretsch Country Club—I'm going for sort of a Western showdown thing." ■

Thanks to Kylee Swenson, Blair Jackson, Tony Ware, and Ken Micallef for contributions to this article.



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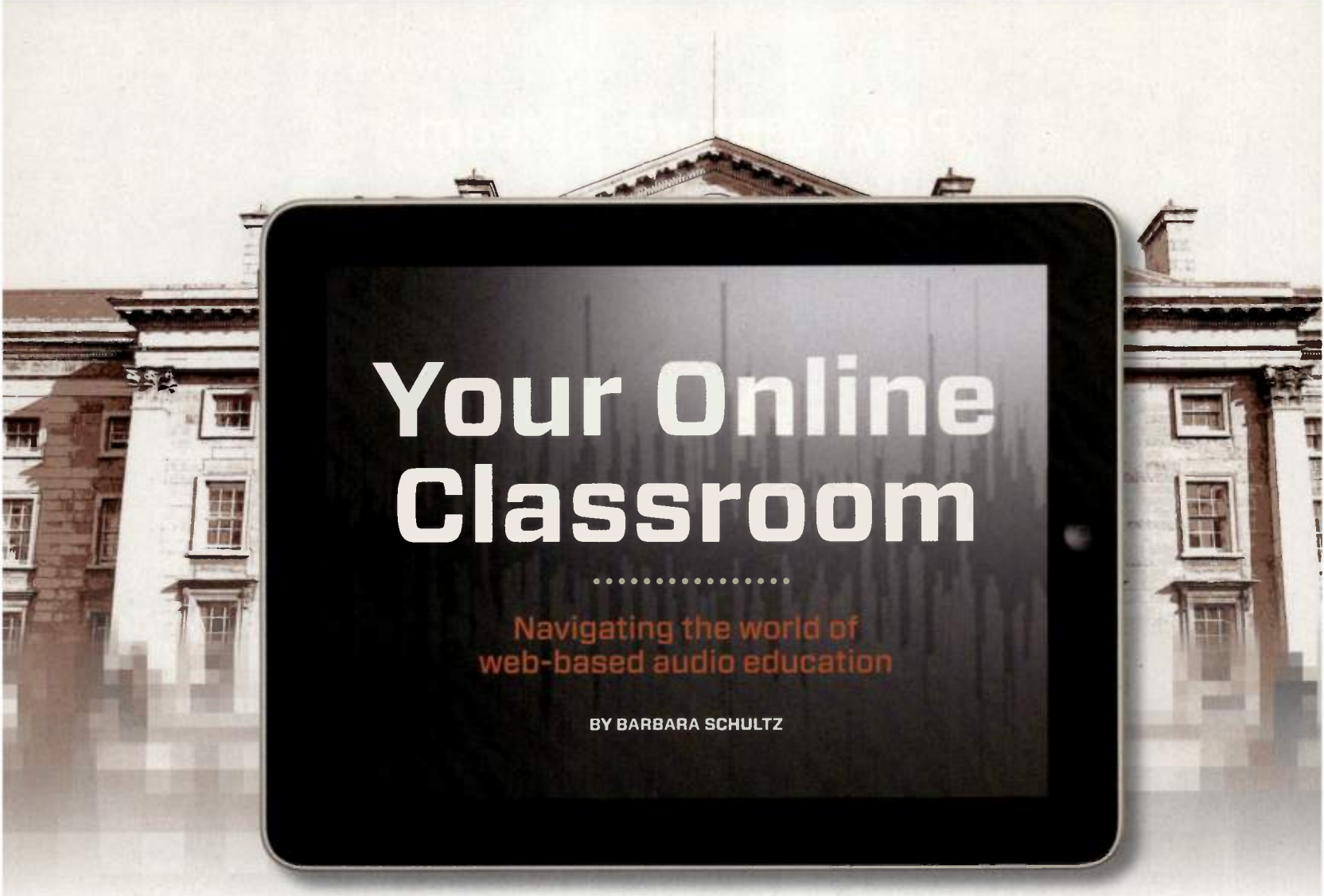
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Your Online Classroom

.....
Navigating the world of
web-based audio education

BY BARBARA SCHULTZ

THE PRICE of a four-year degree from a private college or university is sky high; for a lot of budding musicians and engineers, it's way out of reach. That's one of the reasons that colleges and universities offer courses online—usually for less or for free.

Some accredited schools, like Full Sail University, even offer full Bachelor's and Master's degree programs online. Berklee College of Music's Berkleemusic.com will begin an online Bachelor of Professional Studies program next year. Students can also earn certification in a single product or discipline, or bolster the skills they already have.

A wealth of online education programs allow a working musician to train on Pro Tools at home. A working studio engineer can learn more about acoustics without walking away from a steady job. A touring engineer can come up to speed on a new console without missing a gig. In other words, online courses open up a world of learning potential for students who need lower-cost education that fits their schedules.

There's loads of room for debate about the merits and potential of online classes vs.

hands-on learning in a classroom or studio, but we mainly put that aside in our conversations with two educators who are on the cutting edge of online education. Individually, their programs are apples and oranges, but together they illustrate the range of opportunities for an online audio education.

Debbie Cavalier is Berklee College of Music's Vice President of Online Learning and Continuing Education, and CEO of Berkleemusic.com. She's a Berklee College alumna and was a classroom music educator for years before joining Berklee Press, the school's book-publishing imprint; she became the Dean of Continuing Education at Berklee eight years ago, and helped found Berkleemusic.com. Cavalier says the program literally began with a few people sitting down with a blank piece of paper and asking, "How do you teach music online?" Today, Berkleemusic.com is considered the gold standard in tuition-based online education for music and audio students.

Terri Winston is founder and executive director of Women's Audio Mission

(womensaudiomission.org), which provides education and training for women to become engineers. A former professor and director of the Sound Recording Arts Program at City College of San Francisco, Winston developed WAM's media-rich online tutorials (available at soundchannel.org) as a low-cost, interactive alternative to conventional textbooks; they were intended simply to supplement class work, and they do. But along the way, students all over the world have embraced SoundChannel as an online curriculum, whether or not they're enrolled in an audio school.

Please describe the relationship of your online courses to your brick-and-mortar programs.

Cavalier: We were established as an online continuing education division, to expand the reach of the Berklee College of Music and provide music-education opportunities to a global base of aspiring musicians who can't, or aren't in a position to, enroll in a full-time undergraduate program in Boston. If anybody has the opportunity to go to Berklee



Berkleemusic.com features largely the same courses, faculty, and accreditation as its on-campus program.

College of Music full time, that's the way to go. I did it. However, for people who aren't able to pursue that path, but still want access to Berklee curricula and Berklee faculty in order to expand their knowledge and enhance their career opportunities, the online school provides a wonderful solution. It's largely the same courses, same faculty, and it's accredited by the same accrediting body that accredits the on-campus program: NEASC, the New England Association of Schools and Colleges.

Winston: I had started developing the material for SoundChannel to address the issue of students not really engaging with textbooks, but we released this through Women's Audio Mission for two reasons. One is, we had such a high demand from non-local members—women who could not take classes in our facility, due to geographic location or child-care issues or their job schedule, or whatever other reason prevented them from taking our classes on-site.

The second reason was that there was a high demand from men wanting to take the classes. We're a nonprofit, and when you're granted nonprofit status, it's for very particular services that you're going to provide. Our status is tied to our providing training for women in our facility. But men were seeing the success of the program, and they wanted in, and the last thing I ever want to do is deny anyone training. SoundChannel is a way that we can serve both of those populations without conflicting with our nonprofit status. Because it's online, it's available to everyone at a really low cost—roughly a quarter or a fifth of the cost of a current textbook.

Other than the convenience of staying home, what can students get online that they don't get in a classroom?

Cavalier: A flipped classroom model. With Berkleemusic, students work through the lesson content and self-assessment exercises, and have the opportunity to master the material and gain a full understanding of the lesson objectives before embarking on their weekly portfolio-based assignment for the instructor to grade and provide feedback.

They also have the opportunity to study with like-minded musicians from across the globe, making the course experience more rich. Our classes comprise students from all over the world—a 30-percent-international population is in every course section—which means you can't say, "You have to be online at 5 P.M. Eastern time," because that might be the middle of the night. So, all of the class meetings are archived. You can review the meeting and what was discussed when it's convenient. You can also rewind.

This is great for different learning styles because you can learn at your own pace.

It's also a way that people who are established in their career and ready to give back to education can get involved and teach a class. We have professional managers, engineers, publishers, and musicians who are based in other cities who can teach a course from wherever they live, or from the road.

Winston: Our materials aren't meant to be an online course, per se. We call them e-textbooks because we're not trying to replace a class, we're trying to replace the textbook—to take rich media audio and video, and combine them with the parts of the textbook that work really well, so it becomes something nonlinear that you can easily study. This is a way of breaking things down into small clips that are integrated with narrated text; they can see the text, hear the text, see the video, see animated processes brought to life in a way

that they can actually take time and study it. It's much more effective than watching a "talking head"-style linear video.

Another big use for this is to save time in the classroom. I ask instructors, "How much do you hate teaching people how to wrap cables?" There's an up-close and personal video in slow motion on how to do this. You can send your students home, tell them to watch a video and come back and show you. That's one less thing you have to do in the classroom. We also include a testing component in the module, so students can test themselves while they're learning and make sure they're actually getting what we're saying.

There are open courseware offerings out there, such as the free classes MIT offers, or manufacturers' tutorials. Do you offer any free courses or incorporate those materials into your program?


Cavalier: Ten years ago, we developed Berkleeshares.com, a free online resource where people can download hundreds of music lessons from Berklee. We've been wanting to update Berkleeshares and make it more engaging—still have it be free but add community and some interactive components. Instead, we signed on as a partner institution with Coursera [a MOOC: Massively Open Online Course that offers free courseware in a variety of disciplines with community and interaction built in]. It's been a great partnership for us and has enabled us to expand the reach of free lessons to a larger audience than we were reaching with Berkleeshares.

We announced the Coursera partnership on September 19, and as of December 10 we have more than 100,000 students enrolled in four

online courses from all over the world. The courses begin this coming March and April.

Berklee's various online offerings range from free courses to tuition-based accredited courses, and the cost difference is related to faculty access and class size. On the low end of the spectrum, Berkleeshares and Berkleemusic's YouTube channel offer free online lessons, but there's no interaction or community involvement. Coursera.org/Berklee offers free online courses from Berklee, with very large cohorts of students interacting and assessing each other's work, but no direct faculty feedback. At the high end of the spectrum, we offer tuition-based online courses and certificate programs with Berkleemusic, where students can expect a small cohort of 20 students or less, high-touch access to the instructor, and feedback from the instructor several times a week for all 12 weeks.

Winston: We have collected all of the online resources that we like and built them into SoundChannel. You can find these things separately for free, but we've curated these things in a more meaningful way. For example, when Universal Audio came out with their tape [emulation] plug-ins, they included a cool, informative history of Studer tape machines. So, we tie that in to the module where you learn about tape machines: You get the technical know-how about the tape machine and how it works, and if you want to check out more, the additional videos and resources are accessed directly from the lesson module.



WAM's SoundChannel online tutorials were designed to replace traditional textbooks.

Students can go out of the module and look at that and come back to the module to study.

Another thing we link to is UC Berkeley's no-cost math and physics lectures. We collect the ones that will be useful. They have an enormous archive, but we show you the course that specifically relates to what you're studying in audio.

What advice would you give to prospective students who are trying to choose an online course of study?

Cavalier: I think it's important to do your homework as far as finding out about the institution and who its accrediting body is. Berklee is accredited by NEASC, one of the four regional accrediting bodies known for the highest quality in education. Sometimes online entities pop up and find a fast route to accreditation with other types of creditors. It's very easy now to put up an online program. Look up the history of the institution and its reputation.

I think somebody also has to really look at how much of a self-starter they are. It's easy to ignore your course and not log in. It's easy to fall behind. It takes a motivated individual to be a successful online student.

Winston: Take the time to learn things properly. Often we see students who, because they're inundated by media and they have access to information online, they want to start somewhere beyond where they ought to start. People will want to get right into mixing records or making beats, but you can't. You need to learn fundamental things about sound and how it works. That requires you to understand some things about the science of it—the physics of it.

To me, the best approach is actually a hybrid approach where students, if they have any access, still go to a classroom where they will learn workflow and etiquette and people skills. But the reality is that people all over the world have hopped onto SoundChannel because they don't have access to a classroom. We get email from Manila and China, Brazil and Mexico, saying, "This is so great because I don't have another way to do this." That's what Women's Audio Mission is about: how to get folks into higher education, and any way we can make that easy and help make someone successful, that's what we're going to do. ■

Barbara Schultz is a regular contributor to Electronic Musician and its sister publication Mix.



ONLINE RESOURCES MENTIONED IN THIS ARTICLE:

Berkleemusic.com

The online continuing education division at Berklee College of Music.

Berkleeshares.com

Free course materials offered by Berklee College of Music.

Coursera.org/berklee

A MOOC/aggregated site/platform for open courseware. Partner schools include Berklee College of Music, Stanford, Duke, Rice, Rutgers, and more.

Berkleemusic.com

The online extension of Berklee College of Music, offering individual courses and certification programs, and soon offering full Bachelor of Professional Studies programs.

Fullsail.edu/online-education

Full Sail University's online program website.

Ocw.mit.edu

Massachusetts Institute of Technology's open-courseware site.

Soundchannel.org

The low-cost introductory audio course offered by Women's Audio Mission.

Webcast.berkeley.edu

Free video of lectures in physics and other subjects.

YouTube.com/user/berkleemusic

YouTube channel offering instructional videos from Berkleemusic.com.

YouTube.com/user/womensaudiomissionsf

YouTube channel offering instructional videos from the Women's Audio Mission.

