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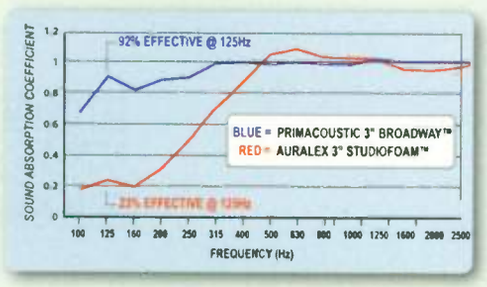


*Tests performed by Riverbank Labs on Primacoustic Broadway™ panels and common acoustic foam. Both absorb high frequencies but as sound shifts to bass, the foam stops working.*

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# COMMUNITY

insight

## Protecting Your Assets

Recently, I posted a question online: "How diligent are you about protecting your ears?" While I expected the snarky answers, I was stunned by the misinformation in the serious responses: "I just try to listen soft." "Don't stand so close to cymbals." And the classic: "Unless your ears are bleeding, it ain't rock and roll." It's ironic that the same people who rely on their hearing to create music can place their hearing at risk *by* creating music. And once the damage is done, there's no going back.

The good news is, noise-induced hearing loss is largely preventable. You know the basic concepts—listen at lower volume, take breaks. But you owe it to yourself to learn *specifics*: What's the highest safe SPL for, say, four hours of exposure? (88dB.) How much do foam earplugs *really* attenuate noise? (20–35dB.) If a sound doesn't hurt, can it damage your hearing? (Absolutely.)

Start by getting the facts: The House Ear Institute (hei.org) and Hearing Education Awareness for Rockers (hearnet.com) are great resources for musicians. Get a dB meter and do some tests. Remember that noise exposure doesn't end in the studio or onstage. (I logged 100dB on a subway train.)

None of this is meant to take the fun out of making music. Just be smart, and be proactive about protection—before it's too late.

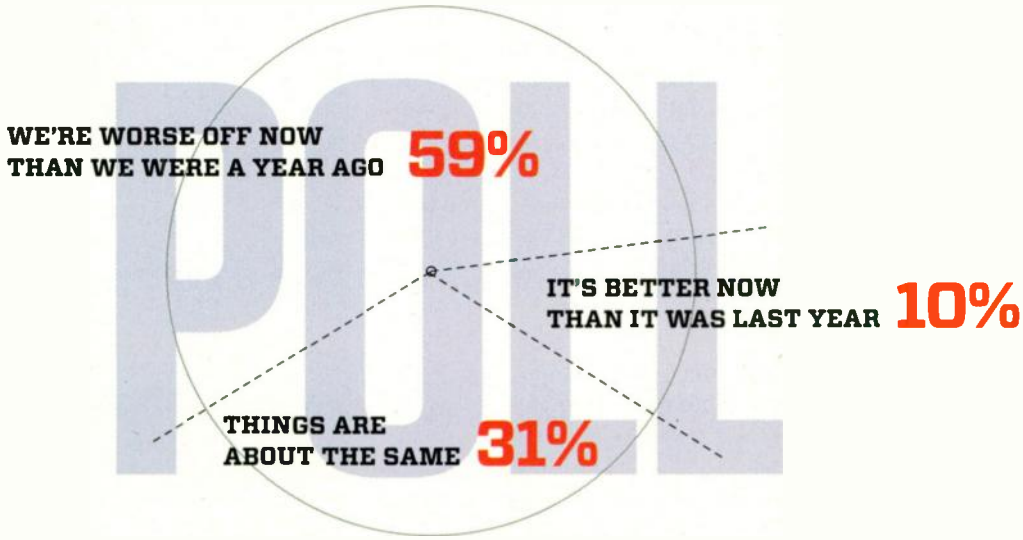
**SARAH JONES**
EDITOR
*sjones@musicplayer.com*

**"COUNTRY IS THE NEW ROCK AND ROLL. OR, MORE ACCURATELY, THE OLD ROCK AND ROLL."**

*"Lefsetz Letter" creator/music industry provocateur Bob Lefsetz, August 24, 2011*

The *Electronic Musician* Poll

## DO YOU THINK THE MUSIC BUSINESS IS BETTER OR WORSE THAN IT WAS IN 2010?



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## Gadget Geek

If Barbie made old-school beats, she would make them on Alkota's TR-808 Flash Drive, which doubles as a miniature replica of the classic Roland drum machine. With 8GB of storage, this stylin' USB drive can hold your demo, for an attention-grabbing promo—or, of course, a bunch of drum dracks. (E-mu fans: An 8GB SP-1200 drive is also available.) $39.99 at alkotabeats.com

# AES 2011

The 131st Audio Engineering Society Convention takes place October 20–23 at the Javits Center in New York City; we sat down with AES Governor (and former President) Jim Anderson to get the scoop on program highlights.

**Why should musicians attend the AES show?**

Today's musicians know that the playing field has changed, and the more entrepreneurial that they can become, the better it will be for them. This might mean having to be a bit more DIY in all aspects of their craft. Going to the AES Convention is a four-day crash course in all things audio: production, equipment, research, education, networking. If you don't have a gig during the daytime of October 20–23, there's no excuse for not attending the AES Convention.

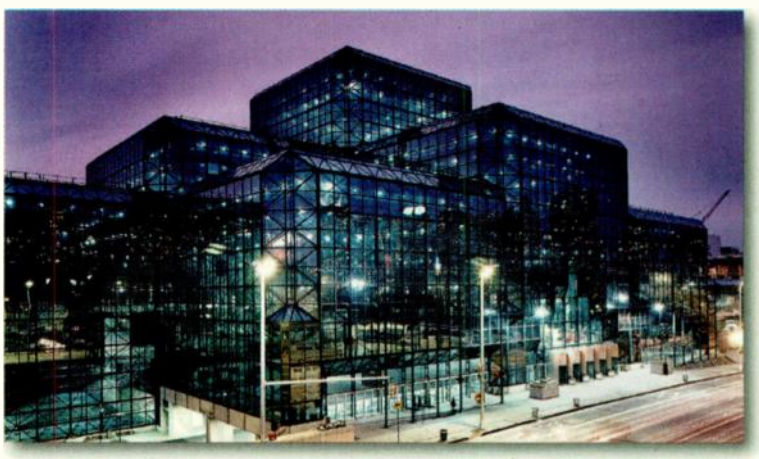
**What are some of this year's program highlights?**

If I were planning to hit some highlights, based on a totally biased, non-scientific look at the convention schedule, here's what I'd try to see:

**On Thursday:** Alex Case's tutorial on delay; Michael Griffin's talk on high-end audio cables; Phil Ramone, Dae, and Tony Bennett talking about the production of Tony's new album *Duets II*, Nick Sansano's panel on "Producing Across Generations"; and Dr. Charles Limb's talk on creativity and the mind at the Opening Ceremonies.

**On Friday:** Kevin Reeves and Andy Sulkow's "Remastering Motown," "Grateful Dead Europe '72," Errol Kolosine's conversation with Ben Folds for "The Best Imitation of Me," Bob Ludwig's Platinum Mastering Panel.

**On Saturday:** "Legends of Nashville Sound," Platinum Engineers," Ashley Kahn's conversation with bassist Ron Carter in the Lunchtime Keynote, the Grammy Soundtable, "Surround Sound Recording" with Morten Lindberg.



**On Sunday:** Ulrike Schwarz's talk on recording Beethoven's 9th live, in stereo and surround; Tom Fine's historical session on the progression of classical recording; "Superstar Sessions" with Tony Visconti.

**What's your favorite part of hosting the AES show in New York City?**

Of course, my favorite part of hosting it in NYC is that we're holding the show in my home territory and, as always, there's no place like home. The face-to-face nature of the convention; seeing old friends, networking, finding out what's new and figuring out what we can do together in the future is the most exciting part of the convention, to me. I look forward to seeing everyone in New York, this October.

*For more information about AES, visit www.aes.org.*



World Radio History

## DIG MY RIG

MY INTEREST in electronic music began in college when I designed a polyphonic music synthesizer as my senior engineering project. Now I make my living as an integrated circuit design engineer, but my passion for digital music remains strong. The main theme in designing my home studio is portability. I have limited space for a studio, so I look for hardware that can provide clean sound while taking up very little space. I use Logic Pro/Studio as my primary mixing application, but Reason, Audio Mulch, Reaktor, Riffworks, and GarageBand come into play at various times.

The software runs on an Apple iMac, which connects to a Line 6 Toneport and a MOTU UltraLite for the audio interfaces. The Toneport is connected to the UltraLite using the S/PDIF interface. My MIDI gear connects to the system using a MOTU MIDI Express 128. For drums, I use a Yamaha DTXpress kit and an Alternate Mode TrapKAT, which gives me a total of 32 active heads. In Logic, the heads are assigned to trigger BFD drum samples. For guitar effects, I rely on a Line 6 Pod Pro, a DigiTech RP2000, and the Tone-port running the Gearbox software. For setting up quick MIDI tracks, I use a YouRock MIDI guitar, a M-Audio Keystation 49e keyboard, and a Starr Labs Ztar.

The great thing about this setup is that I can run it from my MacBook Pro if I want to go remote and record a live session. I can move the whole studio setup in a couple of hours with no heavy lifting!

**Dan Johnson**
**Epicentertech.com**

## YOUR TAKE

### What's your most unusual "alternative" percussion instrument?

Here's our favorite reader response. Gary Sachs wins an Audio-Technica AT2035 microphone. Thanks, Gary!

MY MOST unusual alternative percussion instrument started out life as a piggy bank disguised as a can of motor oil. My eight-year-old daughter Danielle loved to drop any change she could get her hands on into the oil can bank. At some point, we discovered that this oil can full of change was also an excellent training aid for our golden retriever, Cassie; when Cassie was on the verge of getting into mischief, a shake of the can would stop her in her tracks.

One day, I was doing a session in my home studio. I was laying down acoustic drum tracks. I had my headphones cued to the track and turned up fairly loud. When I listened to the playback, I heard extra beats that sounded like a cabasa. Most of the beats were in time with the track, but some were a bit off. I couldn't figure it out until I stepped into the hallway and saw my daughter Danielle, can in hand, chasing Cassie down the hall.

After that, I confiscated the can and re-recorded my can-taminated acoustic drum tracks. Then, for some added che-chink, I laid down a track with my new "Shaker-Oil-Can." It sounded great! That can, full of change, now lives on my studio desk and I have recorded it on at least a dozen tunes.

GARY SACHS
MY_AWESOME_HOME_STUDIO
ANTHEM, AZ

**Send *Electronic Musician* Your Stories, Win Gear!** Talk to us! Share your stories with *Electronic Musician*, and we'll print our favorite in an upcoming issue. And if we choose your letter, you'll win sweet gear! This month, we're giving away an autographed boxed set of Alan Parsons' DVD studio tutorial series, *The Art and Science of Sound Recording*. Contest open to U.S. residents age 18 and over.

THIS MONTH'S QUESTION **WHAT HAS BEEN YOUR MOST PROFOUND LEARNING EXPERIENCE IN THE STUDIO?**

Send your answers to ElectronicMusician@musicplayer.com.



World Radio History

## WHAT IS THE MOST OUTRAGEOUS THING YOU'VE DONE TO PROMOTE YOUR MUSIC?

**Robbie Ryan**
We had an old Oberheim analog sequencer that we picked up for about $10. Our band (Division of Beat) signed it, Joey Beltram signed it, and Moby signed it. We offered it up to the radio station for a charity auction, and in the radio spot, all we heard was, "Cool synthesizer signed by Moby!" Argh!

**Ryan Royals**
Mark Mann spray-painted the side of a van with a gig date and venue on it, parked it in the busiest intersection in town for a week, then took it to the scrapyard and ran it through the car crusher!

**Patrick Lane**
Here's what a friend of mine did: Gave away business cards that said, "Whatever you do, DO NOT let your kids listen to this!" with a download link. The site kicked him off for exceeding bandwidth!

**Daniel Salomón**
I told people it was worth taking the time to listen to. What WAS I thinking?!?

**CORRECTION**
In the September "Craig's List" column, the International MIDI Association was credited as pushing the MIDI spec forward. Although the organization was instrumental at MIDI's inception, Craig Anderton meant to refer to the MIDI Manufacturers Association. He attributes the error to a common condition among journalists called acronym overdose.

## ask!

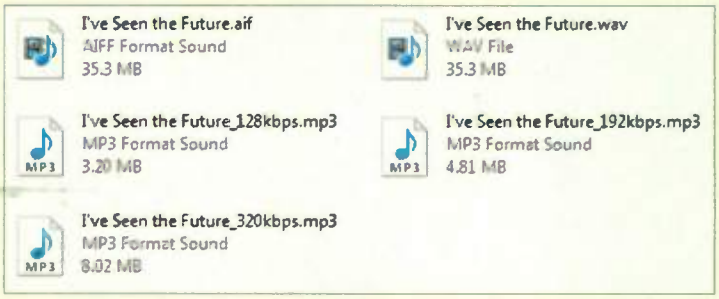
I'm not happy with the mastering on a CD I recorded a few years ago, so I approached a mastering engineer about remastering it. I ripped a 320kbps MP3 from the CD for him to remaster, but he said he preferred to work with WAV files, and asked me to provide him with one. Couldn't a pro mastering engineer convert an MP3 to WAV himself? Do you think this guy isn't legit?

**CARY "V"**
**MILWAUKEE, WI**
VIA EMAIL

Wow . . . there are so many things wrong here, it's hard to know where to start.

The reason why the engineer asked for a WAV file is because when songs are mixed, they're usually mixed down to a WAV or AIFF file. Then, if the artist wants an MP3 copy, that mixed file is converted to MP3. However, the conversion process compromises quality compared to the original file. Being able to work with the original means the engineer can master the highest-quality version of the song, and give you the highest-quality master as a result. (Remember the old computer-related maxim, "garbage in, garbage out.")

But in this case, that's the least of your problems because you were providing a song that had already been mastered, and in your opinion, badly. This is kind of like giving a chef a steak that's so well-done it's burned to a crisp, and asking him to please make it medium rare. That nasty mastering is baked into the cut, and expecting a mastering engineer to be able to undo it is asking a lot. Maybe there can be a slight improvement, but don't expect much.




Also, there's a misconception among some people that converting an MP3 file to the WAV or AIFF format will restore the quality lost during the MP3 conversion process. MP3 files supposedly use a "data compression" algorithm, but it's really a "data omission" algorithm that throws away part of the audio it deems unnecessary. (That's why the file size is smaller.) Once that audio is deleted, you can never get it back. So while you can convert MP3 to WAV, all you'll have is a faithful reproduction of the MP3 format file—not the same level of quality as the original.

Find a copy of the original mix, without any added dynamics or EQ processing, and you'll have a happy mastering engineer—and you'll be a happier client.

THE EDITORS

Compared to the WAV and AIFF files (35.3MB), the 320kbps MP3 file throws away more than three-quarters of the audio, and the 128kbps file reduces the audio file to less than 10% of its original, uncompressed size. It's actually astonishing that MP3s don't sound worse than they do.

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

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## THE DRAMA OF RIHANNA

OAKLAND, CA
JUNE 30, 2011

R&B superstar Rihanna has spent much of the past six months on the road, taking her Loud tour to arenas throughout Europe and North and South America. Her fourth concert tour (supporting her blockbuster album of the same name) is her biggest yet, with dates in 20 countries, including a first-time hometown stop in Barbados. During the dizzying two-hour stage spectacle, the singer powers through 24 continuous hits, amid a blizzard of glitter and neon, backed by a band led by the flashy guitar stylings of Nuno Bettencourt. "We're creating an incredible ride with this tour," Rihanna has said. "I know my fans are ready to get loud!"

PHOTOGRAPH BY STEVE JENNINGS

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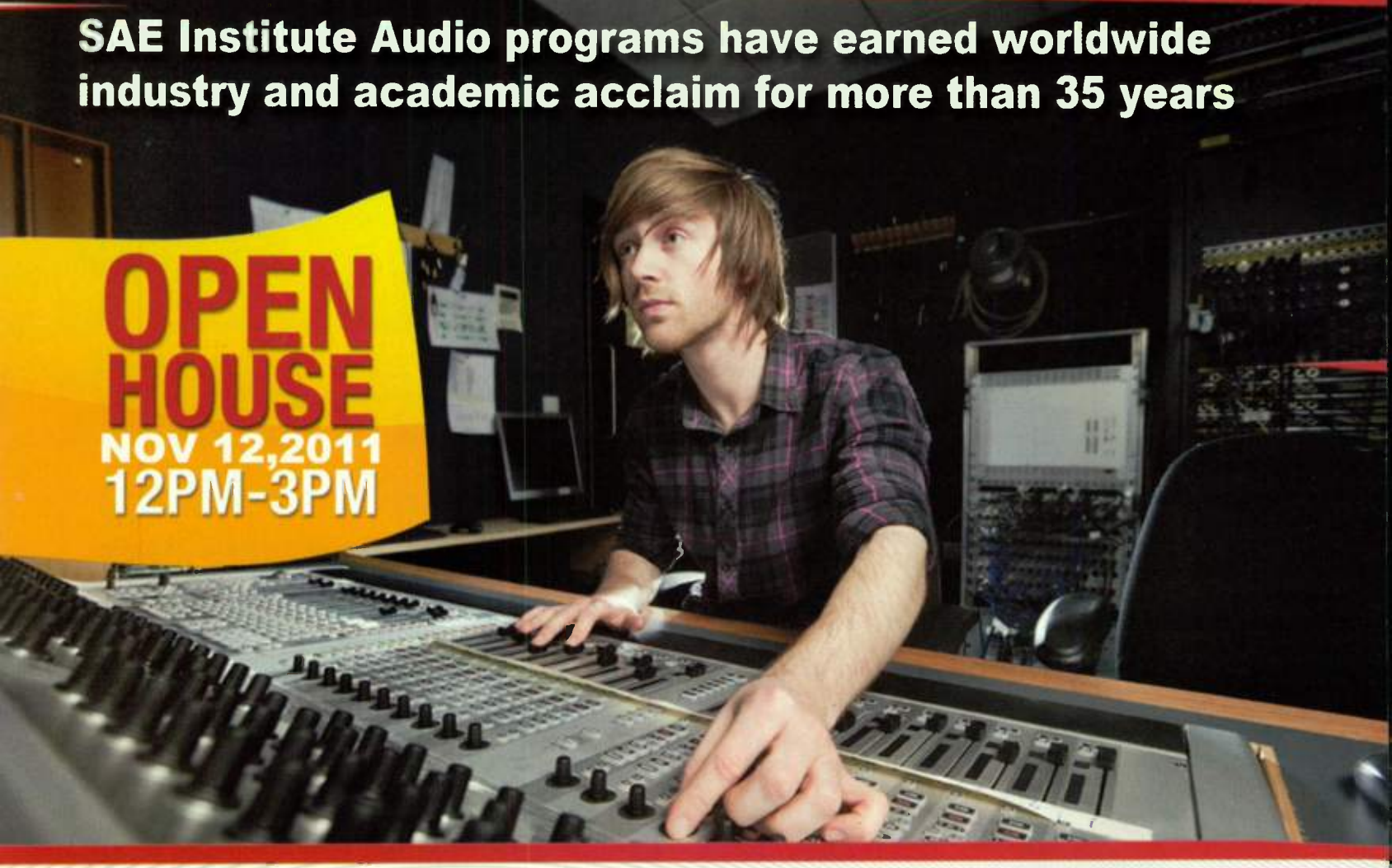

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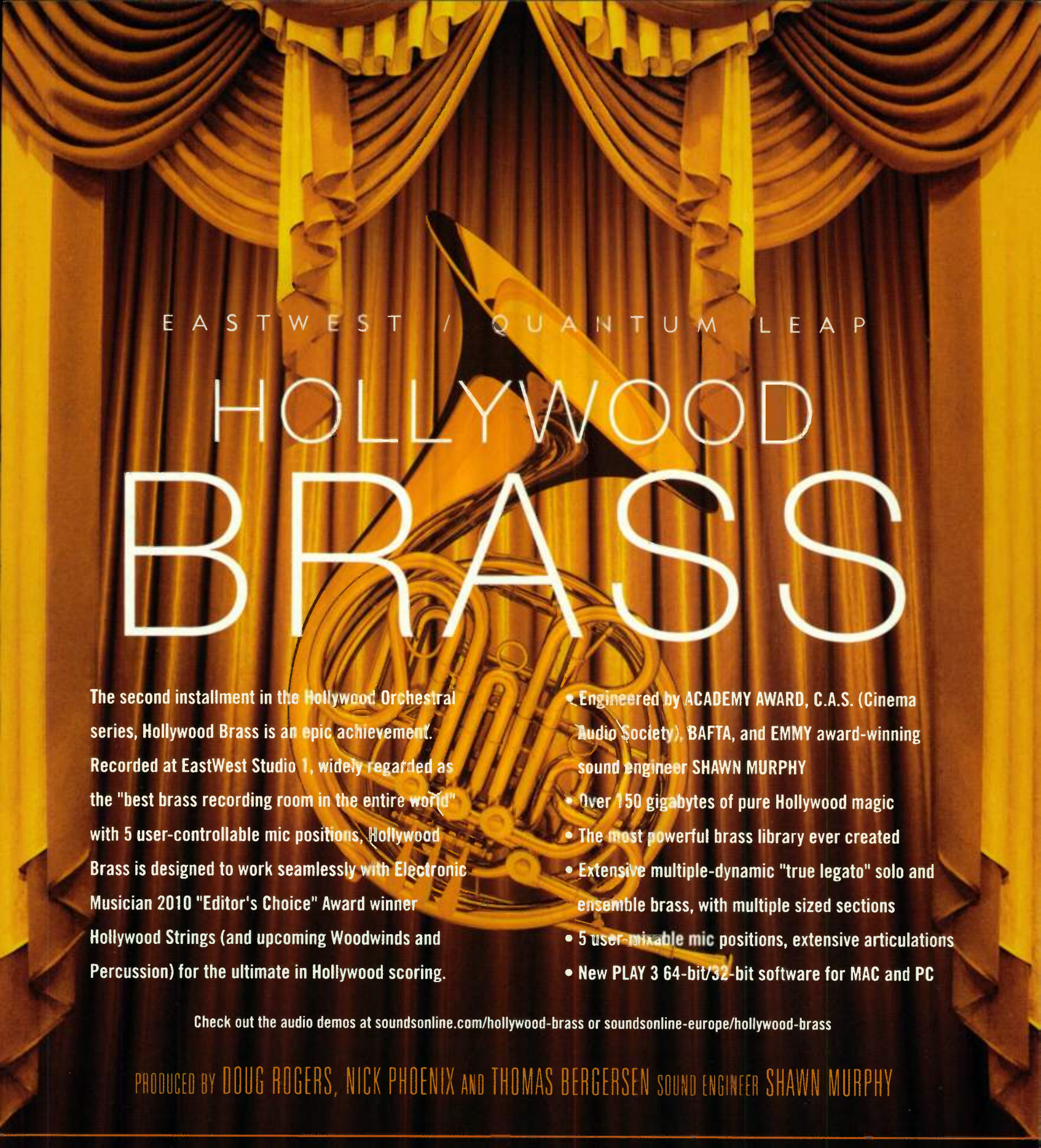


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# MASTODON

**The prog-metal monsters fight personal demons, push beyond their comfort zone, and emerge with a "pants-off, dance-off" rock record on steroids**

BY KEN MICALLEF

Cindy Frey



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Mastodon (left to right)—Brent Hinds, Brann Dailor, Troy Sanders, and Bill Kelliher.



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"Because the riffs and arrangements were new, there was less attachment," Elizondo says. "It made it all much stronger. While we were recording drums, we were also coming up with arrangements. Things would change. Some of it was guesswork because the melodies and lyrics weren't always written."

How did Elizondo work with Brent Hinds, one of the wildest cards and most inspired men in metal? "You just have to be open for anything to fly out of Brent," he responds. "Brent might wake up one day and say, 'That's not right.' Something will go off and he can't sleep until that is addressed. With that comes some of the most unbelievable guitar playing. He brings a heavy weight to his riffs, as well as more of a bluegrass approach to how he picks. He's very emotional; he just reacts to things, and often at unexpected moments. You have to be willing to roll."

*Crack The Skye* reveled in Hinds and Kelliher's doom-laden guitars, but *The Hunter* is another level of guitar-drenched, sky-splitting, Harley-belching guitar grandeur. Elizondo brought many vintage amps to Doppler; Hinds' foot pedals and careful layering also played a role.

"It starts with the player and his approach," Elizondo says. "Brent has a crazy concoction of pedals, some custom-made. Half of them work, half of them don't. But something magically happens when Brent, Bill, and Troy join to form one awesome riff. We spent a lot time with '80s Marshall JCM 800s and Hi-Watts. Our idea was to make a classic rock-sounding record on steroids. It's the type of riffs they write, then Brann's drumming makes the riffs sound bigger and deeper, then the combination of those four guys. The secret is them, not a pedal or amp.

"We didn't overdo the layering," he continues. "We wanted to make the biggest sound possible and not layer something four times. That always makes things sound smaller. You think it's louder, but when you layer too much, there's no room for it to breathe and it sounds smaller. So I went for one or two guitars that were the hugest and pushing the most air."

Drums pushed the most air at Sound City. Dailor played Tama Star Classic Bubinga, 1968 Grestch, and 1972 Ludwig Stainless Steel drum kits (the latter on "The Hunter"), augmented by '80s Tama snare drums comprised of wood and brass shells, Tama Starphonic and Star Classic snares, and a Noble and Cooley model. Dailor's setup consisted of three mounted toms (bottom heads removed); one floor tom; and 22-, 25-, and 26-inch bass drums. Dailor's Meinl cymbals were standard.

"We spent five days tracking drums, nothing more than five takes per song," Dailor says. "Some songs were more developed than others; other songs were set in stone and we knocked them out. In Atlanta I would go to the practice space and get ready, athletically—just play and play to make sure I had the stamina to record for ten hours. I was getting familiar with the parts and the songs, and how they might go."

Removing the tom's bottom heads created a punch that isn't possible with double-headed drums. (Consider the concert tom rage of the 1970s, from ELP's Carl Palmer to Santana's Graham Lear.) "It felt the same; it just sounded way more awesome to have the bottom heads off," Dailor comments. "It reminded me of when I was a kid; we always removed the bottom heads. It's my favorite tom sound by far. It's as close to Phil Collins barking toms that we could get, and that's what I wanted. I couldn't help but do those rolls all the way across the toms. Everyone would stop and look. I was nerding out!"

Using the Neve 8058's mic pres and EQs, Hawkins approached *The Hunter* like a quasi-pop record. He

Cindy Frey



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"The whole process was about pushing Mastodon out of their comfort zone . . . a certain spontaneity came from not having every drum fill or guitar riff worked out." —producer Mike Elizondo

wanted the band to sound clear, from guitars to vocals to drums. "I wanted Mastodon to sound like Mastodon, while updating them to sound a little more modern, a little more exciting," he says. "I processed different instruments to sound more like a pop rock record—hopefully to make it a little clearer than their past records, maybe just a little bit more extreme. I treated the vocals like I would for a pop record, processed them out front so you can hear every little detail.

"I miked the kick drum with a Sennheiser 421 on the inside of the shell, and a [Neumann] FET 47 on the outside, always changing the placement," Hawkins continues. "A Yamaha NS10 woofer on the bass drum to add a little boom. Every song, we set up something different. We change drums, we change how the microphones are set up, just to give each song its own sound. We never leave mics in one spot for the whole record. We might start at the same basic spot but we move and change everything."

For the snare drum, Hawkins aimed a Shure SM57 across the snare, pointed toward the center of the head, "placed almost horizontally to the head. Then an [AKG] 451 on the bottom head pointed toward the metal snares," he explains. "For toms, a combination of [Sennheiser MD] 421s on the floor toms and [AKG] 414s on the racks, occasionally on the floor toms. The 414s are easy to get into that spot, and they're great for picking up the top and the bottom of the spectrum. You get just the right amount of attack without having to EQ too much."