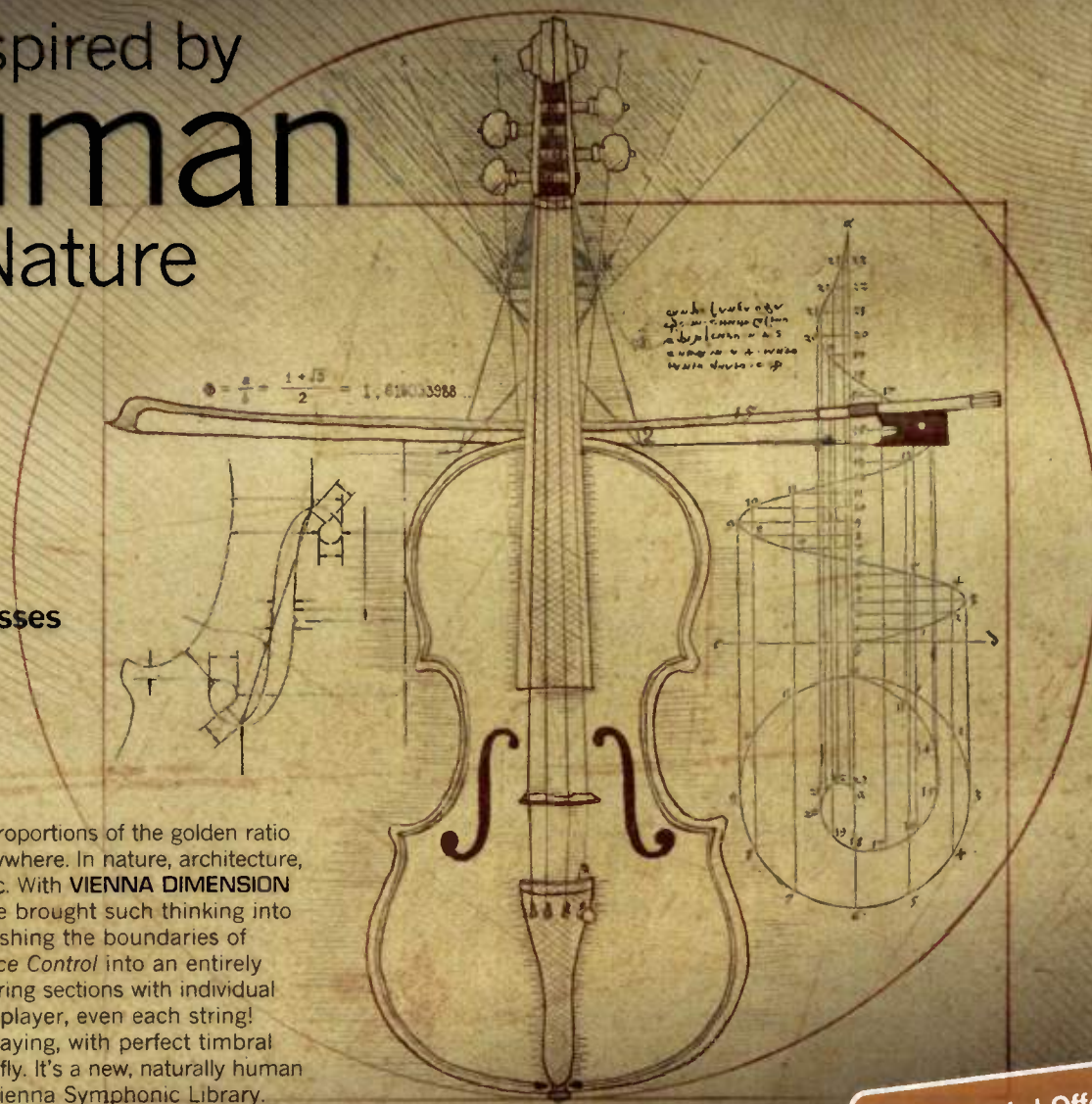
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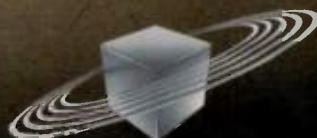
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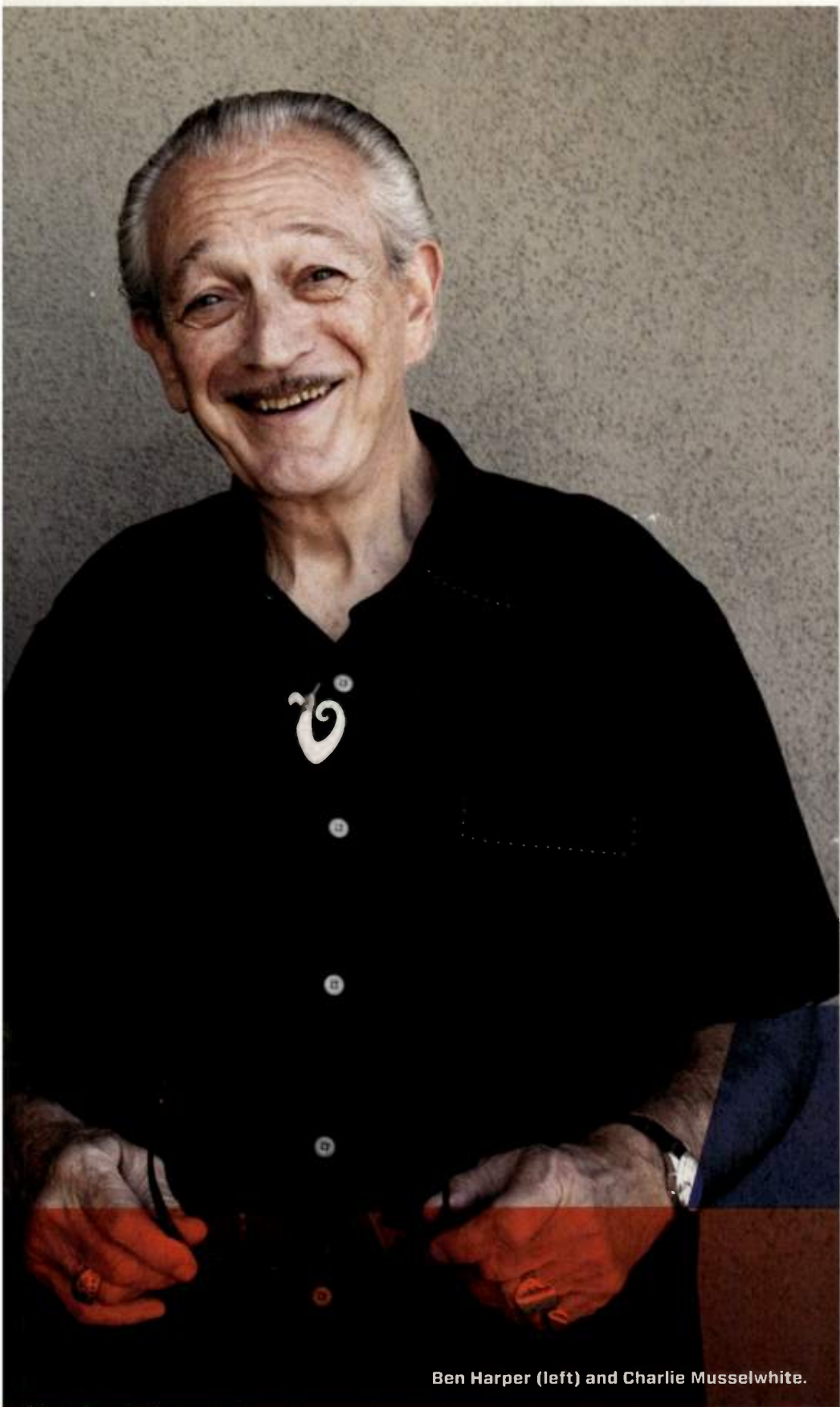
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Grit AND SOUL

DANNY CLINCH



Ben Harper (left) and Charlie Musselwhite.

Ben Harper and Charlie Musselwhite record *Get Up!*, a Stax collaboration ten years in the making

BY BARBARA SCHULTZ

"I'VE SPENT my whole life immersed in the blues," Ben Harper says. "It's taken me my entire life to make this record." He doesn't mean that work on his album with blues harmonica legend Charlie Musselwhite, *Get Up!*, was long or laborious; his point is that the blues—maybe more than other genres of music—comes from experience. A blues song doesn't just say what the artist is feeling; it tells everywhere he's been.

Harper—a modern champion of American roots music—and Musselwhite, one of his heroes, first met at a blues festival in Australia in 1996, and they bonded over their mutual affection and respect for each other's talents, and shared reverence for classic recordings by Muddy Waters, Howlin' Wolf, John Lee Hooker, and others. Harper grew up admiring those artists; Musselwhite had played with them.

Harper and Musselwhite's musical connection led to their working together on a John Lee Hooker session in 1997, and again on Solomon Burke's Grammy-winning comeback *Don't Give Up on Me* (2002). Harper then played on Musselwhite's *Sanctuary* album (2004), and the harp virtuoso returned the favor, guesting on Harper's *Both Sides Now* (2006).

Last year, the pair embarked on their first full-length collaboration, an album of original blues tunes. Though Harper wrote all of the material with this specific blues project in

“Charlie has a church choir and a Hammond B3 and Roy Orbison all wrapped in one small rectangular piece of metal. It’s like nothing else I’ve ever heard.”—BEN HARPER

DANNY CLUNCH

mind, he is loath to call this—or any of his releases—a “concept album.”

“You can call it conceptual, you can call it spontaneity, you can call it improvisation, but boy, you only hope to surpass your own expectations when you’re making art,” Harper says. “You just want to be able to say, ‘I didn’t know I had it in me!’”

Harper says that when he writes, “It’s just me and my chaotic mind and an instrument, whether it’s a lap steel, an electric guitar or an acoustic guitar, or a piano. I usually get an idea like a jolt of lightning and I run to an instrument. And if I’m driving, I will hum into my high-tech futuristic device.” His phone, in other words.

When Musselwhite heard the songs Harper had created for them, he was fully onboard. In the trailer for *Get Up!*, the elder statesman says, “I just love all the tunes. They all have a story and reflections of life. It’s more than just music.”

The various arrangements—from high-test numbers with electric guitars and wailing

harp to delicate acoustic Delta-inspired performances—showcase all of the artists’ command of blues styles. “There’s blues from every decade,” says Harper. “There’s blues out of Florida, Texas, Memphis, Mississippi—acoustic blues, electric blues. These songs that I wrote, the way they sounded to me when they were just stripped down songs—one person, one voice, one guitar—quickly showed me where their strong points would be production-wise.”

Harper’s bandmembers (guitarist Jason Mozersky, bassist Jesse Ingalls, drummer Jordan Richardson) plus Sheldon Gomberg—the engineer/producer/bass player who recorded the sessions—are all credited with co-producing *Get Up!* with Harper, a testament to the artist’s openness in the studio.

“The guys in the band are all Texans and have all grown up with that southern Texas passion for blues and soul. They live, eat, breathe, and sleep it, and have since they

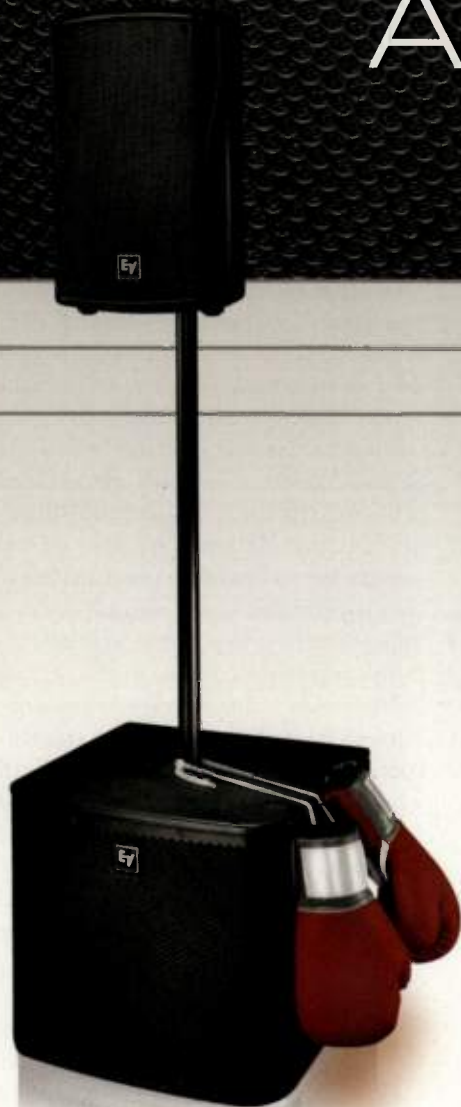
were kids. And Sheldon: He’s an amazing bass player—upright and electric [Gomberg’s recent credits include projects with Rickie Lee Jones, Steve Forbert and Harper’s side project *Fistful of Mercy*—so he brings a melodic, musical sensibility to the recording process that’s crucial to bringing out the best in the instruments. My attitude is, I produce from the best idea in the room,” Harper says. “That’s my production strategy.”

Working in The Carriage House (L.A.), and recording to Pro Tools HD via the studio’s Quad Eight Coronado console, Harper, Gomberg, and the band put in one day of tracking before Musselwhite arrived for the official start of the sessions. Musselwhite, in a booth with the door open, first played a little catch-up—overdubbing his parts for the music that had been tracked the day before. He brought along his own Sonny Jr. Super Cruncher amp; his signal went through that plus the studio’s Gibson Skylark. “They were



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both going all the time, side by side, and they were mixed together, weighted toward the Skylark,” Gomberg says. “Charlie actually had me help him find one of those amps for himself after the sessions.”

Gomberg miked those up with Shure SM57s, but he notes that on one song, the Stax-via-New Orleans-flavored track “She Got Kick,” Musselwhite played into an RCA 44 ribbon mic. Start to finish, Musselwhite’s playing on the album is so inspired; he always knows when to blow the doors off and when to hold back. Harper refers to his collaborator as the “life force” of the project, “that connection to roots that are that deep. Charlie has a church choir and a Hammond B3 and Roy Orbison all wrapped in one small rectangular piece of metal. It’s like nothing else I’ve ever heard.”

In general, most of the bandmembers played together in The Carriage House’s 18x18-foot main recording room. Harper describes the setup as “shoulder to shoulder,” which actually fit well with Harper’s interest in sonic authenticity. A student of the classic Chess records, among other things, he knows that those sides didn’t get cut piece by piece, or with much isolation or close miking on instruments, or even on vocals.

“I always wondered, why do all those blues records sound so freaking different,” Harper says. “And I realized, one characteristic that was a big contribution was being off the mic; bringing in the room sound. They have this haunted, haunting off-mic sound. Not like the way pop singers that came later will put lips to microphone. So I made sure I brought that to the table. I would sing, I’d say, a good three to five feet off the mic.”

The vocal mics that Gomberg put up were mainly an RCA 77 (thru a UREI LA3A) plus an even more distant mic, an AKG C12 (through an LA2A). However, on a few tracks, the engineer employed a Sony C37a or a Shure SM7. One such exception is the song “You Found Another Lover,” which was spontaneously cut in the control room. “It was just Ben and Charlie in there, and it was just grab a mic and set it up, and that was a live thing sitting right next to me,” Gomberg recalls. “In that situation, a Neumann SM2 acted as a stereo room mic, and we put up the Sony C37a there for vocals.” Harper’s acoustic guitar was miked with a Neumann KM84.

However, as with Harper’s approach to lead vocals, Gomberg notes that all of the tracks

developed as much from bleed and room sound as they did from individualized miking schemes.

“The sound of everything starts with the musicians,” Gomberg says. “Plus it’s a good-sounding room, and I don’t think you have to close-mike everything. The main setup in the room was really just three mics: a pair of AKG C12s through Neve 2254 compressors, and a mono [RCA] 44 in the center through a Federal compressor. I put mics on the amps and four mics on the drums, but that was more for reinforcement, and if I needed to bring something out. The majority of the sound is from those room mics. Everybody’s playing together in the room and nobody’s isolated. Everybody’s bleeding into each other, exactly the way music should be.”

★

**“I always wondered,
why do all those
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sound.”—BEN HARPER**

★

Those four main drum mics, incidentally, were a Neumann 47 FET on kick through a dbx 160, a Shure SM57 through an Empirical Labs Distressor on snare, an RCA 77 overhead, and, “my ‘trash mic,’ which is an American D22 through an Altec 436,” Gomberg says. “I use it to pick up the overall drums and I compress the hell out of it. That’s mixed into everything; it acts as glue.”

Gomberg would switch various pieces out, however, if he needed to highlight a specific drum sound. On the song “I Ride at Dawn,” which has a very subtle, distant drum part that follows the acoustic guitar line, Gomberg says, “I miked the kick with a 44 at quite a distance, partly because I wouldn’t put a ribbon right on

a kick drum, but I also wanted a very old-school thing there. And for snare, I used a Coles 4038 at a little distance, plus the trash mic.”

Between The Carriage House’s impressive collection of classic gear and the musicians’ prized vintage instruments, Harper and band had little trouble keeping the authentic feel they were after. “We tried to stick to instruments older than ’69,” Harper says. “Old lap steels, Rickenbackers, Nationals, Weissenborns, old Fender amps. And the studio has a nice wall of instruments. If I wanted to bring out something different, I could pull a guitar off of the wall.”

Gomberg usually captured Mozersky and Harper’s electric guitars through Sennheiser MD409s, and acoustics through an Altec 635A through a Neve 1073. “On lap steel, I used a little Gibson amp with a Sony C37a on it,” Gomberg says. “That Gibson has a great little distortion sound when you drive it, and the C37a is a great mic. I had it ready for any extras that came up—it was my floater.”

On this type of session, it was obviously essential to be ready for those spontaneous moments. Harper came in with well-developed material, and strong ideas about arrangements, but there was loads of give and take in the studio. “When you’re making a record like this, you don’t tell people what to play and what not to play,” Harper says. “You want people to kind of produce themselves in a regard—the less orchestrating the better. You want guys where you can almost read their mind and know they’re right there with you and for you. The minute you have to tell somebody how to play the blues, you ain’t playing the blues.