A pair of Wunder Audio CM12s functioned as overheads, placed three feet above the cymbals pointed straight down, one pointed at the hi-hat, one above the ride area, "about four feet apart depending on the kit," Hawkins explains. "I use those for the bulk of the cymbal information and some of the body of the toms, and the kick and snare comes through it. Room mics were Coles 4038s, which I put behind the drummer pointed at the kit like drummer's ears. That almost always works. And also a pair of [Neumann] U67s for close room mics, ten feet away from the kit. I avoid putting them at cymbal height, because if the cymbal moves at all you get weird phasing effects. And another pair of [Neumann] U87s as far away as possible, to capture the energy bouncing around the room. I put the mics up really high and far back, and heavily compressed and limited them with Neve 2254s."

Hawkins likes to record with EQ and compression while tracking, but not so much in the mix stage. "Drums are not very compressed, just parallel compression," he explains. "I would send all the drums to a compressor [a Chandler TG1] and really smash it. And run that alongside the clean drums. That gives you the natural dynamics that are happening along with the tracks, but you get the blend of that compressed, smashed sound. It brings out the room sound, the excitement and the energy; it makes things feel bigger than life."

Troy Sanders' bass glue was the final part of the process, the pick player adding his flava and flow after guitars and drums were nailed and set in stone. Sanders played Elizondo's axes, including a 1973 Rickenbacker and a 1976 Gibson Thunderbird, and his own Warwick Streamer Stage II. Bass amps included TC Electronic BlackSmith for a "clean, round tone," a JCM Marshall guitar amp for "a grittier sound." Orange 4x10, Ampeg 8x10, and Mesa Boogie 2x15 cabinets provided that sweet plumpness. Hawkins miked bass cabs with an EV RE20, placed six inches from the center of the cone, running the signal through an API 4312 mic pre. "Mike recommended the T-Bird for the rocking warmth of the slower tunes and the Rick for the driving songs," Sanders explains. "Its heavier tone put a fit on the rough edges of the bass cuts."

Being the last man to track was something new for Sanders. He found the experience rewarding and ultimately confidence-nurturing. "It was really strange," he admits. "I enjoyed it, because I already knew what the drums were doing, and what the finished sounds of the guitars were. I was more confident in sticking to my bass guns in having the room to move around. Ultimately, I played fewer notes. That is Mike's preference in tracking, and I really enjoyed that. My job is to bring forth the rock!"

Hawkins augmented Doppler's SSL 4000 board with two racks of outboard gear, everything sent to Pro Tools. One especially striking mix element is *The Hunter's* glowing space-rock atmospherics. Like Hawkwind or Harmonia, *The Hunter* soars on a dark cloud of celestial good vibes and black-hole possibilities. "I'm using mostly plug-ins for that effect," Hawkins reveals. "Lots of SoundToys EchoBoy, lots of UA EMT 140 [classic plate reverb plug-ins]. Sometimes the plate reverb was on the vocals, but a lot of the time it sounds like reverb, but it's actually a delay with a lot of feedback. Probably 90 percent of it is slap delays and quarter- and dotted-eighth- and half-note delays. I automate them to come in and out at certain times. Other times it disappears, so the focus is on the song. We also used Brent's pedals on the drums, or we'd set up an SM57 in the corner of the room and run it through a [Monster Effects] Mastortion [Overdrive] pedal."

Along with Elizondo's guitar layering approach, Hawkins' careful mic choice and placement created the massive guitar mountains of *The Hunter*. Unlike most engineers, Hawkins says it's the amps, not the guitars, that make the sound. "I used a 421 and an SM57 pretty close to dead center on the cone, with the 421 slightly off-center," he explains. "Then I'd go to an API 4312 preamp, sum the two mics together, and go to an API 550A EQ. Following the 550A, I'd go to an [Empirical Labs]



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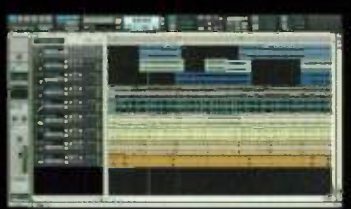

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Wilco (left to right)—Pat Sansone, Mikael Jorgensen, Jeff Tweedy, Nels Cline, Glenn Kotche, and John Stirratt.

# LISTEN

# WILCO

## Using the studio as an instrument

BY BARBARA SCHULTZ

WILCO SETS the gold standard for musicians working on their own terms. With their studio—The Loft, in Chicago—and a new proprietary indie label, dBpm Records, this eclectic rock band is free to reinvent themselves every time they record. "Every album is different. I feel like our fans demand it," says keyboardist/synth expert Mikael Jorgensen.

The band's latest, *The Whole Love*, is an adventurous confluence of tunes and sounds. Produced by vocalist/frontman Jeff Tweedy, multi-instrumentalist Patrick Sansone, and engineer Tom Schick, the record is bookended by two epic, multi-layered compositions; Track 1 is "Art of Almost," a seven-minute symphony of captured moments, and virtual and real instrumentation. The last song, "One Sunday Morning (Song for Jane Smiley's Boyfriend)," is a 12-minute, subtly textured acoustic odyssey. And between these two extraordinary creations are 10 somewhat more standard songs. All stemmed from



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The band hashes out musical ideas at The Loft.

"Every album is different. I feel like our fans demand it." —Mikael Jorgensen

Tweedy and the band's ideas and jams, captured by Schick in The Loft.

"Every record has its own unique starting place," says Sansone. "This particular time, when we first got together, there was a handful of song ideas floating around—some things that Jeff had that were still a bit nebulous. There weren't a lot of completed songs top to bottom, so it was a process of having our instruments set up in our studio, sitting around very closely arranged together, and having Jeff throw out whatever he's got."

This was Schick's first session with Wilco, though he had previously recorded bandmembers' side projects, including the Grammy-winning album Tweedy produced for Mavis Staples, *You Are Not Alone*. "The main thing for me was to make sure every instrument option has a microphone on it so that any ideas can be recorded right away," he says. "I start with minimal miking techniques and, as it progresses, add more mics, but the main thing is to make sure they can walk into the room and sit down at any instrument—because they all play so many—and be able to play whatever they want and know it will be recorded."

Flexibility seemed to be the order of the day. Song ideas morphed and evolved over the course of the sessions, and instrumentation was ever-changing, especially where Jorgensen and his growing rig of keyboards and synths was concerned. "When we started working on this back about a year ago, I told Jeff I would like to impose the limitation that I am not going to start on piano on things, which has been kind of the normal working regime. The last two records were similar in that



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Mikael Jorgensen and his ever-expanding synth rig.

"The main thing is to make sure they can walk into the room and sit down at any instrument and be able to play whatever they want and know it will be recorded."
—Tom Schick

I would play piano, and then I would do a little bit of synthesizer technology confusion. This time around, I said I want to start there [with synths], and then if you need piano at a certain point, then of course I'll add that. It was really liberating."

Sansone says that working on *The Whole Love*, the band used "the studio as instrument" more effectively than they'd ever done before, and the opening song, "Art of Almost," is a great representation of this: "That one was definitely a studio construction over a span of time," Sansone says. "The first version of that song that we did was kind of like a slow, late-night soul groove, which we all really liked, but it eventually took on many different forms.

"The beginning of the track is the sound of hard drives starting up," Sansone continues. "We actually put a contact mic on some external hard drives and recorded them as they were starting up. That's the sound of the whirring that you hear. There's also the sound of us un-taping the contact mics from the hard drives—we recorded the tape being pulled off one of the hard drives. We just thought it sounded cool."

The whirring and un-taping are followed by "strings": "The string sounds are from our Mellotron, which I played. We have a beautiful Mellotron Mark 7, which is one of the new models built by Markus Resch from Stockholm," Sansone says.

Meanwhile, Jorgensen invented the synth groove that grounds and drives the track. "We were using timecode click track on a computer," explains the man whose bandmates call him "Doctor Science." "They did a take of the band doing the song, and then I came up with this arpeggiated, synth-based pattern. I had Tom send out MIDI clock over the wireless network. I was running Ableton Live and using an arpeggiator in Ableton Live to then control an ARP 2600 synthesizer, so he could play the song back and I could add time-based effects and sounds. Once we had the system in place, we just kept layering. Making this record—this is what it should be like all the time. Every day, you can't wait to get back into the studio."

One of Sansone's favorite moments was creating the string arrangement for the moody, Pink Floyd-influenced "Black Moon." Sansone wrote an arrangement for a traditional string quartet, but the players he hired had conflicting schedules. Schick recorded the parts piece by piece, using just one close mic and one room mic—a Neumann U47 and U49, respectively; one musician tracked the violins and then viola part, and another added cello. The pieces were then blended and tripled for a powerful effect. "This was the first time I've done a string arrangement for Wilco," Sansone says. "I was really proud of the way it turned out."

In general, so many song ideas were flying fast and furious during the sessions that early on, Schick abandoned the group's original idea of recording to tape, and decided that Pro Tools would be a better device to handle the



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"Making this record—this is what it should be like all the time. Every day, you can't wait to get back into the studio."
—Mikael Jorgensen

vast amount of tracks and edits that would be needed. "I originally set up as if we were going to tape," Schick says. "I started out trying to limit the amount of microphones that were used, because I wanted to make sure we were able to fit it all down to 24 tracks, with a few left over for overdubs and fixes. We had everything going through the tape machine and then into Pro Tools, with the idea that once we were ready to do a 'take,' we would hit Record on the tape machine, and Pro Tools would be a safety. We kept that setup the whole time, but we only hit Record a couple of times; creatively, it seemed to make the most sense just to keep going."

There was such a wealth of material, in fact, that for a while the bandmembers thought they might actually be making two albums. "Early on, it seemed like there were a few different personalities to what we were doing," Sansone recalls. "There were these experimental, longer things and some things that were a little more rock-oriented and a little more abrasive, and other things that were more like the moody, folky, acoustic-based personality of the band."

However, once they hit on the idea of the epic bookends, the tone and flow of the record fell into place. During the mix, Tweedy, Sansone, and Schick fine-tuned the tracks, pulling away some of the intricate layers to reveal more open, focused songs.

"I think, considering how much work we put into it and all the different elements, it doesn't seem crowded overall," Jorgensen observes. "There are dense moments, but then things will open up; I know Patrick worked a long time carving out the stuff that we all laid down; they did a really good job of 'curating.'"

"We have a few luxuries with this band," Sansone says. "One is that we have our own studio with lots of great instruments and lots of great choices of things to play with. We also have the luxury of having this particular group of musicians with a lot of flexibility and a lot of adaptability. It means we have the luxury of *not* having a set formula or approach every time we track a song." ■

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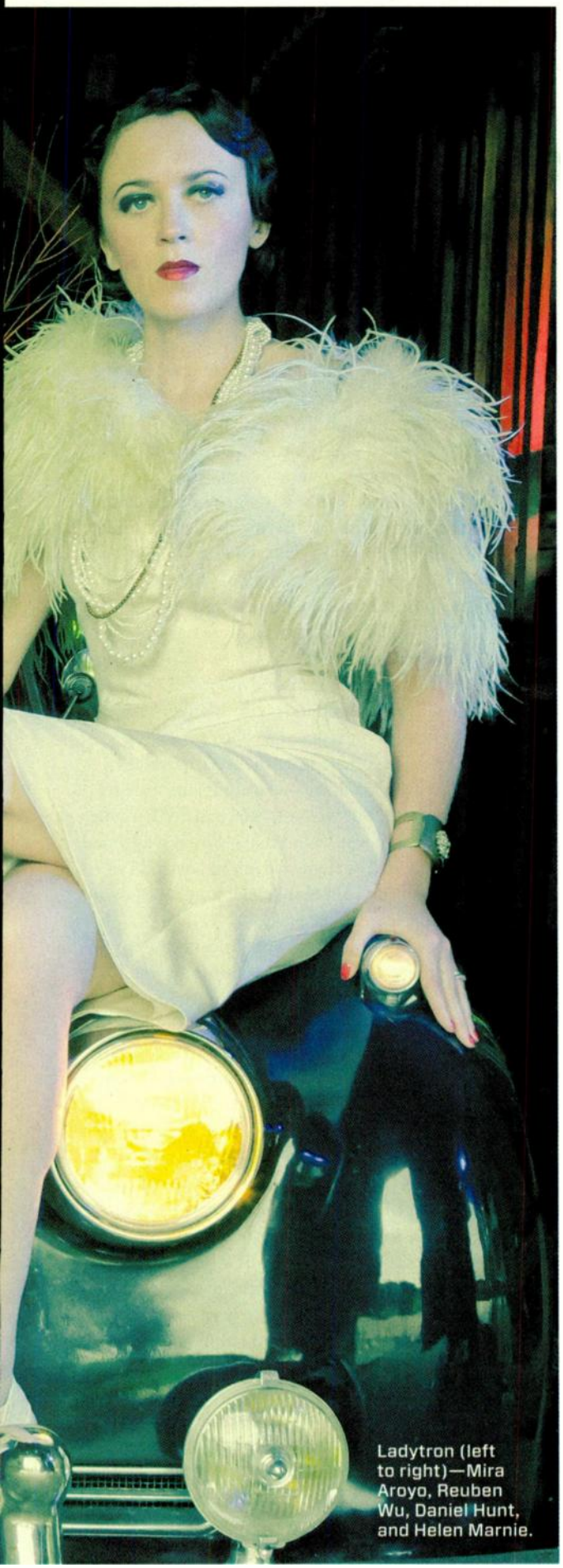

Ladytron (left to right)—Mira Aroyo, Reuben Wu, Daniel Hunt, and Helen Marnie.

# LADYTRON

## Infusing cold synths with guitar fire

**BY KYLEE SWENSON**

IT MAKES absolute sense that Daniel Hunt's "favorite record ever" is My Bloody Valentine's 1991 album *Loveless*. Aside from the obvious fact that Hunt's band is also a quartet comprised of two men and two women, Ladytron is like MBV for the electronic set: dense layers of synths rather than a shoegaze-y wall of guitars.

"I grew up listening to music that I could not fully understand," Hunt says. "I like this kind of swell where you hear certain things and you're not sure what they are, and you're not sure what is connected to what."

That isn't to say that Ladytron is creating an amorphous sonic mess in the studio. Ten years after releasing their debut album, *604*, Ladytron has learned a thing or two about maximizing space in the mix. With the band's fifth full-length record, *Gravity the Seducer*, Hunt says they're more cognizant of when to say when.

"I think we're instinctively preempting those problems in the mix by not throwing too many bass-y mono synths and layers down there," he says. "We're just a bit more aware of what's required than we used to be. With the first and second records, the mix engineer would be like, 'You know, you put seven basses on here.' And we'd go, 'Okay, well it's your job. You just make it work!' We're a bit more considerate now."

While Ladytron dove into recording their previous two albums immediately after months on the road—thus creating an album that would easily translate to the stage—the band took a different approach to *Gravity the Seducer*. "We probably had about a year off from the road in which to write and prepare and had a clearer idea of what we wanted," Hunt says. "It was refreshing to make a record without thinking about the accompanying tour. We didn't care about it, so I think the record sounds freer and more coherent as a result."

One of the group's sonic schemes was to create a cinematic feel by using signature sounds throughout the album, including Sequential Circuits Pro-One, Buchla, Mellotron/Chamberlin, Conn, and Crumar Stratus keyboards. "We consciously tried to restrict ourselves to a sonic palette for the record," Hunt says.



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"With the first and second records, the mix engineer would be like, 'You know, you put seven basses on here.' And we'd go, 'Okay, well it's your job. You just make it work!' We're a bit more considerate now."
—Daniel Hunt

**More Online**
Watch "White Elephant" from *Gravity the Seducer*.
emusician.com/november2011

"We got to a point with every track and then went, 'What's this missing? Okay, we haven't put the Conn organ on it yet.' That organ had this really beautiful harmonic setting on it. Once we started using that—I think we used it on 'White Elephant' initially—it ended up on almost every song, if not every song. But unfortunately, we couldn't take it away with us. It's still stuck there in the countryside."

Although Ladytron's synth palette was limited, there was still no shortage of layers. Fortunately, it wasn't too much for co-producer Barny Barnicott to handle. He carved out space and attended to detail without overdosing on EQ, all the while making the album sound great on hi-fi systems *and* crappy laptop speakers.

"I tend to balance very quietly on medium speakers and then switch to a small portable radio for finishing off [the mix]," Barnicott says. "If you get the balance right like that without reaching for your EQ too much, a mix tends to work well across all platforms."

While Barnicott's methods are sophisticated, Hunt suspects that other producers sometimes resort to gimmicks to get a mix to sound right through lo-fi sound systems. "I have a theory that the prevalence of square waves and Auto-Tune in pop music these days is because people are listening to their music through their laptop speakers," Hunt says. "I've got no scientific evidence to back this up, but that's my instinct."

Meanwhile, Ladytron avoids using über-artificial plug-in processing on vocals and synths. Hunt (like his favorite band, MBV) is a fan of using lots of guitar pedals. In fact, he used to play mostly guitar at gigs, but more recently has played and recorded synths—which range on the album from deep, round bass to high, plinking bells—through his guitar pedalboard. "On the records, it made sense for me to play guitar for a while, and where certain songs didn't have guitar before, I actually added it live, and it enhanced what we'd done on the record," he says.

"But this time, we actually went back and added this old Italian polysynth, a Crumar Stratus, which has quite a nice Farisa-y organ sound on it. So I was playing my guitar parts on the keyboard and putting it through my pedalboard, and it sounded surprisingly good. It's going through an overdrive, delay, tremolo, and also an Electro-Harmonix POG Polyphonic Octave Generator. We also used a lot of this Empress Superdelay, which is like an octave delay, and it has some really beautiful effects that I haven't been able to recreate with anything else. It's just instant magic."

One particularly catchy riff that begins midway through "White Gold" sounds like palm-muted guitar but was actually created with a set of chromatic plastic tubes called Boomwhackers. "I saw them being used at my daughter's nursery," Barnicott says. "I think Reuben [Wu] and I had a couple of them, each in the right key, and came up with a rhythm that worked with the tune. Then the engineer, Alex [Miller], processed it quite heavily through the desk."

"It kind of reminds me of *Miami Vice* or something," Hunt adds with a laugh. "We physically constructed a riff by arranging those tubes and hitting them with beaters. I don't even think we had a complete scale to work with. But we didn't have to do that much editing. We just had to make sure it was timed enough, and perhaps we might have had to pitch-shift one note in [Celemony] Melodyne to make it work properly."

For an album with no guitars, the members of Ladytron certainly have a lot of guitar-related tricks up their sleeves. To add depth to synths and vocals, the band also processed parts through a Holy Grail reverb pedal, into a guitar amp, and then miked up the room about 10 feet away from the amp. "We ended up taking existing parts, reprocessing them quite a few times, and then bringing them in and out of the mix, so the tunes have movement to them while still having a simple arrangement," Barnicott says. "So we put a lot of the synths and vocals through reverbs and amps and recorded the room to give everything more of a 3-D sound and some natural distortion and grit."

The Holy Grail/amp combo is one of Hunt's favorites. "It's a really kind of glacial reverb," Hunt says. "I'm a really big fan of [legendary British producer] Joe Meek, so often when I'm working on something, it's like, 'What would Joe Meek do?' I draw the line at shooting my landlady, though." ■



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# Modeselektor

## Berlin's "undeepest" duo crafts synth-centric, pitch-bent sound design on *Monkeytown*

BY TONY WARE

Modeselektor—Sebastian Szary (left) and Gernot Bronsert.

GERNOT BRONSERT and Sebastian Szary sit in the back of a tour bus, smelling of stale smoke and fresh sweat. The Berlin-born-and-bred duo, best known as Modeselektor, has just completed a mid-afternoon performance on Summer 2011's IDentity Festival, making a sweltering Northern Virginia crowd go ape to cocky, engorged bass.

The showcase—full of digital irreverence and analog flippancy—does justice to *Monkeytown*, the group's upcoming third full-length and the name of the record label/booking agency Modeselektor has formed for its release. Passing laptops, a bag of commandeered cables, a sack of Marlboros, and a bunch of bananas back and forth, the two decompress in their mobile lounge and explain what it takes to be "maybe the undeepest act from Berlin, but probably the most deep act on this festival," says Bronsert.

Rave-enriched Modeselektor doesn't represent profoundly emotional, analytically-minded composition, but still follows in a Berlin tradition of low-end-obsessed outlaw sound scientists while exploring a more tweaked, cheeky reality. This gig, which delves deeper into undulating frequencies and fluctuating tempos than the rest of the electro-prog-house tour's big room bliss aesthetic, is what Bronsert declares a DJ set rather than a live performance.

Onstage, a laptop runs Native Instruments' Traktor Pro 2 through a Kontrol S4, a Roland TR-909 Rhythm Composer synced to Traktor's clock, a Korg Monotron, and some distortion pedals—"just what fits in two bags," says Szary. In a way, these selections embody some aspect of everything that makes Modeselektor's *Monkeytown*, which was compiled in a relatively condensed 10 weeks.

The duo uses several software products, but has a very close relationship with fellow Berliners Native Instruments; Bronsert recounts how several new tracks were sketched in transit with Reaktor, Massive, FM8, and especially the additive synthesizer Razor. (The track "Evil Twin" is a prime example.) They also lament leaving Germany prior to the public unveiling of Native Instruments' scaled-down, bus-powered Traktor Kontrol S2 2.1-channel system and Maschine Mikro compact clip trigger controller, as they covet the portability of components whose full-sized siblings are integral to studio sequencing and impulse-driven performing.

Physical hardware, meanwhile, has played a renewed role in *Monkeytown*. Prior to the album, Modeselektor took possession of a former film sync studio previously maintained by minimal techno composer/DJ Daniel Bell. "It's the first good space we've had; the other ones were like band rehearsal studios, very smelly and dirty," says Bronsert. With the help of acousticians and Helmholz resonators, Modeselektor cleared a frequency hole and centered the space around Logic Pro, the RME Fireface 800 interface, API lunchbox preamps, and an Allen&Heath WZ 16:2 DX mixing board.

Most importantly, Modeselektor became re-acquainted with 20 boxes of accumulated MIDI gear, such as the Clavia Nord Lead 1, the Korg MS-10 (to reinforce sub-bass pressure, creatively detuned on "Blue Clouds"), a rare, original Electro-Harmonix vocoder (on "Green Light Go"), as well as one of every Roland drum machine. ("Except one, the 727 conga station," reflects Szary.) Additional synths and outboard gear from Boss, Casio, Hofner, Doepfer, Moog, Alesis, dbx, and Yamaha pepper the album. Four different monitor setups—Genelec 1038A, Genelec 8040A, Genelec 8020A, and Mackie HR824—plus four headphone types assure all the blinking LEDs add up to pitch-bent sound design that never loses track of the club's arterial insistency. ■

Ben De Biel

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Check out pics of Modeselektor onstage at the IDentity Fest.
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Avenged Sevenfold vocalist M. Shadows looks out on the deeply devoted A7X fans, one of whom holds up a sign in tribute to James "the Rev" Sullivan, the band's original drummer who passed away during preproduction of the band's latest full-length, *Nightmare*. Wireless is the band's standard, with backline set behind extensive set pieces, Avenged Sevenfold puts on a pyrotechnics-augmented show with emo-tinged, New Wave of British Heavy Metal-style ghoulish imagery.

The crowd drinks in the main-stage energy as Escape the Fate opens up a day of sonic squalls that refused to be dampened by a night of inclement weather.

Avenged Sevenfold rhythm guitarist Zacky Vengeance (front) and lead guitarist Synyster Gates pool together the raw power split between their multiple amps to cover an aggressive spectrum that mixes with the band's cinematic orchestrations.

Photos by Strati Hovartos



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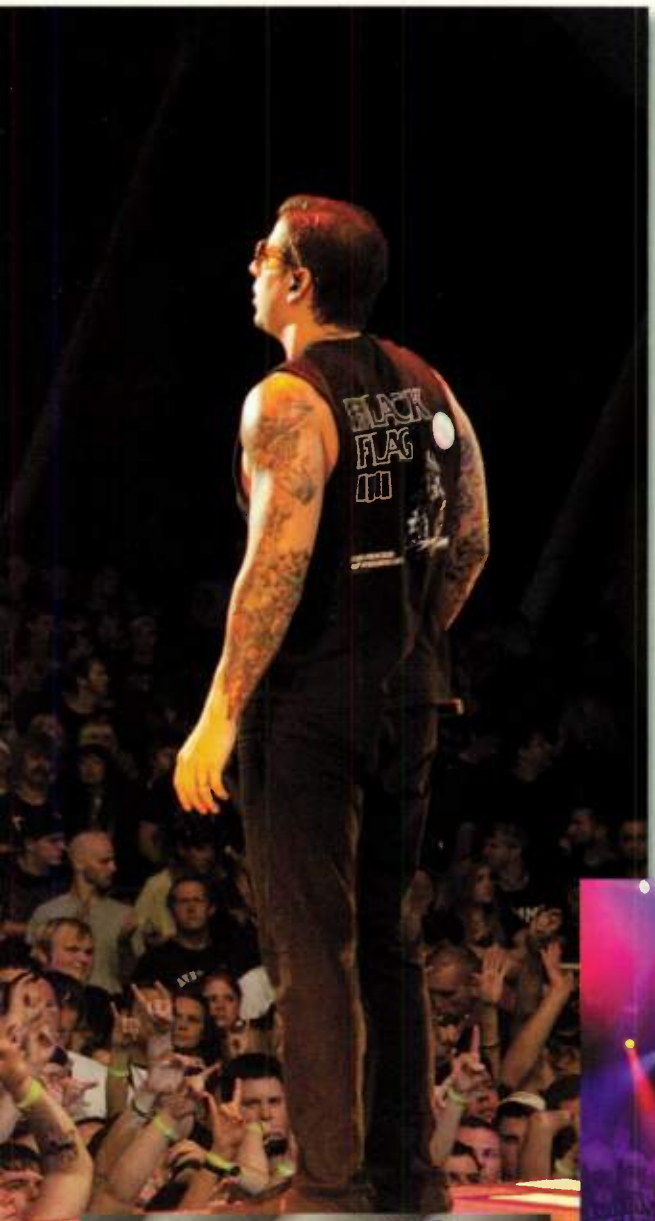
ROCKSTAR ENERGY DRINK UPROAR FESTIVAL

# 2011 Rock on the Road

BY TONY WARE

Now in its second year, the Rockstar Energy Drink UPROAR Festival has growled its way across the country this fall, a showcase of nine up-and-coming and established bands pushing forward progressive thrash and passionate hard rock. Returning to headline is Huntington Beach, Calif.'s Avenged Sevenfold, a band heading into its second decade as an example of new heavy music's theatrical dexterity. Here are some highlights from the road.



Jason James, bassist for Welsh quartet Bullet for My Valentine, pauses dramatically while shredding more than his jeans. His band worked hard to avoid overloading its latest album, *Fever*, with extraneous rapid-fire riffs, instead leaving pockets for heavy grooves.

Escape the Fate vocalist Ronnie Radke and bassist Max Green lock into one of the Las Vegas post-hardcore band's tautly polished pinions of shrieking thrash, promoting the band's eponymous 2010 full-length.

Lajon Witherspoon, lead singer of Atlanta, Ga.'s Sevendust, commands the crowd at the Best Buy Music Gear Stage, which his band is headlining following a recent tour opening slot for Avenged Sevenfold. The band—touring on 2010's *Cold Day Memory*, the first album since 2003 to include guitarist Clint Lowery—works hard to leave the crowd with searing impressions.