“I wouldn’t have made a blues record if it weren’t for Charlie, though,” Harper continues. “I needed that life force. Just like when I made a gospel record, *There Will Be a Light*, I had that life force with the Blind Boys of Alabama. That’s why I say it’s taken me all my life, not only to earn a place at the table with Charlie, but to earn the depth of these songs that would inspire Charlie.” ■

Barbara Schultz is a regular contributor to Electronic Musician and its sister publication Mix.



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Camper Van Beethoven
(left to right)—Jonathan
Segel, David Lowery, Greg
Lisher, Chris Pedersen, and
Victor Krummenacher.



Loud and Clear

Camper Van Beethoven/Cracker frontman, producer, educator, and artist advocate David Lowery talks about recording *La Costa Perdida*, Camper's first release in nine years, and calls attention to new industry challenges facing musicians.

BY BARBARA SCHULTZ

DAVID LOWERY is maybe best known as the guy who fronts Cracker, the quirky roots-rock band he started with guitarist Johnny Hickman in the early 1990s. His voice is associated with hits rich in beauty and irony like "Teen Angst (What the World Needs Now)" and "Get Off This" (now also the working title of a documentary being made about Lowery). But Lowery's musical life actually goes back further. Before there was Cracker, there was Camper.

stand•ard ['stan-dərd]

noun

1. *an object that is regarded as the usual or most common form of its kind*
2. *something established by authority, custom, or general consent as a model or example*
3. *the stuff no studio is complete without*



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Starting in the mid-'80s, Camper Van Beethoven played a majestic blend of ska, punk, Eastern European, and country music. Commercially, the band peaked with a cover tune, the Number One modern rock single "Pictures of Matchstick Men" (Key Lime Pie, 1989) but that's the tip of the iceberg in terms of the band's history, talent, and depth.

Diverging musical interests resulted in Camper fragmenting in 1990, but eventually the bandmembers reconnected, and today, Camper and Cracker coexist. Lowery and his CVB bandmates—violinist Jonathan Segel, guitarist Greg Lisher, bass player Victor Krummenacher, and drummer Chris Pedersen—play and record together in various configurations, including hosting a two-day "Campout" every year where both bands, and other musicians, perform.

Meanwhile, Lowery has also branched out as a studio owner, producer (Counting Crows, Sparklehorse), music-business teacher, and an outspoken advocate for artists' rights. Here Lowery answers questions about Camper Van Beethoven's first album in nine years, *La Costa Perdida* (429 Records)—an inspired string of jammy, Norteno, and alt-rock tunes that Lowery says was influenced by the Beach Boys. Not surprisingly, he's also got a few things to say about the state of the music business.

In Camper Van Beethoven, you guys write everything together. How does that work?

Sometimes somebody brings in a pretty finished song, but most of the time in Camper Van Beethoven, it's pretty collaborative.

In Cracker, I sing and there are little licks between when I sing. In Camper Van Beethoven, I'm usually singing all the while Greg and Jonathan are playing melodies, and they're not always playing the same melodies; they're things that interlock. It's literally more Baroque than most bands, so it's best if we write everything together.

With this album, we were driving down to Big Sur when we found out the show we were going to play was postponed for a week. We had been listening to one of the early influential records on Camper Van Beethoven, which is *Holland* by the Beach Boys—kind of their Big Sur/going to Northern California record.

When our show was postponed, we turned around and went back to Jonathan's house, and I stayed there for the week, and every night when the guys got done with their jobs, they'd come over and we worked on songs. After a week, we had an album.

Has the way you work together as songwriters changed over the years?

It's pretty much the same but without the pot. Or, with less pot.

Myles Boisen, who helped with some basic tracking in his studio, Guerrilla Recording, said that originally you went to him to make demos, but a lot of those tracks made it onto the album.

We thought we just wanted to demo up the stuff, so we went into the studio for two days with [drummer] Michael Urbano. [CVB drummer Chris Pedersen lives in Australia.]

Later, we went for "real" tracking at Sharkbite Studios [Oakland, CA], but I'd say half of that we ended up keeping was from Myles' place.

[At Guerilla], Michael Urbano was super crazy that first day. On "Someday Our Love Will Sell Us Out," we were like, "Do a drum solo the whole time," and so he literally played a drum solo through the entire song. It's amazing. After we went back and listened we realized we'd caught all these really superb, nutty drum performances.

I heard that you also did some overdubs in your own studios.

Most of the time, we record songs when we know what the song is about but before the lyrics are finished, so all the vocals are overdubbed. Also, the violin and lead guitars are almost always overdubbed, but the drums, my acoustic guitar, and Victor's bass are usually from the tracking session.

Did you do anything technically to try to create sonic consistency?

One trick is, I always do my vocals at home, through these Neve 1066s that I have, and I always use a little limiting from the dbx 166. I don't know why, but those two things together sound good on my voice. Most of the time the microphone is a [Shure SM] 58. If the song is a little more ballad-y, I will use either an SM7 or I will borrow Sound of Music's [the Richmond, VA, studio Lowery co-owns] U47, or I'll use my Soundelux U95. But basically most of my vocals are done through a hundred-dollar microphone, through 6,000-dollar preamps.



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~ Elliot Scheiner

(Steely Dan, Fleetwood Mac, Sting, The Eagles, Queen, REM)



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~ Daniel Lanois

(Peter Dinklage, U2, Bob Dylan, Emmylou Harris, Robbie Robertson)



"With Recoils, when I listen to my recordings elsewhere, the results are more like what I hear when I record."

~ Ed Cherney

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



"With Recoils the low-end is more defined and I hear fundamentals that I never thought were there. Recoils brought new life to my nearfields--they have never sounded so good!"

~ Bil VornDick

(Bela Fleck, Allison Krauss)



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~ Frank Filipetti

(James Taylor, Foreigner, The Bangles, Elton John)



"The Recoils cleared up a cloudiness in the bass and mid bass that I had been battling in my studio. This is an affordable and very effective problem solving product. I love these things!"

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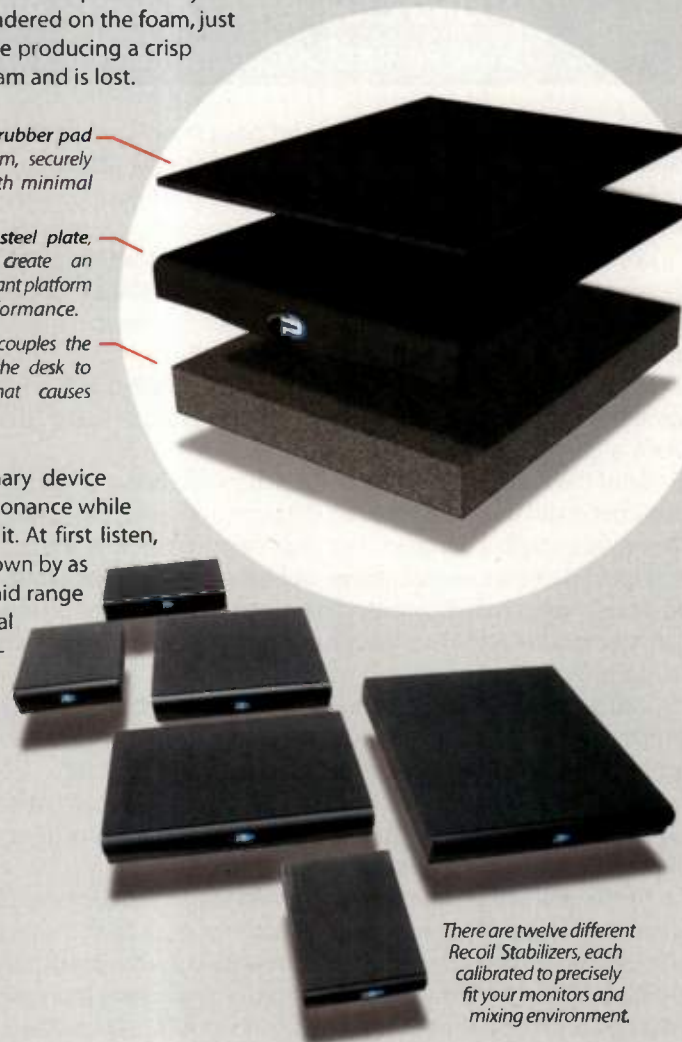
Some would say "just isolate the loudspeaker from the desk with a foam pad" but by doing so, you introduce a new problem—your speaker is now swaying back and forth unhindered on the foam, just as Newton said it would. Energy that could be producing a crisp kick or accurate bass is dissipated into the foam and is lost.



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MIXING CAMPER'S *LA COSTA PERDIDA*

Drew Vandenberg at Chase Park Transduction

Drew Vandenberg has been working in Chase Park Transduction (Athens, GA) since he was just 16 years old. Now an in-demand engineer whose recent credits include Of Montreal, Patterson Hood, and Futurebirds, he met David Lowery several years ago when Vandenberg was an assistant on a Cracker session.

Lowery says Vandenberg got the mixing gig for Camper's latest, in part because the studio rates are so reasonable (at Chase, and in Athens, in general), and because Vandenberg "was the best kind of intermediary between us highly opinionated individuals."

Mixing the band's Pro Tools sessions in Chase's Studio B on a Sony MXP3036 board, Vandenberg acknowledges that a big part of mixing *La Costa Perdida* involved balancing many and various sonic and creative ideas:

"All of the stuff that came from each of their studios, Sharkbite and Guerrilla, sounded really good, but they also sounded different from each other," Vandenberg says. "And then what really put things into a tailspin sometimes was not just that the recordings sounded different from each other, but also the guys were taking those tracks and bouncing them around between the four of them, and everyone was tinkering with something differently. That's not a critical thing either. They're all artists, and they all bring things to the table."

"Creating a little more cohesiveness sonically evolved naturally out of the first few songs. It was like: I have these four songs and I've mixed one, and this is what everyone's happy with, so now I know more about what to aim for. But I would say that first and foremost, I needed to get the drums to sound similar. I can't remember if it was Jason or Myles, but one of them had crunchier, more distorted room mics, which was really cool, but the other approach was more clean."

"The sound of the console and the [ATR 102] tape machine I used automatically imparted two identifiable sonic imprints on things, so just the fact that everything was going through those two things made everything more cohesive. Also, I love using the onboard EQs on the Sony, even though they're not really that popular, and I'm sure that imparted another overall sound. I also used an API 2500 on the 2 mix bus on every song, or almost every song."

"On David Lowery's vocal, compression is a [UREI] 1176; that's across the board also. I have a feeling that's been used on his vocal for a really long time, on lots of the records he's made. I could be wrong about that, but all I know is the first time I put it on his voice, I was like: Oh—that sounds like David Lowery."

How do you balance all of your music commitments with teaching, public speaking, etc. Well, it's not like we make records very often. Personally, I think if people say, "We don't want to pay for music," then bands get to say, "We don't want to make an album except every five years." That's our market response: We won't make albums very often. And here's the thing: I think bands spend way too much time being bands. If they spent less time being bands, they'd have more things to write about.

"Most of my vocals are done through a hundred-dollar microphone, through 6,000-dollar preamps."

What do you teach in your classes?

Basically, I train the next generation of people who are going to rip the artists off. And I train the artists to watch out for the other guys. I joke about that, but it's true that about half of my students are from the business school and half are artists.

We talk about things like financial bubbles—how those happen all the time in the music business. For example, there was the grunge bubble. It had all the elements of hysteria and speculation that all bubbles have. I also show them things like how to create a basic chart of accounts for a band.

What advice would you give to a young artist who came to you and asked, "How can I protect myself in today's music business?"

There's one fundamental thing that successful artists have always done, and that is to retain their publishing rights. Publishing is the copyright for the song in abstract; it's in that recording you release, and it's in every other single release of the song after that, whether it's broadcast on the radio, or another band covers it, or it becomes a chip inside a little birthday card. And if you get a label deal, ask

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Recently, you spoke on behalf of artists' rights at the Future of Music Summit in Washington, D.C. Could you explain your position regarding conventional radio and Internet radio?

There's this misunderstanding about terrestrial radio. People will say, "Terrestrial

radio doesn't pay performers; why should webcasters?" But you have to understand that the people making that argument are wealthy, sophisticated capitalists with PR departments. What they don't tell you is that, due to a weird corporate law, terrestrial radio pays the songwriters, not the performers.

Once upon a time, Pandora said that terrestrial radio should not just pay the songwriters; they needed to pay the

performers as well, because a lot of times the songwriter and the performer aren't the same. Now, Pandora is saying, "Because terrestrial radio doesn't pay performers, we want to pay performers up to 85 percent less."

Essentially, this becomes a labor issue. Think about when the Author's Guild wanted to [bring a class-action suit against] against Google when Google Books came about. What did Google do? They argued in court that the



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Kenny Gioia (Marcy Playground, Mandy Moore)

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Jimmy Douglass (Jay-Z, Justin Timberlake)

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"Bands spend way too much time being bands. If they spent less time being bands, they'd have more things to write about."

authors don't have a right to be collectively represented in that suit, and each author would have to sue individually. The technology companies keep trying to do this to content creators, who are essentially the rank-and-file workers of this century. The technology companies' notion, which they've advanced very carefully, is that content has little or no value, and the only thing that consumers are supposed to value is the pipes that bring the content to you, or the hardware that you buy to play the content.

My entire opposition to the Pandora Internet Radio Fairness Act is Clause 5, which says that any group of rights holders that speaks out against direct licensing deals would be prosecutable under the Sherman Act [which prohibits certain activities that reduce competition in the marketplace]. They keep trying to stop us from collectively bargaining. They want to re-create this 1890s-ish labor environment in the United States, the same way the railroad barons opposed unionization.

Truthfully, I've already made my money. The view out my front window isn't going to change. But there are a lot of artists out there—maybe my son's band or something like that—who will be very affected by this in the future. ■

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Tosca

Odeon

G-STONE

Though Tosca never found such widespread acclaim as Kruder and Dorfmeister (Richard Dorfmeister is a member of both acts), the duo always leaned more soulful, less playful than their fellow Viennese sample scrabblers. Recorded live, *Odeon* follows earlier Tosca releases in the sensual-vocal-meets-dreamy-beat sweepstakes. Nocturnal, oceanic, mysterious, and sometimes funky, *Odeon* recalls a more easily digestible Massive Attack, circa *Mezzanine*. Ominous chords resound, delays spin, tribal beats pound, assembled vocalists purge their inner Maria Callas. Play loud, but not before 2am.

KEN MICALLEF



Johnny Marr

The Messenger

SIRE/ADA

Being The Smiths' guitarist ensures Johnny Marr's lifetime cred, which he lends generously to others (Modest Mouse, The Cribs). For himself, however, the arpeggiated guitar master sounds like he is imitating his imitators. Rising to the top of the title track, his glorious guitar work is the savior. It drives the keening "Lockdown," gurgles under the melancholic "New Town Velocity," and spikes the jagged "The Crack Up." Even at his most derivative, Marr is still better than most.

LILY MOAYERI



STRFKR

Miracle Mile

POLYVINYL RECORDS

The Portland, Ore.'s conglomeration of musicians that revolves around songwriter Joshua Hodges delivers its fourth collection of electro-disco-synth-pop. These 15 songs alternate between lush, carefree, midtempo numbers and a less-8-bit-blip, more funk-oriented strut. Comparisons to the Flaming Lips, Pinback, Passion Pit, MGMT, and Grandaddy are still inescapable, with the slurry, vaguely psych synth tones, but the subbass-reinforced melodies reveal an extended attention to detail. These aren't ghostly, haunting electronics, but they might possess you to groove.

TONY WARE



Various Artists

West of Memphis: Voices for Justice

SONY LEGACY

The companion album to the documentary of the same name, *West of Memphis* features political and emotional songs of support for the West Memphis Three, who were convicted as teenagers for murders many believe they didn't commit. Along with powerful songs by Lucinda Williams, Band of Horses, Bob Dylan, Patti Smith, and more, the release includes parts of the moving original score by Nick Cave and heartbreaking letters from Death Row read by Henry Rollins and Johnny Depp.

BARBARA SCHULTZ



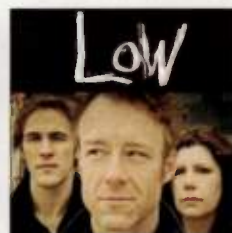
Qluster

Lauschen

BUREAU B RECORDS

Though Qluster's *Lauschen* is beat-free in contemporary terms, there's no shortage of movement in this undulating, light filled music. The duo, formerly known as Cluster/Kluster, one of electronic music's early-1970s innovators, consists of founder Hans-Joachim Roedelius (77) and new member, Onnen Bock (28). Vast and atmospheric, and infused with a clarity that borders on good vibrations, *Lauschen* is miles away from much contemporary electronic music which often seems bathed in clomping beats and dead-eyed samples.

KEN MICALLEF



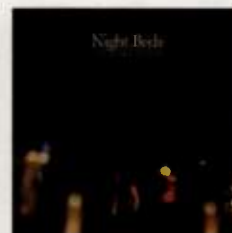
Low

The Invisible Way

SUB POP

In 2011 Low released the reverb-enriched *C'mon*, a more hopeful, less chaotic album than much of the "slowcore" band's recent catalogue. In contrast, *The Invisible Way* nods to the group's starker, more fragile origins, working serene, searing harmonies around figures of piano and acoustic guitar. Production by Wilco's Jeff Tweedy captures both intimacy and air, and the best songs ("So Blue," "Just Make It Stop," "To Our Knees") use compounding dynamics to make a staggering impact.

TONY WARE



Country Sleep

Night Beds

DEAD OCEAN

The feel of this release by Winston Yellen's group Night Beds is at once lush and tender. Vocals on ballads like "Even If We Try" have a hymn-like quality, with washes of strings and vocals peeling away at times to leave Yellen's sweet, plaintive voice alone in all its glory. Yellen wrote these lovely songs in the Henderson, Tenn., cabin once owned and frequented by Johnny Cash and June Carter. The recordings are much more ethereal than a Cash tune, but it seems that sacred place was a great inspiration.

BARBARA SCHULTZ

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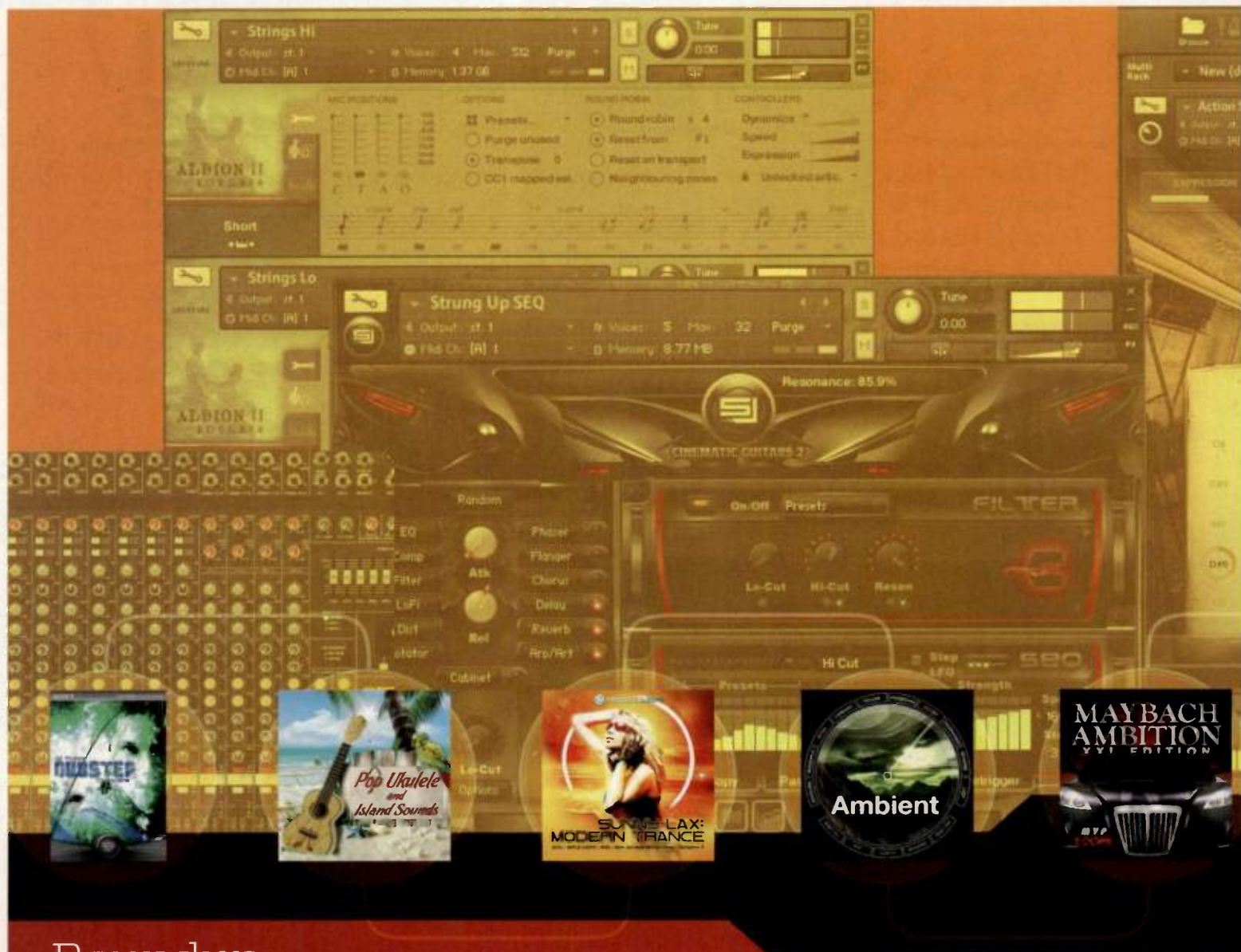
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Roundup

Sound Libraries





LUST

Companies are stretching into new means of distribution, presentation, and formatting; here's the scoop on the latest trends and products

BY CRAIG ANDERTON

IN OUR last sound library roundup, it was clear that the next generation of libraries was emerging—resulting in new ways for songwriters, film composers, rock bands, DJs, jingle houses, and others to augment their productions with a growing universe of sounds. So before getting into the reviews, let's consider some trends.

- **It's an online world.** Companies are trending toward a download-only model. By eliminating physical duplication and shipping, even as sound libraries are getting bigger and more sophisticated, prices remain reasonable. Furthermore, much of the type of information we provided in the last roundup has become unnecessary, as most sample vendors now create online product landing pages with audio examples, reviews, and more. So, this roundup concentrates on summarizing each library's *gestalt*—the crucial element that a manufacturer's website often *doesn't* include.
- **Mo' MIDI.** More libraries are including MIDI files for their loops so you can substitute your own sounds.
- **King Kontakt.** The superb content from Native Instruments and third-party developers (coupled with a free player) have established Kontakt as *the* host. (Just make sure your keyboard has enough octaves—often multiple keys serve as dedicated keyswitches for controlling articulations and other triggers.)
- **But it's not the only game in town.** Ueberschall's Elastik engine provides a creative platform to play back and manipulate sound libraries like an instrument; Best Service's Engine 2, designed by Magix, is another sophisticated playback engine.
- **Quality keeps improving.** Acid, REX, and Apple Loops files have to be edited carefully to stretch well over a wide range, and in the past, not all libraries made the effort to get it right. That's changing. Also, most audio files are now 24-bit instead of 16-bit.
- **Features move beyond audio examples.** Best Service's try-sound.com online test station lets you try out libraries—play a MIDI keyboard or send MIDI data, and hear the resulting audio. Latency (some is unavoidable) and sound quality depend on your Internet connection, and you need to book time for 25-minute sessions, but this free service is both helpful and clever.

Because of the volume of material received for review, I picked the particularly interesting or well-crafted libraries, and tried to keep the text concise. Go to emusician.com for links to audio examples and more: A picture may be worth a thousand words—but an audio example is worth a whole lot of sound review text.

TRADITIONAL LOOP LIBRARIES



Pop Ukulele and Island Sounds

BIG FISH
\$69.95
bigfishaudio.com

Tempos of the 12 construction kits (totaling about 1GB of unique content—395 Acidized

WAV/Apple Loop files and 356 REX loops) range from 88 to 130BPM; keys are all different except for two in C and two in D. The Acidized/Apple Loops/REX files handle time stretching and pitch transposition very well, although you'll need to pitch-shift the REX files manually.

The kits have somewhat of a "needle-drop music" orientation, making it easy to create variations on each kit; however, they offer some fruitful mix and match opportunities, especially

with the percussion loops. You'll also find one-shot drum hits and multitrack drum loops (e.g., separate loops for kick, snare, etc.).

When James Bond hits the bar at Journey's End in Belize to try and snare the rogue nuclear scientist, you'll reach for this library to put together the music the house band is playing—and the lilting, organic island sounds will make an excellent counterpoint to the rising visual tension.



DJ Puzzle: Dubstep Complete

SONY
\$52.46
sonycreative.com

This features six construction kits (Acidized WAV, 686MB, 200 files), along with a

folder of breakdowns, build ups, and other transitions; the transitions act like one-shots but are looped and stretchable, which enhances their value. Drum loops comprise individual elements (snare, kick, hi-hat, etc.), and there are the requisite number of wobbly bass sounds. And of course, like all other Sony sound libraries, the Acidization is superb.

The overall vibe is somewhere between the original variation on Jamaican-style dub (without being drenched in echo) and

the current, brighter, more commercial-sounding dubstep. Depending on your outlook, the sounds are either classic or a little dated, although that doesn't diminish the quality of the files. I think *Dubstep Complete* is best approached as one large construction kit, rather than trying to build complete mixes out of individual kits; but the secret weapon is the folder of transitions—the 40 files offer some very useful sonic seasonings.



Sunny Lax: Modern Trance Vol 1

PRODUCERLOOPS
Available in three formats:

WAVE+Acidized+REX+MIDI (\$49.95), Apple Loops + REX + MIDI (\$29.95), or Reason Refill + MIDI files (\$29.95)
bigfishaudio.com

Yes, it's trance—but with a fresh, open quality instead of melodramatic choirs and thick-as-mud pads. The ten construction kits (with over 300 loops, 47 MIDI files, over 50 one-shot files, and both unmastered and mastered demo files for each kit) divide loops into dry and wet (typically delay and/or reverb) versions, but not all are duplicates; some of the wet sounds wouldn't work if dry, and vice-versa.

There are also one-shots, unlooped riffs

(typically tails for other loops), and some corresponding MIDI sequences so you can trigger your own sounds. Tempos fall in the mid-130BPM, "locked groove"-type range. Acidization/REXing is good; for this genre, you wouldn't stray too far from the initial tempo anyway, but solid pitch shifting gives great mix and match potential. It's hard to do trance libraries right, but this one succeeds on multiple levels—and makes it easy to create convincing tracks in minimal time.



Maybach Ambition XXL Edition

MVP LOOPS
\$99.95
bigfishaudio.com

No, *The Maybach Ambition* isn't a Robert Ludlum spy novel, but a set of 35 hip-hop construction kits (actually more, as several

have A and B versions). Formats are Acidized WAV, Apple Loops, REX, and MIDI (each kit's MIDI file incorporates all parts in the kit, not just individual loops); there's about 2.6GB of unique content and 192MB of mixed audition files. All are minor keys except for three kits in Emaj; tempos range from 74 to 167 BPM.

True to the hip-hop origins, the kits are relatively short and anchor a groove instead of evolving. However, as the editing for

time/pitch-stretching is very good, these loops mix and match easily—and not just within this set. I laid down a locked groove techno bed and tried several *Maybach Ambition* loops against it. They not only fit, but added a unique, evocative element. Quite a few of these work well for rock, too.

I was *extremely* impressed with the sounds, musicality, selection, and versatility. If you can do better for hip-hop, I want to know about it!

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Austerity Measures: Electronica by EVAC

SONY

\$29.96

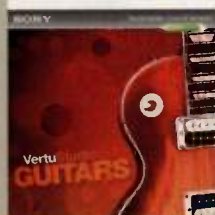
sonycreativesoftware.com

Eschewing the construction kit approach, this library has folders for atmospheres (drones

and loops), synth bass loops and one-shots, drums (full loops, one-shots, and loops of various elements), natural/acoustic sound effects, electronic sound effects, and synths (loops and one-shots). These aren't genre-specific, like dubstep, techno, glitch, etc. but are more general EDM/“experimental electronic” sounds, mostly (as you might suspect from the title) on the darker side of the spectrum. Although they remind me of clubbing in Germany back in the early 2000s,

they don't sound dated; instead, they have a sort of timeless quality that fits into a variety of productions and styles.

Although you can create entire compositions using only this library (it includes 681 Acidized and one-shot WAV files, spread over 524MB), the sounds are inventive, and generally, you won't find them elsewhere—making *Austerity Measures* worth the \$30 as a grab bag of useful sounds to add variety to all kinds of dance music.



VertuStudio Guitars

SONY

\$52.46

sonycreative.com

Going against the tide of “unusual” guitar libraries, this refreshing collection (Acidized WAV, 853MB, 624 files) of no-nonsense,

guitar/amp/judicious effects offers files with a vintage vibe and solid riffs. The loops are processed just enough to give a particular feel (e.g., tremolo for kits that cry out for it), but you can still impart your own personality with additional processing.

The library include 16 folders of construction kits, containing only guitar parts; however, this is one of Sony's Artist Integrated Series titles, so it's from the same sessions as other libraries (in this case, *Drums from the Big Room* and

DNA Bass). Of course you don't have to use these together, but the trio simplifies creating a “virtual band.” Sony also sells optional “Session Packs” for \$9.95 that include additional lead and rhythm extensions for each kit, but again, these aren't necessary to enjoy the material in the library itself. Overall, Sony has managed to pull off a warm, organic-sounding guitar library, and its somewhat higher price compared to their standard libraries is definitely fair for what you get in return.

UEBERSCHALL ELASTIK “INSPIRE” SERIES



AVAILABLE TITLES:

Funk & Soul, Urban, House, Rock, and Ambient

\$170.95 each
ueberschall.com

We covered the *Funk & Soul* sample library from Ueberschall's Inspire series in the October 2011 issue. But the series has now expanded to five titles, with *Urban*, *House*, *Rock*, and *Ambient* added to the collection, so let's revisit the concept for those who missed it the first time around.

Ueberschall makes great-sounding libraries, hosted by the sophisticated Elastik 2 playback engine, which works as either a plug-in (VST, RTAS, AU; Mac/Windows; 32/64 bit) or standalone. Controllable processing includes filter, pan, volume, pitch/formant control (by zplane), slice sequencing, and more; apply these changes to individual loops or globally to selected loops. What makes Elastik more of

an “instrument” is that you load loops into a virtual keyboard and click on it, play it in real time from a physical controller, or trigger the notes from a sequencer—think of Elastik as an “instrument of loops,” the way you used to play loops with samplers.

But here's how the Inspire concept takes this further. The Elastik player's Random option lets you load new sounds from other installed Ueberschall libraries; for example, suppose you load loops for kick, snare, a percussion mix, bass, and clavinet, then start playback. Click the Random button and selected loops will be replaced with loops from the same instrument category (e.g., a bass line gets replaced with a different bass line). Don't like it? Try again—but you can also undo/redo, which is handy if you like what you have but want to see if you can do better.

With non-Inspire series libraries, though, the replacement loop may or may not be in the right key. You can always transpose it, but with Inspire libraries, any loop from any Inspire library will match tempo and key. So if only Inspire library soundbanks are available to the Elastik 2 player, you literally can't go wrong. (A future update will allow you to select which

soundbanks Inspire will recognize.)