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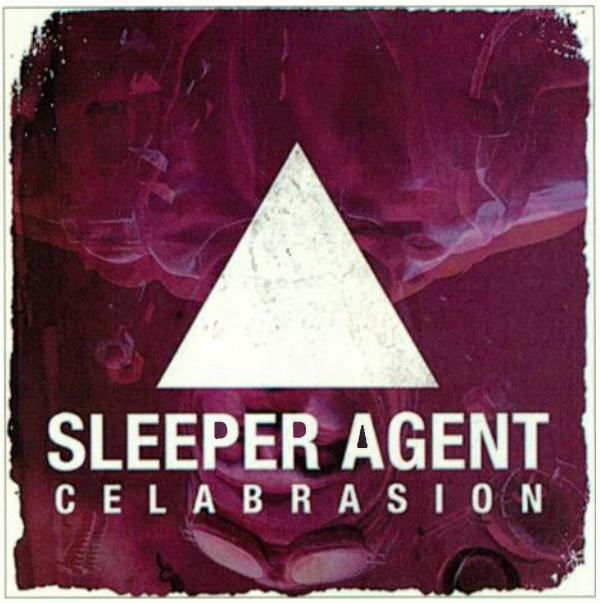



## Sleeper Agent

***Celebrasion***

MOM + POP

**REMEMBER THE** first time you heard the Ramones? Or Cheap Trick? Or the sadly forgotten Elastica? These bands shared similar DNA: jolt-the-senses pop hooks, raggedy instrumental bravado, and a love of all things nervous and adenoidal. Bowling Green's Sleeper Agent captures all the gusto of a 20-year-old spazzed out on a crate of Red Bull, but they've got the talent to keep the interest meter pegged. Eighteen-year-old female singer Alex Kandel super-squeals the rockin' compositions of guitarist Tony Smith, while the band slams the songs like baboons giving birth.

**KEN MICALLEF**

### M83

***Hurry Up, We're Dreaming***

MUTE

*Saturdays=Youth*, the 2008 full-length from Anthony Gonzalez, was a vertical album. It was full of dense synth-pop hymnals, ascendant vignettes paying homage to John Hughes' era of wistful, flushed soundtracking. This double-album follow-up is more horizontal, featuring sawtooth crescendos and lush melodic interludes existing on an oscillating plane of reverb-soaked progressions. It's a pneumatic collection of transportive passages, discrete reflections punctuated by congregations of blissful groove.

**TONY WARE**

### HTRK

***Work (Work, Work)***

GHOSTLY INTERNATIONAL

With the tragic suicide last year of bassist Sean Stewart, the Hate Rock Trio, or HTRK, are down to two, making this collection of ten songs, tracked in Berlin and London between 2006 and 2010, more of a tribute than an experiment in catharsis. Texturally, though, the music throbs with a dark, dystopian temper—a wall of processed bass, guitar, and sparse machine beats that accentuates the macabre range of singer Jonnine Standish, especially on "Slo Glo" and the creepy "Poison."

**BILL MURPHY**

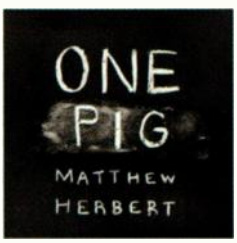
### Justice

***Audio, Video, Disco***

ED BANGER RECORDS/ BECAUSE MUSIC/ELEKTRA

When Parisian duo Justice emerged in 2005, Xavier de Rosnay and Gaspard Augé presented redlining filter-disco and stutter-edited electro-thrash. Their sophomore full-length, however, is more composed in several senses. There's an almost classical compositional structure to many tempo/key shifts, which are more reserved in general. The specter of arena-oriented prog-rock hangs heavy; imagine tones evocative of harpsichords harmonized through overdriven Tom Scholz Rockman amplifiers, or Pete Townshend's Arp 2600 on a steady robot rock diet.

**TONY WARE**




### Matthew Herbert

***One Pig***

ACCIDENTAL

Mixing composition with conceptual art, Herbert presents a suite based on the lifecycle (and posthumous consumption) of a pig. At times macabre, the overall work is as sonically compelling and poignant as it is politically charged. More disturbing than the squeals, oinks, sawing, cooking, and severed-head thump bass-drum sample, is the artist's cynical attempt to hype the project, which weighs questions such as "Cultural critique or animal exploitation?" and "Agitprop or pure art" against the composer.

**LAURA PALLANCK**

### VHS or Beta

***Diamonds and Death***

CHROMOSOME/KRIAN MUSIC GROUP

You can still call them a dance-rock band, but Craig Pfunder and Mark Palgy now rely much less on the rock tropes of 2007's *Bring on the Comets*. Their latest, a club-friendly slice of '80s-style synths and retro-house beats, at times bears an unfortunate resemblance to late-era Split Enz, but in the punk-pop kitsch of "Over" and the extended psych-disco strains of "Jellybean," Pfunder and Palgy find a redeeming force amid the cheese.

**BILL MURPHY**

### America

***Back Pages***

EONE MUSIC GROUP

America's Velveeta harmonies and masterful soft rock songs were all the rage in the '70s, and *Back Pages* looks to recapture the magic. Covering warhorses by Jimmy Webb, Paul Simon, Neil Young, and Bob Dylan is a sure bet for the heartfelt pair of Dewey Bunnell and Gerry Buckley; more interesting is their take on "A Road Song" by Fountains of Wayne. And when the "Sister Golden Hair" chords break out mid-song, America's glory returns, effusive and on fire.

**KEN MICALLEF**



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Roundup

# Lunching with the 500 Series

## Mix and match the latest "analog plug-ins" for your production needs

BY CRAIG ANDERTON

IT'S A DIGITAL world, right? Not until our ears, acoustic instruments, and air pressure differentials are digital. Fact is, the "all-digital" studio has a lot of analog in it, starting with mic pres and ending at speakers.

But there might not be enough space, budget, or need to justify a rack that's chock full o' gear—so cue the 500 Series Lunchbox (trademarked by API) modules. Consider them analog plug-ins: Once you have a frame to hold them, you can mix and match modules to come up with the configuration your needs, tastes, and finances dictate.

These are not "lite" versions of bigger brothers. They don't need a power supply, a large case to hold those power supplies, or in fact, a large case at all—which cuts down on price, without cutting down on specs. Sure, there might not be as many knobs and switches; or there might be, because some 500 Series manufacturers have discovered the joys of concentric controls.

It all started with API (thanks, API!), who created a spec, opened it to the world, and initiated the VPR Alliance standardization guidelines for 500 Series modules. The industry promptly adopted this protocol as a simple, easy way to create the equivalent of an outboard channel strip—but since its introduction, the Lunchbox has grown into a banquet of guitar processors, utility boxes, headphone amps, vintage re-creations, and even analog/digital converters.

Ready to check out the latest in the world of analog plug-ins? So are we . . . grab a menu, and let's do lunch(box).



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# Radial Engineering Workhorse

**Appetizer:** The Workhorse is a more sophisticated, more capable, and more costly rethinking of what a 500 Series rack frame should be. Rather than simply holding modules, the Workhorse puts increased emphasis on I/O and patching, additional module control, and internal mixing/monitoring.

**Main Course:** As expected, the Workhorse is compatible with 500 Series modules that conform to the VPR Alliance guidelines, and holds up to eight single-space modules. Four of the single slots can also accommodate two dual-slot modules. Although you'll need Radial's modules to take advantage of all of the Workhorse's extra capabilities, the spec is open and already other manufacturers are designing modules that work in standard frames but also work in an "enhanced" mode with the Workhorse.

For example, although there's rear panel I/O (standard XLR, paralleled TRS 1/4", and D-Sub), Radial modules bus to the internal 8x2 mixer for adjusting level, muting, and panning, as well as driving two sets of headphones through a macho headphone amp. (The outputs are isolated with Jensen transformers—cool.) Built-in switching sends one module's output directly to the next module's input, so you can create a series "channel strip" without patch cords; the standard API link function is also available for stereo modules. Furthermore, it's possible to cascade Workhorses for up to 32 channels.

There's a workaround with non-Radial modules for using the monitoring options: Use a TASCAM/Pro Tools D-Sub cable to connect the Workhorse's D-Sub direct outs (which parallel the module outs) to the D-Sub Summing Mixer inputs. This input also lets you access the mixer for "out of the box" analog summing. A third D-Sub connector provides paralleled access to the module inputs.

Rear panel I/O includes a unique Radial feature, the "Omniport," which provides access to a particular module function such as a key input, split output, insert (*e.g.*, delay feedback loop for adding filtering)—or whatever the designers decide to stick in there.

**Dessert:** The Workhorse is clearly designed as a premium way to hold 500 Series modules, with performance, construction, component quality, design, and price to match. It's built like a tank (all-steel construction), with a hefty 1.6A global power supply (100–240V). This reserves 400mA for the mixer/monitor, with the remaining 1.2A available for the various modules—that's an average of 150mA per module, although modules can draw more than that as long as the total doesn't exceed 1.2A. Note there's no on-off switch.

There are less expensive, yet still effective, ways to get into 500 Series modules; but if you want to take the 500 Series experience beyond just putting modules in a frame and patching them into your system as needed, there's currently nothing like the Workhorse.

**The Check:** $1,500; also available without the mixer (but it's retrofittable) for $800
**Reservations:** radialeng.com

# True pT2-500 Precision Mic Preamp

**Appetizer:** Super-clean, transformerless, high-gain mic preamp and instrument direct input.

**Main Course:** This is not about "character," but straight wire with gain—up to 70dB, with

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extremely low noise. There's also an instrument direct in with a 2.5-megohm input impedance and thru for feeding an amp (or other audio input). The circuitry is based on their P8 preamp, but with what True calls "Type 2" circuit enhancements.

Although True claims "analog warmth," I'd call it "analog sweetness" as there's clarity and exemplary transient response, but without brittleness—if your ears are acclimated to digital, the pT2-500 represents what high-frequency response *should* sound like.

As to the DI, the minimal loading is ideal for some applications (*e.g.*, that glassy, bright, single-coil Strat sound) but may be too bright if you're going to subsequent pedals or amp sims. However, dialing back your guitar's tone control slightly is a simple fix.

At the low end, the bass is both tight and full, and the clarity is similar to the high end. The pT2-500 excels for bass DI. You can trim incoming muddiness somewhat with the highpass filter, but it's a gentle filter (down –3dB at 80Hz), so don't expect to "brickwall out" rumble, handling noise, AC hum, etc. Other noteworthy features include gain control detents, four LEDs to indicate signal strength, two-stage gain switch, polarity switch, and +48V phantom power enable.

**Dessert:** The pT2-500 seems best-suited to acoustic instrument sources like acoustic guitar, percussion, strings, or anything else with major transients and significant high frequency content. I had great luck with feeding the piezo out from a Gibson J45 into the DI (although of course you can't run a mic and the DI simultaneously), and had equally good results with bass. The mic input's 5.5-kilohm input impedance is a little higher than normal, which seems to give more clarity with dynamic mics; past the hand-matched phantom power blocking caps, the circuitry is DC-coupled. The pT2-500 succeeds at providing neutrality with clean gain.

**The Check:** $749
**Reservations:** true-systems.com

## True pT2-500D Precision Mic Preamp

**Appetizer:** This is very similar to the pT2-500, but optimized for dynamic and ribbon mics.

**Main Course:** The focus on dynamics and ribbons means there's no +48V, and to make ribbon mics happy, the gain goes up to 76dB (with DC coupling and a 10-kilohm input impedance). Also, the low-frequency rolloff is much more developed than the pT2-500—a rotary switch chooses among an off setting and corner frequencies of 40, 80, 160, 280, and 400Hz. (According to the company, the rolloff is handled in a non-traditional way that doesn't involve capacitors in the signal path.) While the higher frequencies may seem like a radical choice, in practice I was surprised at how effective the higher rolloffs were with voice—I wouldn't mind having that low-cut filter in a box of its own.

**Dessert:** If you're absolutely sure you won't be using condenser mics, or can afford to specialize, the pT2-500D fulfills a unique need. That said, the pT2-500 does a credible job with all types of mics; if you could afford only one pT2-series preamp, the pT2-500 would be a better "general-purpose" choice.

**The Check:** $749
**Reservations:** true-systems.com

## Purple Audio LILPEQr

**Appetizer:** This simple, two-band program equalizer adds a gentle, unobtrusive boost or cut to the highs and lows, while adding a subtly warm character. Vintage compressors like the Pultec were often good at this sort of task (Purple Audio acknowledges the Lang PEQ-1 and Klangfilm RZ062 as inspirations); the LILPEQr brings this philosophy into the 500 Series world, with excellent build quality.

**Main Course:** The LILPEQr has only three knobs and two switches. The top knob handles high-frequency shelving, with an accompanying switch that chooses among three corner frequencies (5kHz, 10kHz, and "Air"). Another knob handles low shelving, with corner frequencies of 50, 80, and 160Hz. There's also an overall level control with a twist—the bypass switch (which does relay-controlled switching) has two "in" positions. The first simply injects the post-input transformer signal passively into the tone control circuitry. The second



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position inserts a buffer between the input transformer and tone control circuitry, thus isolating the transformer and altering the tone somewhat. In this mode, the Level control is available as well, and the tonal quality seems very slightly brighter in the upper midrange. Although the tonal difference is in the "splitting hairs" category, options are always welcome.

**Dessert:** One obvious application is going "outside the box" to a compressor or limiter for mastering—LILPEQr can do appropriate EQ while staying analog; this really is a "kinder, gentler" equalizer that avoids any unnatural tonal quality. However, it's not as kind to your wallet if you want stereo—you'll need two of them. Then again, stereo isn't the only game in town, and you'll find LILPEQr helpful with vocals, drums, synths, guitar—pretty much everything that could use a little tone-shaping. This module may be simple, but it's not simplistic.

**The Check:** $625
**Reservations:** purpleaudio.com

## Purple Audio Moiyn

**Appetizer:** If you have a Purple Audio Sweet Ten (their 500 Series, ten-slot frame), Moiyn inserts in slot 9 and provides an 8x2 summing mixer for modules in slots 1–8.

**Main Course:** The modules in slots 1–8 don't have to be from Purple Audio; any 500 Series modules will work, and their XLR outs for the eight slots are still available. Moiyn's transformer-isolated stereo outs terminate in slot 9's two XLR outs, but there's a Sweet Ten-specific function: An additional set of transformer-isolated stereo outs can jumper over to a Purple Audio Cans (their overachieving headphone amp) module in slot 10, without needing patch cables. The Moiyn mix bus is also accessible via its stereo input, which allows cascading multiple units if you're into the analog summing thang.

There are no level or pan controls, but each channel has pushbutton switches to assign an input to the left, right, or both channels.

**Dessert:** Moiyn is of limited use in the 500 Series universe, as it's Sweet Ten-specific. However, for those who *do* have a Sweet Ten, the ability to add on-board mixing simplifies the process of submixing and monitoring, while opening up the possibility of analog summing within a 500 Series frame.

**The Check:** $725
**Reservations:** purpleaudio.com

## Millennia Media HV-35

**Appetizer:** This transparent mic preamp features a DI input, and subscribes to the "clean and honest" philosophy instead of trying to add a specific character.

**Main Course:** Once you reach a certain level of excellence in performance, there's nowhere left to go. You can't get any quieter than the theoretical minimum noise level, and if you haven't loaded down a guitar pickup with a DI (the HV-35's input impedance is 2 megohms), you haven't loaded down a pickup. The bottom line is that the HV-35 sounds excellent, with specs that are similar to other 500 Series preamps that embrace the "straight wire with gain" philosophy. This is not unexpected when you reach the performance limits of current technology, but you will find differences in terms of features.

Like the main input, the HV-35's DI works in conjunction with the gain control to offer 15–60dB of gain, but also incorporates its –15dB pad into the circuitry. I found this essential for electric instruments with hot pickups, as 15dB of gain produced distortion. Interestingly, though—and this was a big surprise—overloading the DI input gave some useable distortion sounds. The best applications I found were single bass notes, and turning up drums for just a slight amount of clipping to shave off transients. This gave a bigger sound, without obvious distortion. I doubt that this is an intended feature, but of all the "wrong" things I tried with the modules I reviewed (like creating feedback paths—fun stuff!), this was one of the most useful.

Construction is very sturdy; unlike some modules, the sheet metal wraps around the back of the module, and the output impedance is lower than average (about 25 ohms). In ribbon mode, the HV-35 attains 70dB of gain and DC-couples the input to the gain stage.

**Dessert:** The HV-35 is extremely well-built, sounds great (actually, it's more like it has no sound at all), and its DI is well-implemented. It accomplishes its goal of transparency, but also has the depth that's the hallmark of a well-designed amplifier.

**The Check:** $799
**Reservations:** mil-media.com



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(U2, Gwen Stefani, P. Diddy, Bob Marley)

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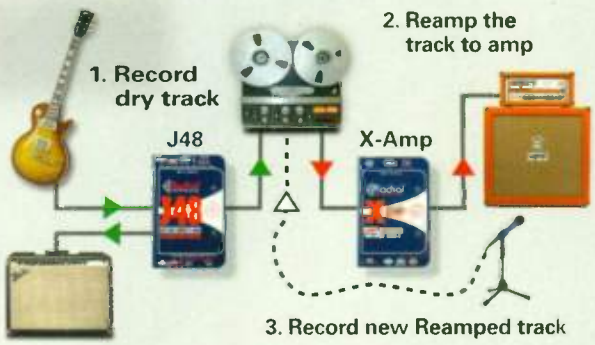


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## Millennia Media AD-596

**Appetizer:** I almost didn't cover this, as it seemed too out of character to include a digital device among all these analog goodies. But that also makes it unique, so . . .

**Main Course:** The AD-596 provides eight channels of A/D conversion, using DB-25 connectors for the analog ins and digital outs. Resolution is 24 bits, with a choice of 44.1, 48, 88.2, or 96kHz sample rates. You can of course sync to AES, but the unit also has front panel word clock I/O.

Although I didn't have any device capable of accepting all eight digital ins via DB-25 connector, Millennia Media provided a breakout cable so I could test individual AES outs (which I sent to Phonic's Digital Console), as well as an input cable that brought Workhorse outs into the converter.

Frankly, the whole experience was pretty boring: The AD-596 was easy to hook up, worked without having to do anything other than make connections, sounded wonderful, and yes, fits in a standard 500 Series frame. The only real excitement comes from watching the peak indicator LEDs for the eight channels to see if they indicate clipping, and the fact that you can set the LEDs for peak hold as well as clear them—good for on-location recordings if you want to know whether there was an over when you weren't looking. Another cool feature is what Millennia calls True-Lock-Clock, which basically means if the external clock goes away, the AD-596 switches over to its internal clock.

**Dessert:** I'm pretty sure this is the only digital 500 Series device, but it demonstrates the depth of the spec. Think about it: When used in conjunction with a frame like the Workhorse, you could have seven mic pres, send their outs through a DB-25 cable into the AD-596, then patch the AD-596 output into your recording device of choice . . . compact, portable, and comparatively speaking, inexpensive.

**The Check:** $1,500
**Reservations:** mil-media.com

## Radial PowerPre

**Appetizer:** Yes, it's a mic pre; but the PowerPre has some interesting extras in addition to offering value.

**Main Course:** The circuitry is all-discrete, with a Hammond transformer-coupled output—a plus for those who like some iron in the signal path. Two ergonomically cool convenience features include a front-panel XLR jack, and recessed +48V switch that's almost impossible to turn on accidentally. There's a –15dB pad, polarity flip switch, and 150Hz high-pass filter that's down –3dB at 100Hz.

One of the most useful features is the three-position "Vox" switch, although it's for more than just voice. The Linear switch position is flat, Breath gives a slight high-frequency lift starting around 2-3kHz, and the Punch setting gives a bit of a low-end boost around 90Hz. This imparts more depth to voice, but also try it with open-back guitar cabs to hype the otherwise attenuated low end. These are subtle differences (it sounds like essentially passive circuitry at work), but they're effective nonetheless.

The metering is above-average—a 10-segment meter instead of just a few LEDs. And if you use the PowerPre with Radial's Workhorse frame, you get some extras: You can tack on another +15dB of gain for 70dB total, and the Omniport provides a direct input for guitar, bass, etc. The input impedance for the DI is 150 kilohms, which will produce slight, audible dulling with some pickups (I'd rather see 220 kilohms or higher); but one welcome DI aspect is you can use the 15dB pad with it, so if you want to plug in a high-output unbalanced signal (*e.g.*, synthesizer) you're covered. However, the DI feature is more of an extra—Radial's JDV Pre is dedicated to comprehensive DI functionality.

**Dessert:** The PowerPre is a fine example of a well-designed, low-noise mic preamp that can give a bit of "meat" or "air" to a signal, thanks to the transformer output and voicing EQ. As a preamp that's capable of character as well as fidelity, it might well be your preamp of choice when you're looking to flatter a signal source rather than just reproduce it.

**The Check:** $600
**Reservations:** radialeng.com



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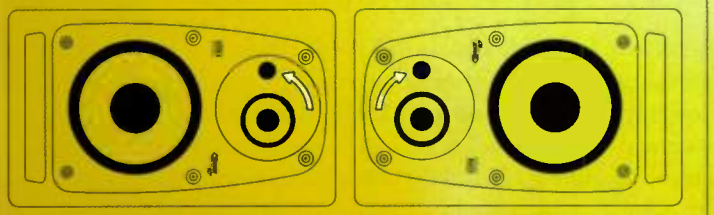

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## Radial
## X-Amp, EXTC, and JDX

**Appetizer:** Let's go to a lunch place that does a smorgasbord, and check out three items of particular interest to guitar players.

**Main Course:** The JDX DI box offers two functions. One is a more traditional DI, which also includes 4x12 cabinet emulation. The idea here is you can plug into your pedalboard, plug the JDX into your recorder of choice, and get a realistic guitar + cab sound. The second option inserts the JDX between your amp and speaker, where it captures the sound they produce (and it really does; note the JDX is not a load box, but must be used with a "real" amp and speaker in this mode). Additional tone shaping, a ground lift, and phase invert button round out the feature set. However, the input impedance is 10 kilohms, so Radial assumes you'll have something between the guitar and JDX (*e.g.*, some kind of stompbox or buffer) to prevent loading passive pickups.

The EXTC is for using guitar-level boxes in a studio context. It takes a line-level balanced in, converts it to guitar-level unbalanced with transformer isolation, takes the output from the guitar effects, then re-converts that back to line-level balanced out. Extras include a blend control that combines the dry and processed sound, and a phase reverse switch. (Guitar effects sometimes flip phase, which matters in a blend situation.) When used with the Workhorse, the Omniport becomes a second, TRS send/receive loop for studio effects, and patches after the guitar effects loop.

Finally, the X-Amp is designed for re-amping. It takes a line-level in from a recorder, splits it into two paths, buffers each one, then sends each split through an isolation transformer to two outs suitable for driving amps. It's simple enough, but the transformers and additional ground lift switches for the amps minimize a lot of potential hum and buzz problems. Furthermore, the Workhorse Omniport jack provides a true DI input for guitar with a 220-kilohm input impedance.

**Dessert:** These three modules show that the 500 Series concept doesn't have to be limited to general processors like EQs and compressors; it can include specialty devices designed for a wide range of tasks. Without expensive cases, connectors, and power supplies, a company can produce relatively small quantities of modules and still come out ahead—which means we come out ahead, too.

**The Check:** JDX $350, EXTC $300, X-Amp $300
**Reservations:** radialeng.com

## XQP Audio
## 545 Optical Disrupter

**Appetizer:** The Optical Disrupter is an unusual type of compressor that adds an overlay of second-order harmonics when hit hard, which is especially useful with bass.

**Main Course:** 500 Series boxes aren't just about throwing a preamp, EQ, and compressor into a frame to create a channel strip; more companies are stretching the boundaries into the domain of unusual tone-benders—like the Optical Disrupter. This compresses asymmetrically, so that positive parts of the waveform are compressed, and negative ones aren't. With light amounts of disruption, the signal basically sounds compressed, with a very low-level "buzz." Turn up the disruption, and the sound becomes more distorted, courtesy of second-harmonic distortion components.

Light amounts of disruption work on just about anything. Heavy disruption sounds fabulous with bass, as the more percussive peaks get a crunchy sort of "growl," while lower-level signals are "rounder" thanks to the compression. It reminds me a bit of Chris Squire's bass sound on early Yes albums. Disruption can also add serious moxie to drum sounds, particularly analog (*e.g.*, TR-808) drums. However, you need to find the fairly narrow sweet spot between no disruption and too much disruption, which neuters transients.

Operation is simple: Dial in the desired amount of disruption, then add makeup gain as necessary. With low-level input signals, push in the X4 button. Aside from that, don't bring it into the bathtub with you and don't eat it, and you'll be okay. However, note there's no wrap-around case—it's just a circuit board and front panel.

**Dessert:** The input impedance is about 43 kilohms (balanced), so you'll load down passive pickups if you go in directly; use a preamp or buffer first. Overall, the Optical Disrupter imparts a unique, creative sound (as befits a device that was discovered by accident!) and adds extra spice to a variety of tracks—although my first choices would be bass and drums.

**The Check:** $399
**Reservations:** xqpaudio.com



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May/June 2011

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**"...*remarkable*"**

Audio Media, Andrew Graeme
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## Tonelux TX5C

**Appetizer:** While many 500 Series modules put traditional functions in a more compact package, the TX5C is a unique compressor design with some novel features.

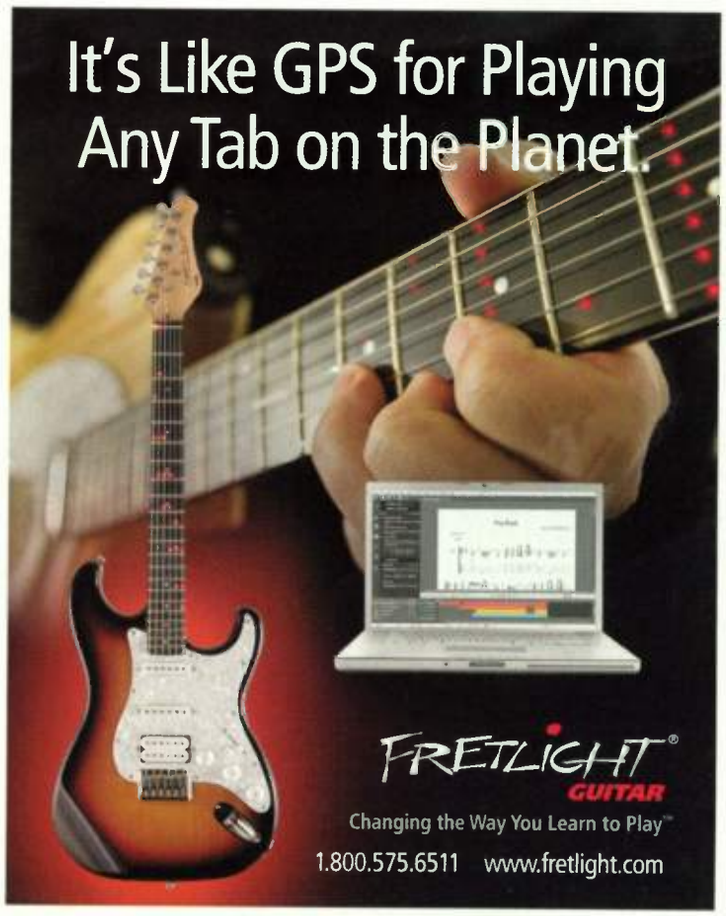
**Main course:** Like on the EQ5P, concentric controls allow for more control in a smaller package. For example, the outer "output" control tweaks the auto-makeup gain function, while the inner control offers dry/wet balance for parallel compression—it's great to see more compressors including this essential feature. Another concentric control combines Attack and Release. (An additional button slows the attack time to five times the current value, and a three-stage auto-release can, for example, allow transients to come in and out of compression faster.) The top concentric control combines Ratio and Threshold. All controls have a center detent.

My favorite concentric control can blend (not just switch between) feedback and feedforward compression. (Its outer control handles a link function, from 50 percent to 100 percent, for stereo applications.) Another interesting twist: Part of the ratio control goes into "overcompress" territory, where input signal increases don't just increase less, but actually *decrease*. With percussive material, if you set the attack time longer than the initial transient and overcompress, you'll get a "super-peak," or in the case of previously-compressed material, can the ability to recover some degree of dynamics. Another cool feature is the sidechain's Tilt control; this can weight the RMS detection toward highs to reduce pumping, or lows.