Once you have the loop the way you want it, you can just keep playing or sequencing it and save it for future use, or export the loop at the current tempo as a digital audio file. In a nutshell, an Inspire library by itself is like a “loop factory” that can conjure up with a virtually endless combination of possible loops, and you don't have to concern yourself with matching tempo or key. But when combined with other Inspire libraries, the possibilities are multiplied just that much more.

You can also use the Inspire series libraries as standard sample libraries; they're all well-crafted and continue to uphold Ueberschall's high sonic standards. But the Inspire concept really does work—when I found loops that were “close but not quite,” it didn't take long before I ended up with something that worked well.

Sound interesting? Download the Elastik 2 player and a free 410MB sound library from Ueberschall's website to find out for yourself. The player has a bit of a learning curve, but take the time to scale it—Ueberschall has added a new and very useful twist to the world of sample libraries.

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BIG FISH AUDIO KONTAKT LOOP INTERFACE (KLI) SERIES

The KLI series uses the full version of Kontakt 4 or 5 as an interface for loop libraries. Instead of having separate folders for loops and different loop types, like WAV and REX, you load various instruments into Kontakt:

Kit Combos These are construction kits, with a kit's various loops mapped across the keys. Although combos are great for auditioning loops in context, it's also easy to "play" entire songs from the various loops. Furthermore, the combos take advantage of Kontakt's interface for mixing, tuning, and panning various loop types—tweaks you'd normally need to do in your DAW on a per-track basis. You can also apply, and tweak, effects that process whatever is mapped to the keyboard; opening up the effects section shows a handy reference detailing which MIDI continuous controllers affect which effect

parameters. Of course, because it's Kontakt, you can edit anything down to a minute level of detail that can make your head explode.

Single Instruments These map loops for a specific type of instrument (e.g., bass) from the various kits across your keyboard, and is fantastic for when you're in a mix-and-match mood.

Sliced Loops Each of these instruments takes advantage of Kontakt's slicing capabilities so you can rearrange slices; drag slice triggers as a MIDI file to your DAW; process slices (down to the individual slice) with respect to volume, pitch, pan, attack, decay, filter cutoff, and resonance; draw curves to alter these parameters; repeat patterns; and perform the various slice tricks Kontakt brings to the party. What's more, you can save up to 16 presets of custom sliced loop settings.

Demo Patch This maps what would normally be the mixed files within typical Big Fish construction kits to the keyboard for easy auditioning.

All this may seem obvious on paper, but when you're using a KLI library, it's like being able to "open up" a standard loop library and work with it in a far more detailed, and flexible, fashion. The only downside is you can't use the free Kontakt player, but all the KLI titles are also available as standard loop libraries, too.

In any event, this is a brilliant addition to the loop library concept that parallels the functionality of the Ueberschall Elastik player, and opens up multiple ways to adapt libraries to your own needs—as well as do serious warping if that's your thing.

Let's look at two specific KLI libraries.

*Drive***DIEGUIS PRODUCTIONS****\$129.95****bigfishaudio.com**

If only I had this when I was doing the music beds for last year's Summer NAMM show videos: *Drive* successfully translates several country idioms to the sample library format, ranging from traditional elements to a more modern flavor.

It includes 15 construction kits; instrument loops include acoustic guitar, banjo, bass, drums, electric guitar, fiddle, percussion, and vocal background snippets. The traditional material is fine, but I was particularly attracted to the more modern-sounding, driving construction kits—when I found a kit I liked, I *really* liked it. I was even tempted to put a four-on-the-floor kick against some of these loops, and invent "country 'n techno" ... no rules, right?

*Hard Rock: Decade of Distortion***BIG FISH AUDIO/LACAVA PRODUCTIONS****\$99.95****bigfishaudio.com**

Hard Rock is a bit of a misnomer; some of these 29 construction kits also venture into nu metal and even some punk elements. But labels aside, this is a great collection of pounding drums, buzzsaw guitars, solid bass, and synth guest appearances. The playing is solid and assertive; the sounds are well-produced, and the parts are pretty much ready to go without needing further processing or tweaking. Four of the kit combos are multitracked drums with multiple loop options, allowing for significant customization if needed.

Sure, this has applications for scoring and audio-for-video—but if you lift some of these riffs as the backbone of your next song, I won't tell. This is an eminently usable library that captures the power of modern rock music.

KONTAKT LIBRARIES

Native Instruments' Kontakt has become the "gold standard" for hosting not only their own libraries, but those from 3rd party developers. These libraries work with the free Kontakt 5 Player host, or the full Kontakt 5 version.



Albion II Loegria

SPITFIRE AUDIO

£329 (about \$535)

spitfireaudio.com

This is the only cinematic-oriented library I've reviewed where if you need to score a medieval science-fiction romantic horror time-travel comedy-drama, you're covered. There is no "theme," other than providing a wide variety of possibilities. The highlight is a set of gorgeous, lush strings, recorded to 2" analog tape with four-way control over miking, and multiple articulations selected by keyswitches. (And the Ostinatum option is great for creating rhythmic articulations.) Although I haven't reviewed the original *Albion* set, it apparently had bigger, more "epic" strings,

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which this smaller, more intimate ensemble is intended to complement. Regardless, the strings stand on their own and are versatile enough to work in musical as well as scoring contexts.

There's not a lot of brass, but the material that's included (a bank with two euphoniums and two French horns playing in unison, and a bank with a wonderful sackbut choir) is both evocative and emotional; the library also includes recorders, and some presets include Kontakt's Time Machine to allow for interesting warping.

But then flip over to the loops (which stretch to the host tempo), and you'll find some bits that could work under a comedy, sitcom, or period piece from the '60s in which the women wear go-go boots and the men have ridiculous facial hair. There are also chase-scene friendly,

huge toms (Peter Gabriel might want to check these out), "what was that?" distorted and warped sounds, atmospherics and pads that range from ethereal to scary, and even reversals that are intended to smooth over transitions but also work well for dance mixes and ambient music. It's quite a lot, especially given around 50GB of uncompressed source data. And we haven't even touched on the control options, which are considerable...

Loegria is a different kind of library; it's more about performance than samples, and about having something you can use, easily, no matter what you're called on to do. It's very British, sometimes quirky, and creative. While I wasn't quite sure what to make of it initially, *Loegria* has really grown on me for its unique—and truly inventive—qualities.



Action Strings
NATIVE INSTRUMENTS
\$339
native-instruments.com

Action Strings is a sound library-meets-instrument (yes, you need to learn how to play it, although it's not that difficult) that takes an inventive approach to string scoring. It's basically a phrase player with real strings playing those phrases, which greatly increases authenticity compared to trying to build phrases

from individual elements; the reason it sounds like an orchestra playing phrases because it is an orchestra playing phrases.

There's only one Kontakt instrument, but it offers 82 "themes" containing presets with five related phrases, and a total of 154 phrases. You pick a theme, then use ten keyswitches (with consistent placement from theme to theme) to call up various phrases on the fly. Although each theme loads five preset phrases, you can replace any of these, as well as fill up five "user" slots, with any phrase from any category. In addition, all phrases were recorded with both near and far miking, and processing includes EQ, reverb, and on/off dynamics.

Another crucial element is mod wheel control, which adds expressiveness. Shifting your

keyboard so the keyswitches are close to the mod wheel allows manipulating both, but I found it more effective to tie the mod wheel to a footpedal. The mod wheel's importance increases because key velocity controls not traditional dynamics, but whether the phrase is major, minor, or plays a staccato note.

Action Strings is a special-purpose instrument that's deliberately designed to focus on a single task—but does so *extremely* well, which greatly simplifies the process of creating a convincing string score.



Cinematic Guitars 2

SAMPLE LOGIC

\$399.99

samplelogic.com

This is a grand, inventive, stylish, and flexible library. Yes, it's almost \$400, but even at that price, I wonder if they'll make back what must have gone into making a library with this level of quality and innovation.

Although based on guitar sounds, this is not a "guitar" library but rather an exploration of what can be coaxed from abused, caressed, and processed guitars. If you're familiar with the *AdrenaLinn* Guitars sample library and *Electronic Guitars* Rapture expansion pack I did, just

imagine them taken to an extreme (and quite possibly extra-terrestrial) degree, and you'll have a rough idea of what's going on.

Aside from the sounds themselves, which are brilliant, two features stand out. One is the set of Multis, which I consider "cat patches": Even a cat walking across a keyboard will create useful results. The second, and more significant, feature is the extent to which *Cinematic Guitars 2* takes advantage of Kontakt's processing and scripting options to allow for vast numbers of variations on a theme, including excellent exploitations of step sequencing—you can even step-sequence the Bypass function for strings of effects. It also includes tons of effects, clever use of tempo sync, and more.

This library is clearly not designed for keyboard players to add guitar parts to pop tunes, but for serious levels of both musical and atmospheric sound design—the term "cinematic" applies equally well to the intended usage as to the sounds. *Cinematic Guitars 2* is a pro-level *tour de force*; while it's not priced as an impulse item, I think anyone who takes advantage of everything this epic library offers will find it provides an excellent return on investment.

ENGINE 2 LIBRARY

My previous library roundup covered some collections from Best Service, a company that distributes libraries as well as creates its own. The company's custom playback engine, Engine 2, was designed by Magix (the company behind Samplitude) and works with AU/RTAS/VST, standalone, 32/64-bit. Engine currently includes several of its own effects, however the ability to host VST plug-ins and instruments is slated for a future update.



Forest Kingdom

BEST SERVICE

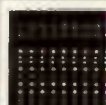
\$219

bestservice.de

This isn't Best Service's latest library, but it's unique: If you ever need to score something for the Discovery Channel, a travelogue to the rainforest, or similar scenes in any kind of video project—or you're into ambient or chill

music—this is a fantastic resource. Also, some of the ethnic percussion and melodic instruments can add exotic textures to many different kinds of music.

Its nearly 7GB library includes 200 patches and thousands of samples of ethnic instruments, but avoids the "Zamfir pan pipes" clichés and also includes a generous helping of nature sounds. The 19 audio examples online are very representative of what you can do with this library, so there's no need to go into too much detail, other than to say make sure you read the documentation to find out which keyswitches are used for various instruments—they're essential for obtaining extremely expressive sounds. This is a classy, useful library that's unlike anything else in my collection. ■



More Online
Check out audio examples of these libraries.
Emusician.com/march2013



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Korg Krome

Taking the work out of workstation

BY MARTY CUTLER

SUMMARY

STRENGTHS: Touchscreen provides intuitive workflow. Huge library of sounds, with gorgeous, unlooped pianos and velocity switched drums. MIDI connectivity via USB. Flexible sequencer and effects routing.

LIMITATIONS: No Aftertouch. Single stereo output; 1/8" headphone jack.

\$999 (61-key); \$1,199 (73-key); \$1,599 (88-key)
korg.com

KORG'S FIRST workstation was the M1 keyboard workstation, introduced back in 1988. Tricked out with a 4MB sample ROM and an 8-track sequencer holding up to 4,400 notes, its amenities included a relatively generous and marginally configurable complement of effects, with proprietary memory cards allowing as much as 512K of additional samples. An additional card slot allowed room for programs, combinations, and more sequencer memory. Times change: Today, Korg's Krome workstation comfortably accommodates a nearly-4GB sample ROM dressed in a powerful synthesis engine, flexible program and combination options, and an equally flexible and powerful sequencer that is ready to jump in and record at the touch of a button. Sixty-one-, 73-, and 88-key versions are available; I reviewed the 88-key instrument.

Well-Planned Work Surface The first thing I noticed was Krome's relatively light weight: substantial, but far from unwieldy. Its sleek, slightly wedge-shaped profile is more than an aesthetic choice; the display and control panel are canted slightly forward for a better viewing angle, especially onstage. Generally speaking, I am more accustomed to semi-weighted synth-action keyboards, but Krome's weighted keys are easy enough to

get used to. Another nice touch is the unit's illuminated joystick; its light marks each axis, making it easier to choose modulation or pitch bend without moving too far afield when you are on a darkened stage or dimly lit studio. A pair of switches above the joystick let you assign Control-Change messages, change octaves, turn portamento or user modulation sources on and off, and more. Switches glow a bright blue when engaged, making it even easier to take stock of operational status in the heat of performance.

The realtime fun begins with a Select switch that chooses the assignments of four knobs: Tone (filter settings), a user-definable set, and arpeggiator controls. The Tone section offers enough control for general realtime tweaking or major timbral adjustments without getting deep into Krome's considerable synthesis engine. Responses to filter tweaks are smooth, and cutoff and resonance changes are devoid of zipper noise.

The Arpeggiator controls let you adjust the notes from a tight staccato to a smeared legato, make the velocity varied or uniform, and move from straight note values through swing and all the way to dotted performance. (You can adjust the number of steps in real time.) A pop-up readout on the instrument's generous display provides feedback on

parameter adjustments. (Disable the pop-up to tweak by ear.)

Next to the realtime knobs is a pair of Mode buttons: Media, and Global. The former lets you save and load sequencer and patch data to SD cards, and the latter sets up transposition, Master Tuning, and the Velocity Curve, and much more. You can also toggle Krome's effects on and off, which saves a lot of hunting and pecking when printing tracks that may favor outboard processing. Likewise, you can toggle arpeggiators and drum tracks, which are available for each and every patch. Krome often provides several ways to accomplish the same task: For instance, to turn features on and off, use touchscreen switches in the display or those on Krome's top panel. Change a value by rotating the Value dial, using increment/decrement buttons, or by dragging your finger on the value in the display. It's hard to go wrong, even if you're in a hurry.

Display of Power I've always gravitated toward Korg's ergonomic workflow, and Krome's generous, information-packed touchscreen ups the ante immensely. The top level of the Program display is a work of ergonomic art, allowing access to the most important tweaks you might want to grab, such as basic filter frequency and resonance values or transposition. Tabs on the screen let you get to just about any parameter, with hopping between menu and page buttons kept to a minimum.

Depending on the context, hitting the Page button exposes Krome's deeper patch-editing options for programs or combinations, global parameters, sequence and pattern parameters, and more. The beauty of the Page button is that it is only a single page deep, and all related parameters, such as tunings or MIDI setup (in the Global Page, for instance) are accessed from tabs nested in each page.

The touchscreen elevates Krome's onboard sequencer into a class by itself, with the ability to poke and grab individual notes in the piano-roll screen and change pitch, duration, location, and controllers. That makes it one of the few onboard sequencers I wouldn't mind using.

Feed Your Muse Krome seems designed to feed your muse from the get-go. Sometimes the most inspiring song starters are in Combination mode—and carefully layered, split, switched, and processed combos are difficult if not impossible to replicate in a

keyboard sequencer, most of which operate on a strict, single program-to-track basis. With a single button press, Krome's Auto Song Setup command will dutifully copy every one of the combination's parameters, including splits and effects routings, across multiple tracks, which are simultaneously record-enabled. It's a great solution to the muse-crushing task of re-creating a combination part by part and parameter by parameter.

Every patch has an accompanying arpeggiator and drum pattern. The grooves are well-mated with the patches, but a quick trip to the display lets you find the patterns you're looking for if you have something else in mind, so it's just a little easier to quickly audition a sudden inspiration against a rhythm track.

With nearly 4GB of samples, Krome covers lots of ground ranging from conventional pianos and brass to dance and electronic music production and cinematic scoring. Most of the piano sample data is derived from the Kronos sample library, complete with unlooped, full-decay samples covering the entire range of the instrument; not a wobbly sustain loop or a tweezed-sounding high note in the lot. The Krome Grand Piano works just fine as a solo instrument or centerpiece in a composition. Among the electric pianos, I was hard pressed to tear myself away from the E. Piano Mark 1 Phaser patch, which faithfully evoked the sounds of Joe Zawinul and Don Grolnick.

Pads gravitate to the warm and delicate side, ranging from more traditional, placid beds to pads with all sorts of motion, including tempo-synced filters, panning, and more. Basses were full and punchy. I found a few dubstep-type sounds in that category, but there's a huge supply of timbres to customize to taste. Some of the upright bass patches (and there are a number of variations) are rich and full, with a satisfying, throaty growl. The drums (also derived from Kronos) are the best I've heard in a keyboard workstation; thanks to generous velocity layering, there's plenty of variation from stroke to stroke. Mix and match from a wide variety of kit pieces.

Krome Polish The effects setup in Krome is about as flexible as those in any workstation I've used, with six inserts, two master bus effects, and a final, output-stage, Total Effect. This function lets you treat sounds individually so that edgy, distorted sounds can sit alongside more pristine instruments with



Detail of the touchscreen.

little compromise. The additional three bands of EQ for up to 16 programs help everything coexist peacefully.

As easy as it is to program from the touchscreen, Krome ships with editor/librarian software; the instrument's USB connectivity rapidly syncs the instrument with the editor, and changes made in the editor are reflected on the touchscreen. Likewise, tweaks from the keyboard update the editor. The USB port also furnishes MIDI I/O to your favorite DAW, and The Krome driver showed up as an external instrument in Apple Logic 9.1.8 without a hitch. If you need to take your sequencer and patch data around sans computer, you'll be grateful for the SD card slot on the rear panel. With support for capacities up to 32GB, you're more than likely to have enough room for many set lists' worth of patches, sequences, and MIDI files.

With so much to like about Krome, there are a couple of compromises in moving an 88-key instrument into a more affordable price point. I might wish for more than a single stereo pair of outputs, but the instrument's versatile internal effects-busing capabilities go a long way toward easing the pain when you need to play dense sequences. I miss Aftertouch as a more tactile and direct part of a synthesizer's expressive modulation palette. And it's not a big deal, but I question the decision to opt for an 1/8" headphone jack over the more traditional 1/4" output. Nevertheless, the \$1,599 street price is a big deal here, with an 88-key, weighted-action instrument stuffed with nearly 4GB of samples, prodigious effects routing, and a user interface you can get tight with quickly. All in all, I could easily rely on the Korg Krome as a desert island synth, with an abundant supply of sounds, plenty of effects, a slick sequencer, and a workflow second to none. ■

Marty Cutler is a former assistant editor for Electronic Musician, a sound designer, and a bluegrass banjo player of note (or many notes).

Sony DWZ Digital Wireless Systems

Affordable, musician-friendly rigs for guitar/bass or handheld mic

BY CRAIG ANDERTON

SUMMARY

STRENGTHS: Easy to use. Affordable. 24-bit digital audio quality. Includes some useful, unexpected extra features like the DWZ-B30GB's Cable Tone control and the DWZ-M50's automatic channel evaluation.

LIMITATIONS: You don't get a \$700 mic in a \$700 wireless system, although you can change capsules. The DWZ-B30GB has less maximum range than the DWZ-M50, and a more primitive channel selection process.

\$499.99 MSRP (DWZ-B30GB), \$699.99 MSRP (DWZ-M50)
sony.com/proaudio

I NEVER used wireless because of sound and reliability issues, but digital wireless changed my mind. There's no companding, and as long as you're within range, forget about pops or the signal cutting out. And if you go out-of-range, the signal usually disappears more elegantly than with analog.

The Sony DWZ-B30GB and DWZ-M50 systems have much in common: 2.4GHz, license-free operation over six channels; 24-bit PCM digital audio; transmitter switches (3-position attenuator, lock/unlock, mute/power, and channel select); +12V AC adapter for the receiver; USB ports for firmware updates; and a compact size. Choose wideband mode for minimal interference to other gear, or narrowband for minimal interference from other gear. Now, let's consider the differences.



DWZ-B30GB Optimized for guitar and bass, this includes a bodypack (which runs on two AA batteries), compact receiver, guitar-to-bodypack cable, and belt/strap clip. The receiver also accepts 9V battery power or a pedalboard's -9V power distribution—genius if you want to go wireless to your pedalboard. The unique, 8-position “Cable Tone” control is a high-cut filter that emulates the cable capacitance for seven different cable lengths so you can match your wired and wireless “sound.” Outputs are XLR, 1/4” phone, and a second 1/4” phone tuner out that generates audio even when the system is muted from the transmitter. With alkaline batteries, Sony estimates about 10 hours’ battery life for the belt pack, and 3.5 hours for the receiver.



DWZ-M50 The mic is a cardioid unidirectional dynamic type; the feel, size, and weight are comparable to an SM58, and both the wind screen and capsule are removable/interchangeable. (Sony offers three compatible capsules, and some third-party capsules are compatible.) Unscrewing the hand grip accesses the “set-and-forget” controls, while power and mute are always available.

The receiver is larger than the DWZ-B30GB's. Output connectors are the same, although the XLR has a mic/line level switch. The DWZ-M50 accommodates two external antennas (unlike the DWZ-B30GB's internal antenna) and has a bright, color LCD that offers menus for programming system settings, including those of its built-in 5-band graphic EQ. The display also provides useful operational data—signal strength, estimated transmitter battery life (selectable for alkaline, Ni-MH, or lithium types), EQ status, and audio output level.

In Use Both systems are easy to set up and use—just don't place the receiver close to RF interference sources (like a wi-fi router). The DWZ-M50 can choose the clearest channel, or scan them and display the best candidates; or, you can choose channels manually. For the DWZ-B30GB, you need to try different channels manually to determine which works best.

When I tested both devices indoors, even in a space with intervening objects, operation was 100% reliable to at least 70 feet. Maximum line-of-sight goes up to about 200 feet for the DWZ-B30GB and 300 feet for the DWZ-M50, but lessens with increased interference or objects (especially walls) between the transmitter and receiver.

Overall, Sony's debut of musician-friendly wireless systems is auspicious. If you've avoided wireless because of analog's limitations, you may be very surprised by digital's offerings, and what's more, with these models you'll probably be able to afford to go digital. ■

se·lec·tion [səˈlekSHən]

noun

1. the action or fact of carefully choosing someone or something as being the best or most suitable
2. a number of carefully chosen things
3. an extensive variety of tones for a sound engineer's sonic palette

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Transparent and detailed pre, brings out the best in any mic

RETRO DOUBLEWIDE

Single-channel tube compression amplifier

MÄAG EQ4

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MILLENNIA HV-35

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1
Sonnet
Echo Express II
 Thunderbolt expansion
\$699

HIGHLIGHTS Two-slot chassis connects PCIe cards to Thunderbolt-enabled computers lacking expansion slots • supports half-length, full-height, single-width PCIe 2.0 x16 cards • dual Thunderbolt ports for daisy-chaining devices • includes three variable-speed fans for cooling the cards and the chassis' components • built-in universal 100W power supply
TARGET MARKET People who want to add PCIe cards to computers that have a Thunderbolt interface but no card slots
ANALYSIS Thunderbolt has tremendous potential as a high-speed interface; one of its attributes is backward compatibility with a variety of protocols, including PCIe cards.
sonnettech.com



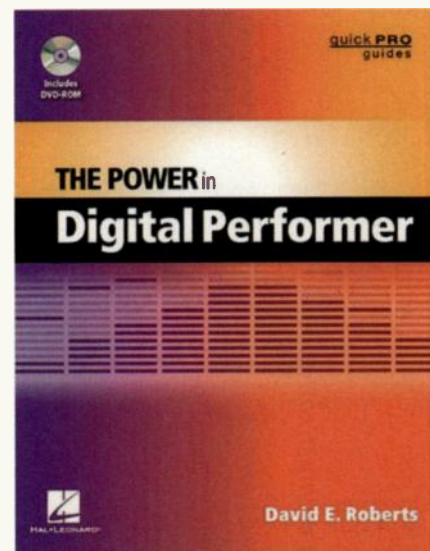
2
Sound Magic
Imperial Grand V2.7
 Virtual piano instrument
\$139

HIGHLIGHTS Reproduces the sound of a 1948 Bösendorfer 290SE, including the nine additional bass notes below bottom • uses patented NEO Hybrid Modeling Technology • includes Audience Perspective Sound • extensive customization options • HD Velocity Layers technique extends the usual 127 velocity layers to 65,536 velocity layers • for Windows VST, Mac AU/VST
TARGET MARKET Recording and live performance
ANALYSIS Although there's no shortage of piano-based virtual instruments, the Imperial Grand aims for authenticity and playability by combining sampling and modeling.
supremepiano.com



3
Avantone Pro
BV12
 Hybrid tube/condenser mic
\$899

HIGHLIGHTS Combines the Avantone CV12's high end with the BV1's smooth upper mids and bottom end • custom 34mm dual capsule with 6072A tube • nine selectable polar patterns, switchable from the power supply • comes with wooden mic box, power supply, retro-style shock mount, Mogami mic cable, stand adapter insert, and carrying case
TARGET MARKET Engineers seeking a tube-based condenser mic
ANALYSIS More mics are combining characteristics of various mics, and even various technologies, in a single mic; the BV12 is an example of this trend.
avantonepro.com



4
Hal Leonard
The Power in Digital Performer
 Instructional "Quick Pro Guide"
\$16.99

HIGHLIGHTS Covers MOTU Digital Performer 8, the first Mac/Windows cross-platform version of DP • written by David E. Roberts, who has been directly involved with DP's development since 1993 and handles artist/VIP support at MOTU • accompanying DVD-ROM with video tutorials • combines concise, practical text with screenshots • 178 pages
TARGET MARKET Those who are new to Digital Performer and want to get up to speed quickly
ANALYSIS As Digital Performer branches out to Windows, new DP users will find this book a helpful introduction to the program's capabilities and features.
halleonardbooks.com



5
Radial Engineering
Tossover Variable
Frequency Divider
 500 Series module
\$400

HIGHLIGHTS Divide an audio signal into two bands to process lows and highs separately, or combine the two in series to create a bandpass filter • one set of controls focuses on the mid and high frequencies, while another set separates the mids and bass • each frequency divider can have a 12, 18, or 24dB/octave slope

TARGET MARKET 500 Series users who want to exploit multiband processing

ANALYSIS 500 Series modules are progressing beyond EQs and preamps to incorporate more exotic functions, such as Tossover's frequency-splitting options.

radialeng.com



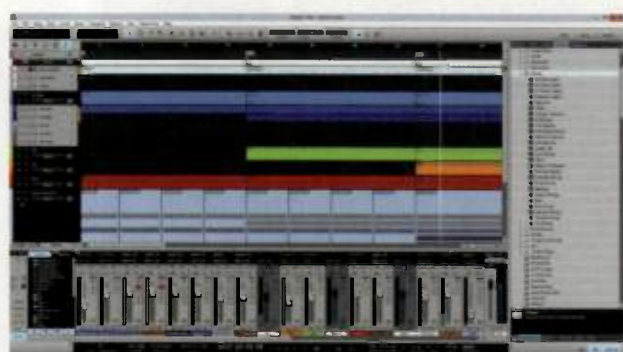
6
Nektar
Panorama P6
 Reason controller/keyboard
\$659.99

HIGHLIGHTS 61-note USB MIDI controller with semi-weighted keyboard, aftertouch, and deep Reason integration • 4 modes allow switching between Mixer, Instrument, and Transport mode; a fourth Internal mode offers 20 configurable user presets for external hardware control, ReWired DAWs, or other software • motorized fader, solo and mute buttons give channel control in every mode • updated regularly to support new Reason Rack Extensions

TARGET MARKET Reasons users who desire dedicated hardware control

ANALYSIS Reason's instruments benefit greatly from hands-on control, which the P6 provides.

nektartech.com



8
PreSonus
Studio One V2.5
 Updated DAW
Free to V2 owners

HIGHLIGHTS Adds nearly 100 enhancements and features • updates all versions (Artist, Producer, Professional, and Free) • major improvements in comping, folder track editing, track transform, automation, audio export, and Ampire XT • re-recording from buses feature uses virtual instrument or bus channel outputs as an audio track input

TARGET MARKET Existing Studio One users, and users who want to switch from other DAWs

ANALYSIS Studio One has been quite a success story in a crowded field; V2.5 shows PreSonus' commitment to adding features and fixing bugs.

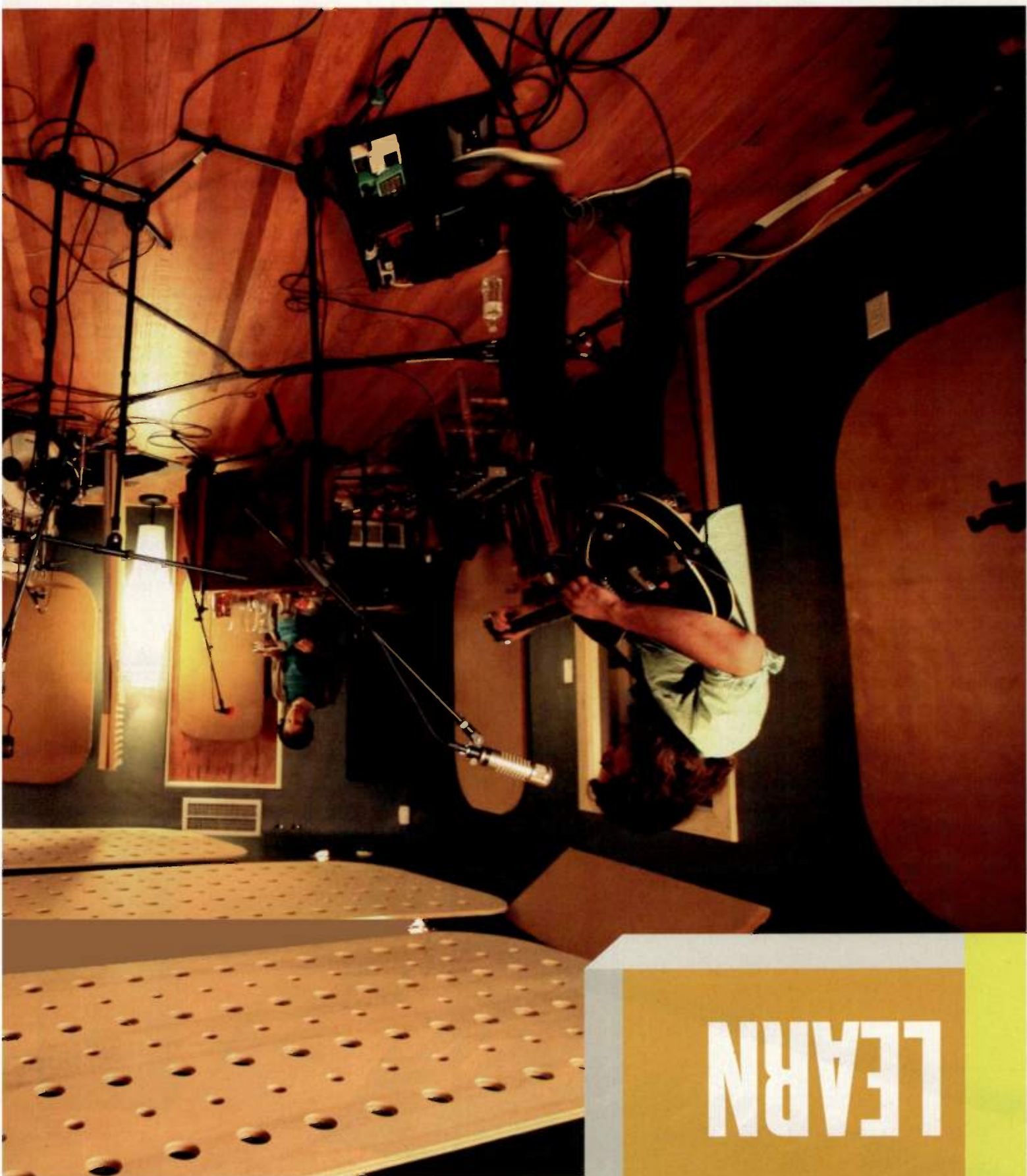
presonus.com

7
Waves Audio
REDD Console Plug-Ins
 Console-modeling software
\$349

HIGHLIGHTS Models Abbey Road Studios' REDD consoles—custom-designed, built by, and named after Abbey Road's in-house Record Engineering Development Department • includes both "Classic" and "Pop" EQ types • Native- and SoundGrid-compatible • Drive control to introduce subtle amounts of saturation

TARGET MARKET "In-the-box" engineers who want to impart the sound of a mythical analog console and live performance processing

waves.com



LEARN



Master Class

Miking the Band, Part 2

Now that we've locked in drums and bass, it's time to track the rest of the band

BY PHIL O'KEEFE

LEAD PHOTO COURTESY SCOTT MILAM/STUDIO AT THE FARM

THE BEST-SOUNDING mixes start with the best-sounding tracks. In last month's Master Class, I covered methods for miking drums and bass. This time, let's nail the vocals, guitars, and electronic instruments.