The unit also features a six-LED gain-reduction meter and front panel connections for a sidechain input and external input; construction is similar to the EQ5P (and yes, there's an output transformer).

**Dessert:** I'm very picky about compressors, but this is a honey. It takes more effort to adjust than most, because there's more to adjust. But, I couldn't find any signal that didn't sound good with it—the parallel compression was great for drums and program material, while the feedback/feedforward options can add very different characteristics with acoustic guitar. When used traditionally, bass and voice rocked.

**The Check:** $949.99
**Reservations:** tonelux.com ■



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# Boss Micro BR BR-80

## A digital 8-track recorder that fits in your pocket

**BY GINO ROBAIR**

BOSS EXCELS at packing its products with features, while keeping ease of use as a top priority. The Micro BR BR-80 multitrack recorder exemplifies this approach, offering the amenities found in larger, costlier Roland/Boss products—COSM modeling, eBand functionality, and USB connectivity—in a roadworthy device that's smaller (and lighter) than a paperback book.

**The Basics** Weighing a mere 5 oz., the BR-80 is designed for musicians (particularly guitarists and bassists) who want to capture ideas anywhere. The recorder has a pair of built-in condenser mics, 1/4" guitar/mic input, 3.5mm stereo line-level input, and 3.5mm stereo output. The BR-80 provides eight tracks of playback, though it records only two tracks at a time; however, each playback track has seven virtual tracks below it, giving a total of 64 working tracks. The ability to copy, move, and exchange track data makes it fairly easy to build composites.

The eight top-level tracks, along with the built-in rhythm guide, can be bounced to a single virtual track (or pair for stereo mastering). When you're done with your song, you can bounce the playback tracks and rhythm guide internally to a WAV file, while adding dynamics and EQ effects to the overall mix.

If you need detailed editing capabilities, it's easy to transfer the audio files to your computer using the USB 2.0 port. The BR-80 also acts as an audio interface, allowing you to run your guitar through its effects processor and record the results into your DAW, or jam along with your favorite audio app. In eBand mode, you can play or record yourself within the BR-80 along with the provided backing tracks, as well as change the speed and pitch of the songs when you're woodshedding. You

### SUMMARY

**STRENGTHS:** Offers 8-channel playback, with 64 virtual tracks. Acts as a USB 2.0 audio interface. COSM modeling and eBand functionality. Supports 32GB SDHC cards.

**LIMITATIONS:** Records two channels maximum at once. Highest audio resolution is 16-bit, 44.1kHz. AC power supply not included.

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can also cancel out the center channel if you want to hear yourself over the original part (assuming that part was mixed to center).

**Instant Gratification** It took five minutes from unpacking the recorder to jamming with my favorite songs in iTunes. I simply connected the USB cable between my computer and the BR-80, installed the audio driver, plugged my guitar into the recorder's 1/4" input, and connected the BR-80's stereo output to my monitors. From there, I selected a patch that included editable COSM amp and effects models, called up a rhythm track, and started recording.

Considering the number of features available, there are remarkably few buttons on the BR-80—yet the interface doesn't require you to dive deep into the menus when you're cutting basics. Other than the transport controls, the front panel has dedicated buttons for selecting a rhythm track and the COSM editor. Press both simultaneously to use the tuner. In addition, the track buttons double as function buttons in eBand mode. The small display is easy to read, including the input level meters.

Menu surfing and editing involves a combination scroll-wheel/cursor along with Exit and Enter buttons. Overall, the interface is remarkably intuitive, and I was surprised at how little of the manual I needed to read in order to use the BR-80.

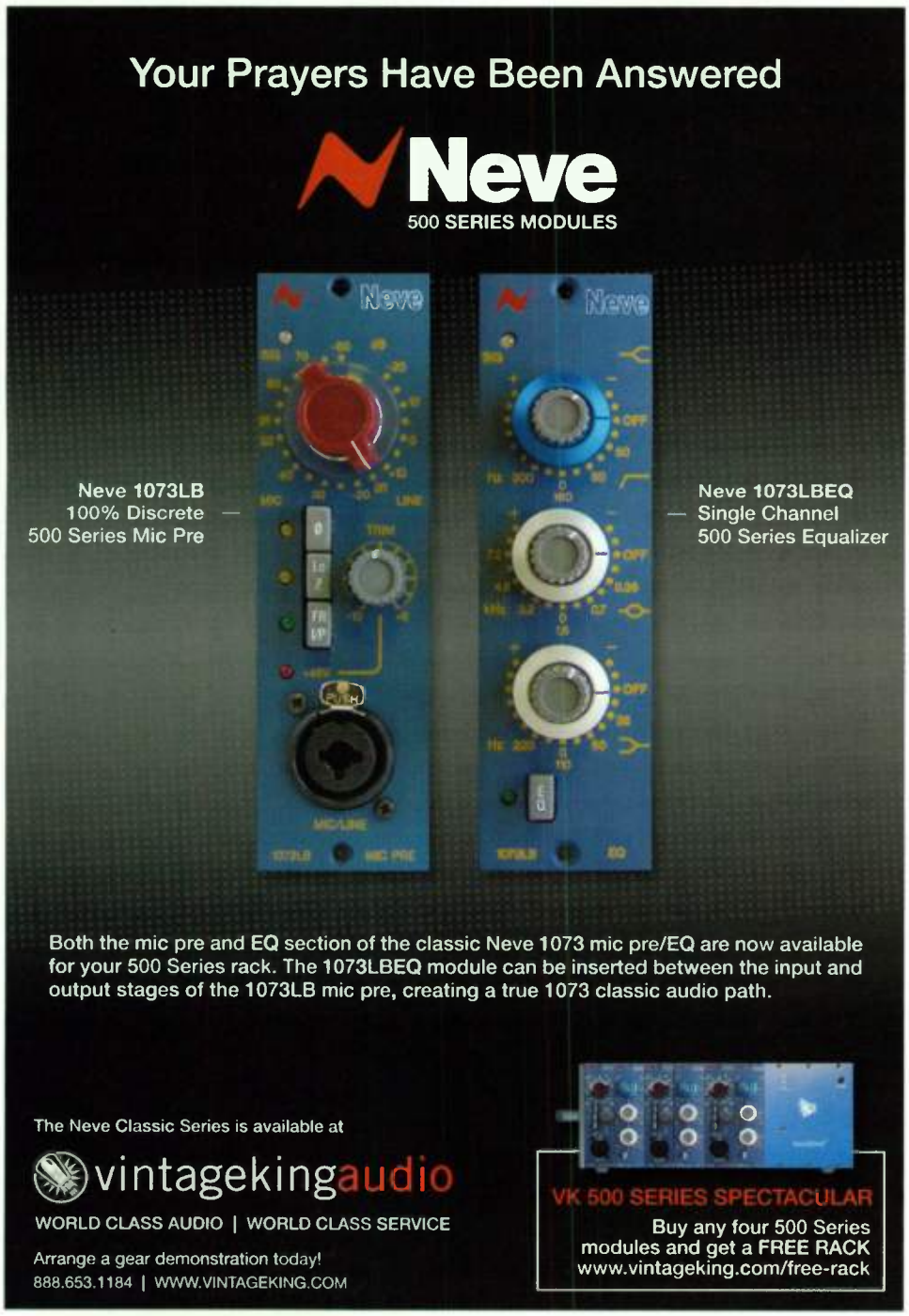
As an audio interface, the BR-80 has 24-bit converters, and it can record WAV (16-bit, 44.1kHz) or MP3 (64 to 320kbps) files. The BR-80 stores data to SD and SDHC cards, supports media up to 2GB and 32GB, and ships with a 2GB SD card; as expected, lower fidelity frees up more card space. When tracking on the go, the BR-80 runs for about six hours from two AA batteries. In the studio, you can use USB bus power or the optional AC adapter.

Because it can record at CD resolution, you don't have to worry that the sounds you capture will be merely demo quality. I was pleasantly surprised at how good my song sketches sounded, even when using the built-in mics.

The BR-80's onboard rhythm guide includes instrumental parts and PCM-based drum sounds, and it allows you to assemble convincing backing tracks as you develop your song structures. The unit can also import Standard MIDI Files for use with the rhythm guide.

**Road Warrior** Despite its weight and diminutive size, the BR-80 feels robust enough to handle daily abuse in a backpack or guitar case; the buttons and jacks have a low profile, so there's nothing to snap off or break. The tradeoff is a lack of physical controls that larger portable studios have, such as buttons, knobs, and a fader for each channel, although there are virtual faders for each channel in the mixer control screen.

However, the BR-80 is designed for musicians who want an extremely portable multitracker for capturing ideas and fleshing out songs at CD-audio quality. Add to that USB connectivity, a phrase trainer, and the ability to work as an audio interface, and musicians on the go can take advantage of a wealth of creative—and easy-to-use—tools. ■





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**The PSP NobleQ (top) and NobleQex (bottom) plug-ins add vastly expanded capabilities to a classic passive-equalizer design.**

# PSP NobleQ and NobleQex Plug-ins

## Pultec-style "vintage" EQ in the box

**BY MICHAEL COOPER**

THE PSP NobleQ and NobleQex plug-ins are based loosely on the vintage Pultec EQP-1A passive analog equalizer. Because passive equalizers use separate boost and cut controls, they require a little more thought and effort than, say, parametric filters to perform equalization tasks—but it's worth it. With this type of design, simultaneously boosting heavily and cutting moderately at the same bass-frequency selector setting creates a "bass-shift" response: The lower-bass band is boosted, while frequencies in the adjacent higher band are cut. The result is a big bottom end without the mud. A similar approach can be used for high frequencies: Boost the highest highs while cutting lower highs to produce a silvery tone and jettison any fatiguing edge.

The EQP-1A's downside is it offers only broad tonal shaping and a very limited number of fixed frequencies to adjust. NobleQ provides a lot more (dozens of) high and low frequencies to choose from. It also includes an adjustable high-pass filter and valve-saturation algorithm (emulating tube circuitry). The companion NobleQex plug-in includes all of the NobleQ's features and more: It adds a quasi-parametric midrange band and a shift control that moves the low-cut filter's corner frequency as much as an octave higher or lower. (Even when shifted an octave lower, the corner frequency remains above that for the low-boost filter, thus retaining the bass-shift effect.) Neither NobleQ nor NobleQex can do notch or bandpass filtering.

**Noble Gestures** Both plug-ins sounded especially flattering on bass instruments. Using NobleQ on a kick drum track to simultaneously boost and cut 20Hz while also boosting around 8.5kHz, the result sounded phenomenal: rounder, punchier and more meaty.

The more full-featured NobleQex came in handy when equalizing midrange-centric tracks. I could fill out a slightly thin and nasal lead vocal beautifully by applying very mild boost at 420Hz with the midrange peak filter while simultaneously boosting and cutting at the 130Hz setting. Lowering the shift control for the low-cut filter a couple clicks moderated the bass boost closer to 130Hz, producing a clearer sound. Cutting at 3.5kHz squelched the singer's *honk*. Boosting generously above roughly 12.5kHz lent a silvery sheen.

I got similarly great sounds on piano and electric guitar. On all tracks, I could craft tones that alternately evinced solid-state and vintage tube circuitry. Both plug-ins (especially NobleQ) demanded very little CPU resources. Incredibly, NobleQ and NobleQex together cost only $69. That's what I call a huge bargain. ■

## SUMMARY

**STRENGTHS:** Excellent sound quality. Low CPU hit. Unbeatable price.

**LIMITATIONS:** Can't do narrow-band surgical tweaks. Slightly more difficult to use than parametric and graphic designs.

**$69 MSRP**
**PSPaudioware.com**



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**YouTube.com/SterlingMicrophones** or visit sterlingaudio.net

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**Pitch Fix, which does pitch correction, is one of the VocaLive Full effects.**

# IK Multimedia iRig Mic

## Portable vocal recording and live performance processing

**BY CRAIG ANDERTON**

HEY VOCALISTS—want to throw an iPad (or other iOS 4.0 or later device) into a backpack, hook up a mic, plug into a PA system, and go? Meet iRig Mic.

**The Basics** The iRig Mic package comes with a condenser electret mic, mic stand clip, and carrying pouch. The mic's built-in cord terminates in an iThingie-compatible 1/8" multiconductor plug that also incorporates a stereo 1/8" output jack—plug-in earphones, or a suitable adapter to feed a PA, powered speakers, audio interface, etc. Hookup is easy, except that you can't use a mono male plug with the output, as this would short one channel to ground and generate feedback.

The mic has a metal housing, cardioid pickup pattern, and three-position sensitivity switch to match the mic to the task at hand (iRig Mic is also suitable for interviews, practicing, recording lectures, podcasters, etc.). You can unscrew the metal grille to replace or augment the internal foam that acts as a windscreen.

**The Apps** Three free apps are available from the App Store: VocaLive Free, AmpliTube Free, and iRig Recorder Free. VocaLive Free provides reverb and doubling effects, some "vocal tools" (vocal center-channel eliminator, scale player for warm-ups, demo tracks for auditioning effects settings without singing, and a metronome). iRig Recorder is a single-track recorder with some automatic optimization tools, and is designed to provide easy field recording for users at any level. AmpliTube Free is for guitar.

The VocaLive full version ($19.95) includes four more vocal effects (Pitch Fix, Choir, Morph, and De-Esser) and six additional "studio" effects (Delay, Compressor, Parametric EQ, Envelope Filter, Chorus, and Phazer). You can add these *à la carte* to the free version—$4.99 for each vocal effect, and $2.99 for each studio effect—but the full version is a much better deal. $4.99 upgrades either version to a four-track recorder.

There are some nice extras, too, like being able to import songs in various ways (I found Wi-Fi painless), and speed up/slow down for phrase training. There's also noise reduction, and options to integrate the mic itself with your iOS device, independent of the VocaLive software.