Electric Guitar The classic approach is to place a dynamic mic at near-contact distance from the grille cloth and let it rip, but placement matters—you can vary the sound considerably just by moving the mic a few inches.

An on-axis mic pointed directly at the center of the speaker's dust cap (Figure 1, page 62) provides a bright, articulate sound. Moving the mic farther away from the center and progressively closer to the speaker's edge provides a darker, warmer, less-edgy sound. I often place the mic out toward the speaker cone's edge, but angled in about 45 degrees, so it's aimed at the dust cap (Figure 2, page 62). This configuration usually provides a good tonal balance—not too bright or too dark.

Other approaches include employing multiple mics, adding a condenser mic or two a few feet back from the amp as “room” or ambience mics, using a mic in conjunction with a direct box (for later re-amping or providing a signal for amp-sim plug-ins), or combining the miked sound with amp-sim hardware such as the Tech 21 SansAmp products, Line 6 PODs, etc. Assuming your audio interface has sufficient inputs, if you're short on mics or mic preamps but still want to track the band all at once, consider trying some of these amp alternatives—when tweaked properly, they can sound shockingly good.

Typical mic choices for guitar amps include moving-coil dynamics such as the SM57, Audix i5, Sennheiser e609, and Audio-Technica ATM650. Ribbon mics like the Royer R-101, Cascade Fathead II, Beyer M160, MXL R144, and AEA R92

Arizona band What Laura Says lays down tracks at The Farm.

are also great choices for use on guitar amps (and their figure-8 response opens up lots of options when miking two cabs). While a ribbon's high-frequency response is somewhat subdued compared to many condenser mics, this characteristic can minimize any harsh or abrasive qualities—yet its condenser-like, quick transient response still provides a clear, detailed sound.

Condenser mics can also work well on guitar amps. Classic choices include the Neumann U67 and AKG C-414 EB, but more modern versions of the 414 can also work well, as can other large-diaphragm condensers such as the Neumann TLM102 and Mojave MA-300. Earthworks' SR Series multipurpose condenser mics, while often used for acoustic guitars, also work well with amps.

Indeed, many mics are suitable for electric guitar amps, so the “best” model for the job can easily change from song to song—or even from overdub to overdub. Using mics with different characteristic sounds on different tracks can

help give them more distinct and individual tones, so they stand out more easily in the mix. Want to emphasize the attack or the treble in a jangly guitar track? Try a brighter microphone, such as a condenser. Want a smoother sound? Try a ribbon.

Acoustic Guitar Tip number one: Start with a great acoustic guitar. Put some new strings on it a day or two in advance so they're fresh but have been on the guitar long enough to have had a chance to stretch and settle in so they'll stay in tune. Finger-Ease or a little talc can come in handy for reducing finger squeaks.

Small-diaphragm condenser mics are common choices for acoustic guitar, but large-diaphragm condensers can also work well. Even ribbon mics are suitable, particularly when trying to tame an overly bright guitar. Typical options include the MXL 603, Audio-Technica AT4041 and Pro 37, Oktava MK012, Shure SM81, Studio Projects B1, Royer R-101, and Beyer M160. For classical guitar players with a light touch, the Earthworks QTC Series is designed specifically for quiet, low-level sound sources.

One of the most common placements is positioning the mic about six to 12 inches directly in front of the 14th fret, angled in slightly so it's pointed toward the fingerboard between the body's edge and the sound hole (Figure 3). For stereo, you can add a second mic about the same distance away, but placed over the lower bout (the lower curve of the body) or just behind the bridge (Figure 4). Another option is a classic X/Y stereo pair, placed about 12 to 18 inches in front of the guitar. I'll normally center this stereo pair so that it's almost directly in front of the sound hole (Figure 5). Pointing a mic at the hole usually isn't recommended because it can sound way too muddy and boomy, but in the X/Y pair's 90-degree angle, the two mics will be pointed to either “side” of the sound hole instead of directly into it.

Vocals There's usually nothing more important than the lead vocal in your recording, because it's the element the average listener “connects” with the most. The human voice conveys a lot of emotion in addition to the main melody and the lyrical message, so it's crucial to get it right.



Fig. 3. Compared to stereo miking, a single microphone can eliminate the possibility of phase cancellation.



Fig. 4. When stereo miking, sum the signals in mono and make sure you have no phase-cancellation issues. If so, moving one mic slightly may solve the problem of phase cancellation.



Fig. 5. X/Y miking is an option for obtaining a full-sounding stereo recording.



Fig. 1. This is one of the more traditional ways to mike a guitar amp.



Fig. 2. Positioning the mic off-axis, and changing its angle, alters the amp's tone.

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Fig. 6. A good pop filter can help reduce plosives, thus reducing the need to edit them out when mixing.

Start with the singers: Make sure they're healthy. To cut down on phlegm, I recommend singers avoid dairy products for at least 24 to 48 hours before the session. Have lots of water available, but not ice water; if it's too cold, the vocal folds can stiffen and contract. Stay away from syrupy beverages such as sodas, and acidic ones like orange juice. Comfort can be crucial for vocalists—kick everyone else out of the room if the singer finds others distracting, or if they make the singer feel self-conscious.

Mic selection will depend mostly on the singer's style and the type of sound you seek. Many modern recordings feature lead vocals recorded with a large-diaphragm condenser. Over the past several years, there's been a trend toward using mics with a fairly bright-sounding top end to help a singer "cut through" a busy mix. However, that same brightness might not be appropriate for a singer with a more treble-y or sibilant-sounding voice. Common choices include the classic heavyweight mics like the Neumann M49, U47, and U67; the AKG C12; and the Telefunken ELA M251. On a more real-world budget, the AKG C-414, Mojave Audio MA-200, Studio Projects C1, Avantone CV-12, MXL V89, and RØDE NT1A are all respectable choices.

Start with the mic placed six to 8 inches away from the singer's mouth, with a pop screen half-way between the two (Figure 6). Moving closer can give a thicker, fuller sound from the proximity effect, and can also be useful for a super-close, intimate sound. Moving back to around a foot from the mic tends to minimize the proximity effect. Using a baffle or other audio isolation tool (such as the



Fig. 7. Giving some distance to background vocals also gives depth, which can help during mixdown to differentiate the background vocals from the lead vocal.

sE Electronics Reflexion Filter or Primacoustic VoxGuard) to the sides of, and behind, the mic can help reduce room ambience pickup.

Moving-coil dynamic microphones are often useful too; some very successful records have been made with them. Classic mics to consider are the Shure SM7b and SM58, Sennheiser MD441, and Electro-Voice RE20 and RE320. And don't forget ribbons! Before the dawn of condensers, the RCA 44 was frequently used, and other modern ribbon mics can also work well for vocals—especially if you're after a smooth and sweet "crooner" sound.

With background vocals, you can overdub individual vocalists one track and part at a time. This is a good approach if the singers aren't as prepared as they should be, or if you think you might want to process (or correct) the vocal tracks individually. An approach that requires more advance rehearsal is to position all the singers around a single omnidirectional mic and have them sing their backing parts simultaneously (Figure 7). Adjust the singers' balance by moving individual singers closer to, or farther away, from the mic until you like the blend. You can then double-track or "multitrack and stack" them for panned stereo and to give the impression of a larger group of singers, or for thicker-sounding parts.

While mics used for lead vocals can also be effective on background vocals, consider making two changes from the lead-vocal miking approach. First, vary your mic if a suitable substitute is available. This technique will help differentiate the backing vocals from the lead vocal parts, even if the same person overdubbed all of the tracks. If the lead vocal

sound is lower and darker, try using a brighter-sounding mic when recording the background vocals. Second, move away from the mic a bit. Remember—distance equals depth. Physically placing the background vocalists anywhere from one to three feet farther away from the mic than the lead singer gives a different, less up-front sound that will help put them into a different space when you go to mix.

Whenever you're recording any vocals in close proximity to the mic, use a good pop filter or screen to help cut down on plosives such as p-pops. These screens are also very useful for establishing a "minimum working distance" from the mic.

Synthesizers and Electronic Instruments

While synths and drum machines don't need miking, sometimes they can have an unnatural sound when mixed with acoustic or amplified instruments. Getting a mic into the equation is often the solution.

With electronic instruments, space truly is the final frontier. Although we listen through air, hardware and virtual synths generate electrical signals that need never reach air until we hear the final mix. Compared to acoustic instruments, synth sounds are relatively static—especially since the rise of sample-playback machines. Yet our ears are accustomed to hearing evolving, complex acoustical waveforms that are unlike synth waveforms, so creating a simple acoustic environment for the synth is one way to end up with a more interesting, complex sound. This technique can also help synths blend in with tracks that include miked instruments, because they usually include some degree of room ambience (even with fairly "dead" rooms).

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WITH HUNDREDS OF FX TYPES, IT OFFERS INCREDIBLE FLEXIBILITY AND THE UTMOST IN SONIC QUALITY, PLUS OVER 100 OF THE INDUSTRY'S MOST ACCURATE AMP MODELS

ANTASTIC REAL TIME CONTROL VIA AN EXTENSIVE MATRIX OF SOURCES/DESTINATIONS • QUICK & EASY TO DIAL IN • PRO I/O & RELIABILITY • MAC/PC EDITOR • AND MORE



Sending some (or even all) of your synth's signal to an amp and miking it can give that feeling of "air." For a clean sound, the Fender Twin is an old standby; but an amp like Line 6's DT25 or DT50 is an excellent choice, as it's possible to change the amp's topology in the analog domain to generate anything from clean to dirty sounds.

Virtual instruments can take advantage of this technique too—just pretend you're re-amping a guitar track. Send the virtual instrument output directly to a hardware audio output on your computer's audio interface (this assumes that your interface has multiple outputs), pad down the output, run it into your amp, then feed the mic into a spare audio interface input and record this signal to your DAW. There will likely be some delay introduced when going from digital to analog then back to digital again, but you can always compensate for this by "nudging" the miked track a little bit earlier.

One issue with open-back guitar amps is that they often lack low end. A quick fix is to place the amp so its back lies against the floor (preferably one with a rug), essentially turning it into a closed-back cabinet (Figure 8). However, note that with many amp designs, ventilation happens through the cabinet back—so this technique could block the airflow, which can be particularly problematic with tubes. In this case monitor temperatures carefully, and record for as short a period of time as possible. Whenever you take a break, move the cab back to its usual position to let it vent for a while. Even if the amp appears to be performing properly, heat buildup can reduce component life. (See our Web extra for more tips for getting a closed-back cab sound from an open-back cab.)

Another way to add the feel of an acoustic space to a synth is record the sound of the keys being hit. (Sometimes a contact mic works best.) Mix this very subtly in the background—just enough to give a low-level aural "cue." You may be surprised at how much natural quality this technique can add to synthesized keyboards.

General Tips Now that we've gone over individual miking applications, let's zoom out and consider some tips that apply to a variety of tracking situations.

- While close-miking techniques can reduce the influence of room acoustics, the location of your instruments and mics in a room can affect your overall sound quality



Fig. 8. If you need more low end when using an amp with electronic instruments, try turning it into a pseudo-“closed-back” cabinet.

dramatically. Avoid boomy-sounding corners, and don't set up too close to walls that might contribute unnatural reflections. If your room is less than ideal, move the mics in close and use as much baffling and broadband absorption around your instruments and mics as possible. You'll have to “add in” early reflections, ambience, and reverb at mixdown, but this is often a better approach than capturing negatively-colored room reflections that you won't be able to remove from your tracks later.

- Don't close-mike everything if you can avoid it, because then everything may wind up fighting for the up-front placement in the mix. Give some advance thought to varying the mic distances for various sound sources—consider moving the mic positions farther away from the source for supportive elements than for main elements. This configuration provides more “breathing room” in the mix, and helps the parts sit in their own “space.”
- Remember that when using directional mics, the proximity effect comes into play. Omni mics, however, can be placed ultra-close without any significant bass boost. Also remember that omni mics capture more of the room's character and ambience than cardioid mics.
- Watch your recording levels—leave yourself some headroom to avoid any digital “overs”

or unexpected peaks that go “into the red.”

Ideally, track with levels averaging around -8dBFS to -15dBFS on your DAW meters. If your meters aren't calibrated, I recommend recording at levels that average about halfway up the meters. Occasional peaks that go higher are okay, but never light up that clipping indicator!

- EQ and compression are fantastic tools, but don't reach for them first. Consider changing an amp's tone controls, adjusting the mic position, or even using a different mic. If the ribbon mics you're using for the drum overheads sound too dark, try some condenser mics instead; if the guitar amp sounds too bright, reposition the mic. ■

Phil O'Keefe is a multi-instrumentalist, recording engineer/producer, and the Associate Editor of Harmony Central. He has engineered, produced, and performed on countless recording sessions, with artists such as Alien Ant Farm, Jules Day, and Voodoo Glow Skulls. His articles have also appeared in Keyboard and Guitar Player.



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Fig. 1. Lexicon Dual Delay lets you adjust the delay time, level, panning, filtering and feedback parameters independently for each of four delay voices. In the lower-right corner of the GUI, feedback for a quarter-note delay is filtered above 500Hz, panned left and attenuated over 20dB to make it barely audible.

Programming Multi-Voice Delays

Create spacious soundscapes using these tips

BY MICHAEL COOPER

PROGRAMMED WITH skill, multi-voice delay—using long delay times—can impart clearer and more dimensional ambience to a mix than reverb. On the other hand, careless parameter adjustments can create scattershot echoes that clutter a production. In this article, I'll show you how to launch tracks such as lead vocals and guitars into a capacious

virtual expanse by tossing expertly crafted delay voices into the mix. To illustrate my points, I'll use the Lexicon Dual Delay plug-in (included in the company's PCM Native Effects Bundle). Successful programming begins with creating an echo pattern that's well-matched to your production.

Support the Groove Sync your plug-in to your host DAW's tempo. For each delay voice, choose a different delay time, specified as a note value (such as dotted-eighth) rather than in milliseconds. (Using note values will speed the creative process and preclude the need for you to calculate delay times equivalent to note values for your song's tempo.) The note

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value you choose for each voice should, when combined with the other voices, create a short, rhythmic echo pattern that complements the song's groove. To avoid confusing clutter, in most cases the last echo should voice no later than a half note after the dry input and very long echoes should be barely audible.

If you can't conceive a cool pattern in your head, try tapping it out on your leg or tabletop while your song plays back. Determine how

loud each tap (echo) should sound in order to create rhythmic accents; you'll create the softer echoes in the plug-in by attenuating either the level of a delay voice or its feedback.

Give Yourself Room to Manuever If your plug-in provides a delay-level master in its control set, adjust it initially to be around 50% of full value. This will allow you to adjust the level of all delay voices at once proportionally

higher (up to twice as loud) or lower after you've already programmed the echo pattern. You'll be able to control your gain staging and make the grouped echoes sit pretty in the mix using only one control, rather than mess with the individual levels for each delay voice and risk torpedoing your carefully wrought balance.

Taper the Echo Trail's Level and Bandwidth

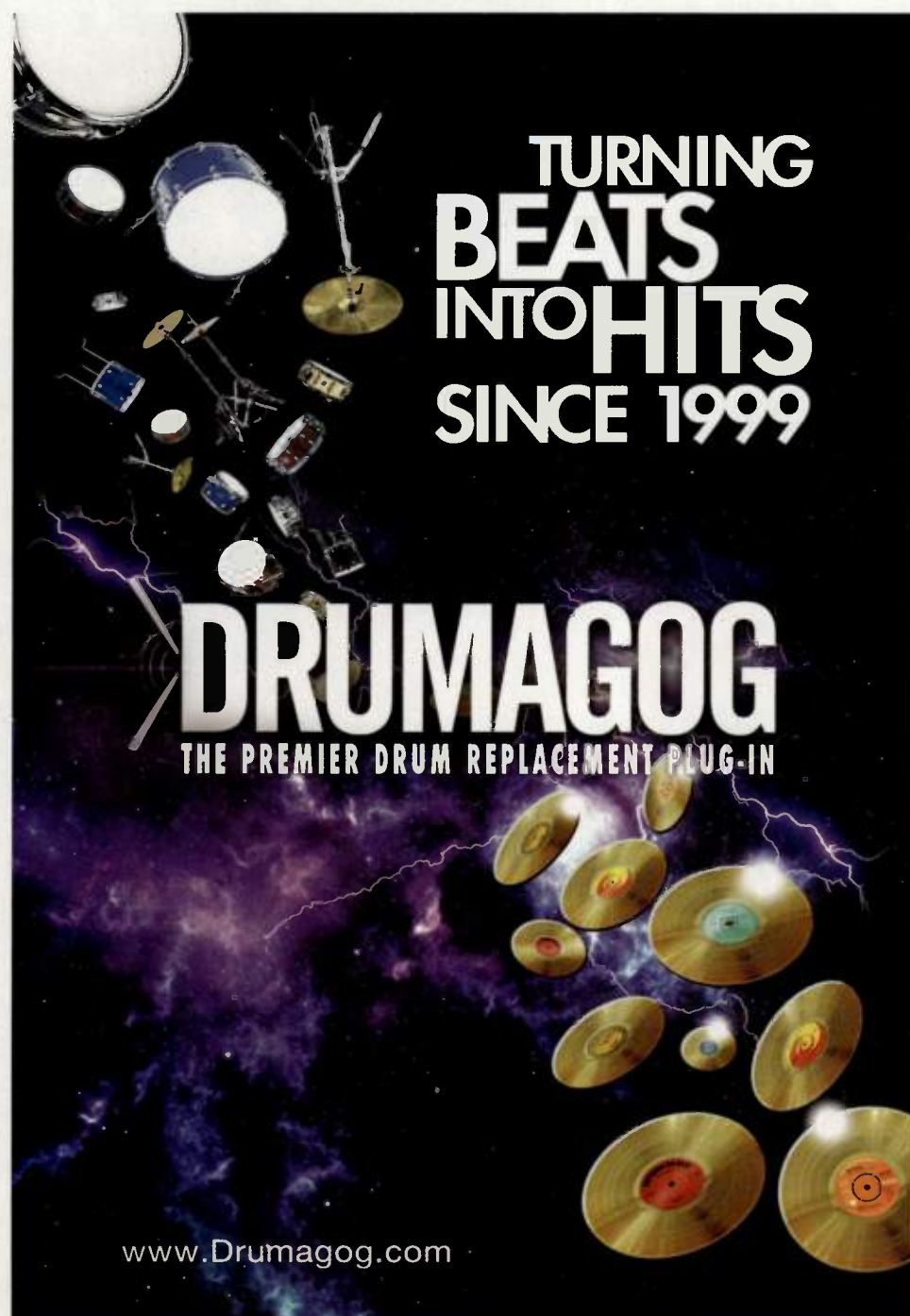
In nature, sounds that bounce off a distant surface will sound less loud and bright than those bouncing off a nearby surface when they return to the point of origin (assuming the surfaces have roughly identical absorption coefficients). Keep this in mind when programming your delays. For the most natural-sounding ambience, program longer delays—whether primary voices or generated by feedback—to be lower in level and have weaker high frequencies than shorter delays. You can roll off highs using a low-pass filter for each voice and its feedback, using progressively lower corner frequencies with increased delay time (see Fig. 1).

Use Feedback Wisely If your plug-in allows, apply more diffusion to feedback than to primary echoes. This will sound more natural and be less distracting in the mix. Put another way, you want very late-arriving echoes to airbrush subtle fairy dust on your tracks rather than produce hard, discrete echoes that will unduly compete for attention.

To craft a more complex and interesting soundstage, consider panning feedback differently than its associated delay voice. Don't hesitate to turn feedback off for some or all of the delay voices if it either confuses the mix by arriving too late or undermines the rhythmic pattern of echoes by, for example, making it too dense.

Break the Rules The foregoing tips are a safe bet for getting great results on most productions. But don't be afraid to push the envelope. For example, a smattering of short, dull echoes can be followed by a long, bright delay to simulate your track bouncing off nearby absorptive surfaces and a distant hard wall, respectively. If that's what your production needs, go for it! ■

Michael Cooper is the owner of Michael Cooper Recording in Sisters, OR (www.myspace.com/michaelcooperrecording), and a contributing editor for Mix magazine.



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Make Your Gear Last

Tips for extending your equipment's lifespan

BY MICHAEL COOPER

WHEN EXPENSIVE and indispensable audio gear dies, the financial toll and interrupted workflow can be grave. Even before its last gasp, audio gear usually begins to perform poorly in subtle ways—for example, manifesting a degraded transient response—that mars your productions. Luckily, with proper care you can keep your tackle in tip-top shape and hold back the Grim Reaper of Gear for many years. Use these tips to keep your hardware off the garbage heap.

Heed “Last On, First Off” When powering up and down your control room, your amplifier—whether an outboard piece for passive monitors or the built-in type for active ones—should be the last piece of gear you turn on and the first one you turn off. Doing so will help prevent sending a damaging spike to your monitors’ speaker cones. Also, be sure to wire a fuse in line with the audio path for each of your passive monitors to prevent accidental feedback loops or over-enthusiastic playback levels from blowing a driver. The monitor’s manufacturer should be able to specify the correct fuse rating you should use.

Cool Down, Then Cover After turning off equipment that generates heat (including mixers, amplifiers and Class-A preamps and compressors), let it cool down completely before you cover it. Once it’s cool to the touch, protect your gear from invasive dust and corrosive humidity in between sessions by covering it with a light fabric—one that won’t generate static electricity (like wool, for instance, does) that could zap the electronics.

After powering down a condenser mic, the residual charge inside the head capsule attracts dust in the air that combines with humidity to form a thin, cement-like film on the diaphragm. Over time, these microscopic deposits can degrade an unprotected mic’s high-frequency and transient responses. For this reason, a condenser mic should be covered with a mic sock on its stand or stored inside a padded box in between recording sessions (see **Fig. 1**). Place a tiny bag of desiccant inside the storage box (*under* the mic capsule, not on top, in case the bag leaks) to dehumidify the mic while it sleeps.

Condition All Rooms Humidity also oxidizes I/O connections on mixers, monitors,

and signal processors over time, eventually causing faulty connections. If you live in a humid area, consider using a dehumidifier in between sessions in any rooms where your gear is used or stored. And don’t let your gear get too cold overnight or too hot during the day. Extreme temperature fluctuations cause solder joints to expand (with heat) and contract (with cold), causing them to prematurely crack and fail. Temperature fluctuations also cause damaging warping on stored audio and video tapes alike. Keep your control room and mic and tape lockers’ temperatures under thermostat control to shelter your gear and archives.

Shield From Vibrations and Breezes Limit walking around with an unboxed condenser or ribbon mic to protect it from potentially damaging vibrations and air turbulence. Carry it in its storage box to and from the mic stand when setting up and breaking down a tracking session.

Never expose your condenser or ribbon mic’s head capsule directly to even a light breeze, whether from fan-driven air conditioners and heaters or from the natural

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- **Andrew Scheps**

(Adele, Red Hot Chili Peppers, U2)



Pro Tools 10

elements outdoors. Doing so can damage the mic's sensitive diaphragm or ribbon, sending it to an early grave. Small-diaphragm condensers are especially vulnerable to air turbulence. Instruct instrumentalists not to breathe heavily on sensitive mics placed on their instrument, or protect your investment with a pop screen or foam filter placed between the head capsule and a big puffer.



Fig. 1. If you must keep a condenser or ribbon mic on its stand in between sessions, protect it from dust, humidity and air turbulence with a mic sock.

In the studio, the low-frequency air pressure from a breeze hitting a mic's diaphragm can cause your subwoofer's cone to pop if its amplifier is turned up. The subtle spike in air pressure caused by quickly shutting a door to a small, soundproof (airtight) studio can also pop a mic's diaphragm in the studio and your subwoofer cone in the control room; swing the door slowly to the door jamb and then gently push it closed.

The structure-borne noise produced by setting up a connected mic on its mic stand can, if amplified, also damage speakers. Be sure to turn your control-room levels all the way down when setting up. Do the same when switching the polar pattern on multipattern condensers, as some will produce a nasty electronic pop your speakers will not like.

Wait a Minute Never plug in to or unplug a mic from a preamp that has phantom power already turned on. The resulting voltage spike could damage your mic pre. Connect the mic with the preamp gain turned all the way down,

then switch on the juice and set your level. After your session, lower the mic pre's gain all the way (noting its setting beforehand if you'll need to duplicate it on the next day's session), turn off the phantom power, and then wait one full minute before disconnecting the mic. It takes awhile for phantom power to completely drain after it's powered down. During that time, any disconnecting or reconnecting of microphones can send a damaging voltage spike through the mic pre's circuitry.

Boot Up Regularly A mechanical drive left idle for long periods of time may develop a sticky spindle, preventing its platter from spinning. Power on all of your mechanical hard drives at least once a month to exercise their spindles. An archival drive is useless insurance if it won't boot up! ■

Michael Cooper is the owner of Michael Cooper Recording in Sisters, OR (myspace.com/michaelcooperrecording), and a contributing editor for Mix magazine.



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OBJECTIVE

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BACKGROUND

You can play Ignite as a traditional keyboard, or enable “Players” for different instruments. The Players generate patterns that you can modify in real time by calling up patterns with keyswitches, then playing melody lines or chords that are in turn “played” by the patterns. These “grooves” can be quite inspirational when writing songs, but can also help flesh out arrangements.

TIPS

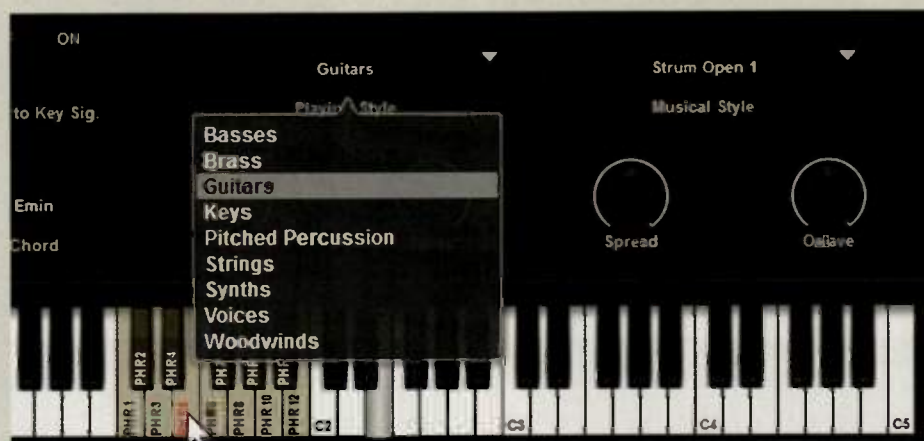
- Step 2: The Play tab turns blue when a Player is on.
- Step 4: “Move to Key Sig” defaults to on, and causes notes to conform to the project’s specified key signature.



Step 1 Click on the instrument you want to use with the player, then click the Play tab.



Step 2 Switch the Players switch to On, and choose the Chord, Phrase, or Arp mode.



Step 3a If you selected Chord Mode, choose a Playing Style and Musical Style from their drop-down menus. Playing one of the brown keyswitches toggles the chord style on; playing on other keys causes them to be “played” by the chosen pattern.



Step 3b With Phrase mode, similarly choose a Playing Style and Musical Style. Playing one of the brown keyswitches selects a phrase in the selected style, with other keys being “played” by the phrase. The Fill keys add a fill at the end of the current phrase.

Step 3c In Arp mode, notes that you hold down are arpeggiated.

Step 4 The controls above the keyboard affect different parameters depending on which mode is selected; experiment to tweak a chord, phrase, or arpeggiated pattern.





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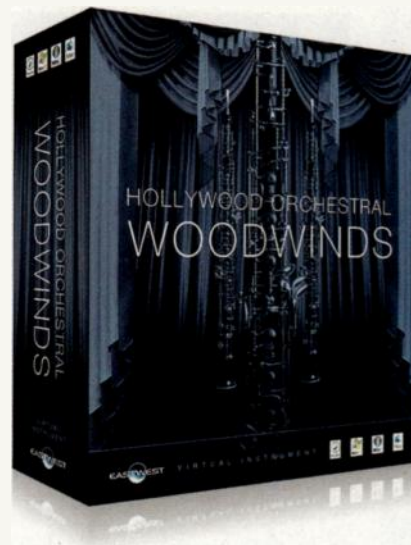


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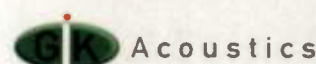
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Five Software "Marketing-Speak" Translations

BY CRAIG ANDERTON

After my snarky comments last month about DAW users, you didn't think I'd let the manufacturers get away scot-free, did you?

1

"Blurfle Software announces version 3.0 of 'NewDAW'"

"Announces" means... well, that the company is sorta hoping it intends to ship something, someday. Maybe sooner rather than later. Well actually, probably later. It's kind of like when JetBlue "announces" that a flight will leave at 4:47 P.M. Of course it will!

2

"Blurfle Software now shipping new version of flagship program 'NewDAW'"

"Shipping" means they hope you forgot that the program was "announced" over a year ago, that they said it would ship in six months, and then they said it was "shipping" three months ago. But now, they *really mean* it's shipping. And it *must* be as true as Jesse Ventura's *Conspiracy Theory*, because there's *actual box artwork!* So there.

3

"The latest version includes 23 exciting new features, as well as bug fixes"

Careful, now... it's risky to brag about bug fixes, because it means the last version really was as buggy as that forum guy—you know, the whiner dude who complained in daily, semi-coherent rants—said it was. Fortunately, it's *common knowledge* that a new version never introduces new bugs!

4

"NewDAW 3.0 features better workflow, great new plug-ins, and an improved audio engine"

This is the logical follow-up to that time they said that NewDAW 2.0 had "below-average workflow, a fairly boring set of plug-ins, and an audio engine that generally works pretty much okay." Oh, they *didn't* say that? They said 2.0 had better workflow, great new plug-ins, and an improved audio engine? Nevermind.

5

"NewDAW 3.0 is available from our exclusive online storefront!"

This means the company has discovered that for the price of a server (and an IT department comprising an indie rock-listening phantasm whose résumé consists of "successfully hacked the Pentagon"), they don't have to duplicate media or bribe music stores for shelf space, and can fill orders while sitting naked in the kitchen with an iPad. Sweeeeeeet!

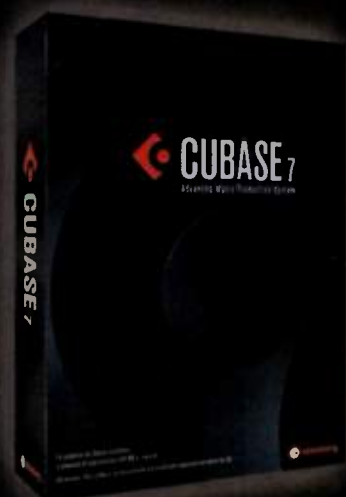
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