**The Effects** You can put up to three effects in a chain (saveable as a preset, with four as favorites), and they're easily editable. In typical App fashion, you can be brain-dead and figure out how to work things, although there's a help file if all else fails. The effects are definitely up to IK's high standards, but I did notice occasional pops when using the Ultra-Low Latency setting with harmony effects; switching to Low Latency (which is still acceptable) nuked the pops. In either setting, the Morph effect introduces a noticeable delay, but its effects are so "out there" people probably won't care.

**Vocal Mobile** iRig Mic is clever and extremely cost-effective. I think the mic sounds best with VocaLive, presumably because IK tweaked the software to the mic. While iRig Mic isn't intended to compete with a U87 and a bunch of rack processors, don't dismiss it as a toy, either—you really could gig with this. ■

## SUMMARY

**STRENGTHS:** Low cost, even if you factor in the cost of VocaLive full version. Cardioid condenser electret mic. Simple to use. Very good effects, including harmonization.

**LIMITATIONS:** The same limitation as virtually all iOS devices: Be nice to the connector. Ultra-Low Latency setting introduces occasional pops with harmony effects.

**$59.99 MSRP**
**ikmultimedia.com**

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**Z3TA+ 2 Waveshaping Synthesizer**
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cakewalk by Roland

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# Focusrite Scarlett 18i6

## USB 2.0 audio interface with lots of ins for tracking

**BY CRAIG ANDERTON**

IN THE USB 2.0 vs. FireWire wars, USB has a new ally: Focusrite, with their Scarlett interfaces. The 18i6 has more I/O than the smaller 8i6, and is clearly intended for those expecting to track multiple instruments in a studio context. As a result, the 18i6 features 18 ins—two mic pres with balanced combo jacks (that can also handle instrument and line ins; switchable +48V phantom power affects both simultaneously), six balanced line ins, coaxial S/PDIF I/O, ADAT optical input, and 5-pin DIN MIDI I/O.

In addition to the S/PDIF out, one 1/4" headphone jack and two 1/4" monitor outs provide analog outputs. USB doesn't supply enough power to bus-power the 18i6, so the unit has a global (Euro/U.K./U.S.) AC adapter with appropriate detachable plugs.

The 18i6 requires Mac OS X 10.6.5 or higher (including Lion), and 32-bit Windows Vista/XP3 or 32-/64-bit Windows 7. Installation on a Mac is plug-and-play, and on Windows, only slightly more time-consuming. The Scarlett MixControl application is virtually identical to the Saffire-style MixControl, and serves as your system's traffic director. (Note that unlike some other Focusrite interfaces, there's no internal DSP-based signal processing.)

**Mondo Monitor** With its "DAW companion"-centric design, there are useful monitoring options. While recording, you can choose a DAW Tracking template to monitor input channels via your DAW, or Zero Latency Tracking, which routes a monitor mix (that should consist of only input signals) to the main monitor outs and also, headphone outs. While this won't let you monitor through plug-in effects, with slower computers (or musicians who are very timing-sensitive), you eliminate latency caused by going through the computer.

**Pocket Protector Time** We ran the Scarlett through its paces by looping the output back to the input mic pres to come up with some real-world specs regarding audio performance. With a 44.1kHz sample rate, frequency response was –0.5dB at 20kHz and 15Hz, and –3dB at 5Hz. The noise level (A-weighted) was below –120 down to 5Hz, and typically around –125dB. THD is extremely good, with distortion products below –115dB at 2kHz and –108dB at 3kHz—any other distortion products were basically indistinguishable from the noise floor. Intermodulation distortion products at 120 and 180Hz were well under –110dB; high-frequency ones were not noticeably different from the noise floor—excellent. Stereo crosstalk was below –84dB up to about 1kHz, where it started rising until it hit around –55dB at 20kHz.

One hint: With USB interfaces in general, use good cables and short cable runs, and avoid having "dirty" peripherals on the same USB controller. The cable included with the 18i6 includes ferrite filtering, and using it eliminated artifacts that I observed with a cheap cable.

Of course, specs are only part of the story, as many swear by Focusrite preamps for their clarity. (If you want "character," look elsewhere—or at least add a matching transformer to get some "iron" in the signal path.) I also appreciate the 5-pin MIDI connectors, the software bundle, the cool-looking and functional mixer applet, and generally professional vibe. ■

### SUMMARY

**STRENGTHS:** Mic pres emphasize definition, while ADAT input makes it easy to add eight extra mic pres from any of several octal mic pres with ADAT out. Above-average software bundle with four plug-ins, content, and Live Lite. Sample rates up to 96kHz. Excellent specs.

**LIMITATIONS:** Limited analog outs (main stereo, headphones). Not bus-powerable. Mixer applet required to switch ins 1 and 2 to instrument (DI) mode.

**$399.99 MSRP**
**focusrite.com**



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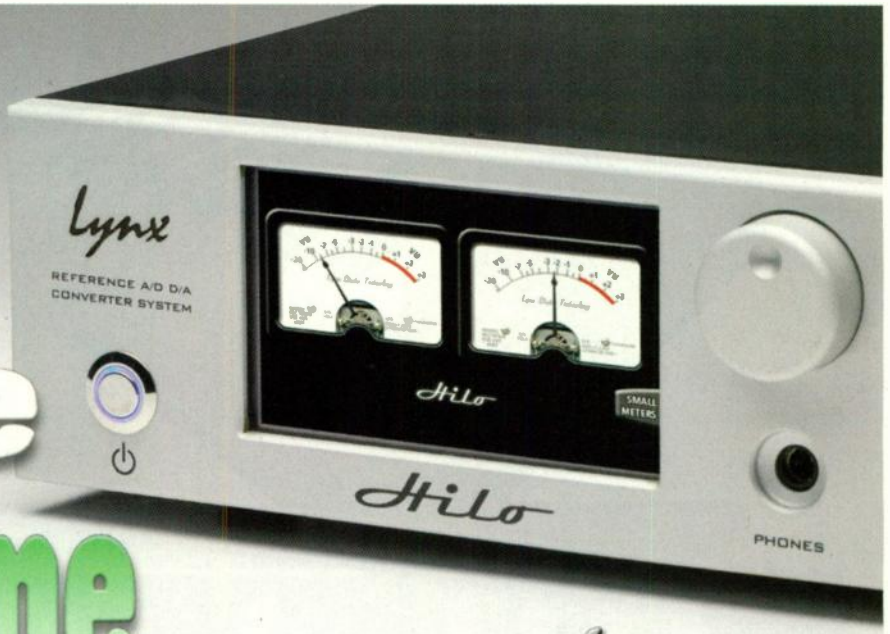


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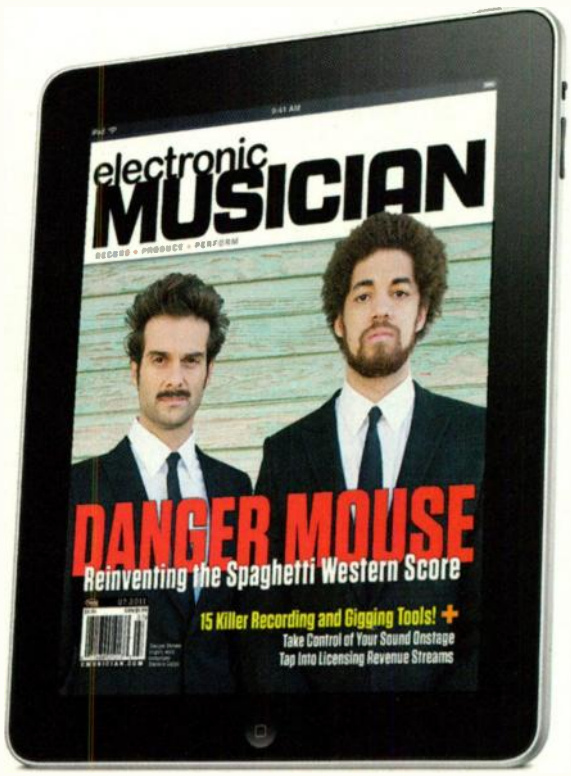





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**1**

Avid

**Keystation Mini 32**

Mobile keyboard controller

**$99.95**

**HIGHLIGHTS** 32-note, USB bus-powered • ultra-portable, fits in a backpack • low-profile mini-keys • selectable velocity curves with one optimized for drum programming • four assignable controls, including a knob, for realtime DAW and virtual instrument control • iPad compatibility (with iPad Camera Connection Kit)

**TARGET MARKET** Composers, songwriters, DJs, others into mobile music-making setups

**ANALYSIS** Downsizing isn't just an economic issue; it sometimes actually involves size. With laptops getting smaller and powerful enough to run quality music software, a portable controller helps bring out a system's full potential.

**m-audio.com**

**2**

Elysia

**Xpressor**

Rackmount compressor

**$1,499**

**HIGHLIGHTS** Sidechain filter and send/return • linear power supply • discrete Class A circuitry • switchable release characteristics • auto fast attack mode • "warm mode" • dry/compressed mix control for parallel compression • negative ratios for special effects • detented potentiometers with 41 steps for easier setting recall

**TARGET MARKET** Studios seeking dynamics control with more options than usual

**ANALYSIS** The Elysia Xpressor 500 Series module has been well-received, so the company based a rackmount unit on the same general circuitry with added features such as sidechaining. The feature set allows for traditional compression or heavily effected sounds.

**elysia.com**

**3**

V-Moda

**Crossfade M-80**

Metal on-ear headphones

**$230**

**HIGHLIGHTS** Natural noise isolation • 53% smaller than the Crossfade LP over-ear model • steel frame • replaceable memory foam cushions • 40mm dual-diaphragm drivers • Kevlar-reinforced detachable cables • extremely rugged, survives 70+ drops on concrete from 6 feet • includes 3.5mm fabric cable with three-button remote optimized for Apple products • hard carrying case

**TARGET MARKET** DJs, producers, mobile musicians who require stylish, high-fidelity, consistent headphones that can withstand mil-spec abuse

**ANALYSIS** Earbuds typically don't deliver fidelity, and audiophile headphones usually can't handle heavy road use. The Crossfade M-80 claims durability with sound quality.

**v-moda.com**

**4**

Griffin Technology

**StompBox**

Pedalboard for iOS devices

**$99.99**

**HIGHLIGHTS** Programmable foot controller for iOS devices interfaces with Frontier Group's iShred LIVE amp/effects sim app • recreates the "pedalboard experience" • four assignable footswitches • 1/4" volume/expression pedal input jack • built-in 1-meter heavy-duty dock cable • includes the Griffin GuitarConnect cable to enable simultaneous connection to instruments, headphones, and an iOS device

**TARGET MARKET** iShred LIVE users who want a physical footswitch/pedal unit for physical control over effects switching

**ANALYSIS** While iOS guitar processors are cost-effective, their Achilles Heel is physical control. StompBox addresses that problem for iShred LIVE and any other software that's StompBox-enabled.

**griffintechnology.com**

All prices are MSRP



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**5**

Cakewalk

**Z3TA+2**

Waveshaping synthesizer

**$139, $49 upgrade**

**HIGHLIGHTS** User interface overhaul • 14 filter modes • graphically-controlled envelopes • graphical arpeggiator • drag-and-drop effects routing • all Waveshapers are accessible via the modulation matrix • Hypertube distortion algorithm • Adaptive Pitch Bend allows bending notes within key and mode • 1,000 new patches

**TARGET AUDIENCE** Fans of the original Z3TA+, and synth players looking for something different compared to the usual subtractive virtual analog synths

**ANALYSIS** The original Z3TA+ had a devoted following for its unusual timbral possibilities, courtesy of waveshaping oscillators. While the original remains popular, the timing is right for a second generation.

**cakewalk.com**

**6**

JZ Microphones

**Michael Wagener Kit**

Signature mic kit

**$2,185**

**HIGHLIGHTS** Includes two condenser mics (BT-201 small diaphragm cardioid, and limited edition BT-301 medium diaphragm) used by engineer Michael Wagener for acoustic guitar and drum overheads on recent projects • BT-series mics provide interchangeable, magnetically-attached capsules (cardioid, open cardioid, –20dB padded open cardioid, and omni) • BT-301 self-noise spec: 5.5dBA

**TARGET MARKET** Recordists capturing instruments that benefit from a presence boost (string and percussion sections, acoustic guitar, etc.)

**ANALYSIS** Michael Wagener's productions are known for bold, clean sounds, so his endorsement of these mics implies their sound. Interchangeable capsules add versatility.

**jzmic.com**

**7**

Fishman

**Loudbox Artist**

Acoustic instrument amp

**$769.15**

**HIGHLIGHTS** 120 watts, bi-amplified • two mic/instrument channels with combo XLR+1/4" ins, 3-band EQ, and notch-filter feedback controls • effects include reverb, chorus, flanger, delay, echo, and slap echo • 1/4" and 1/8" aux stereo ins with level control for backing tracks • balanced XLR Mix D.I. out and D.I. outs on each input channel • headphone output

**TARGET MARKET** Acoustic instrument players who want more than standard amplification, and need reasonable volume levels

**ANALYSIS** The Loudbox Artist continues the trend in live performance for smaller, more easily transportable gear with sophisticated electronics.

**fishman.com**

**8**

Sound Guy

**Spectral Machine**

Frequency-domain audio effects

**$75**

**HIGHLIGHTS** Mac AU/VST and Windows VST frequency-domain effects plug-in • freeze and sample-and-hold • apply separate delays to different spectral bands with feedback control for each band • multi-band tremolo effects • provides several effects specifically for monophonic sources, including pitch quantization, pitch shift, sine/noise decomposition, harmonization with timbre preservation, pitch isolation, "robotization," and more

**TARGET MARKET** Sound design and effects, soundtracks, remixing and DJs, adventurous musicians

**ANALYSIS** There's more to life than parametric EQ, dynamics, and reverb; frequency-domain effects can add entirely different sounds to a variety of audio sources.

**sfxmachine.com**



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MOGAMI

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soundtoys

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The sE Electronics and Rupert Neve Designs RN17 microphone features an interchangeable 17mm cardioid capsule with the most massive custom transformer you have ever seen on a SDC microphone and combines great HF extension with a warm, rich low end.

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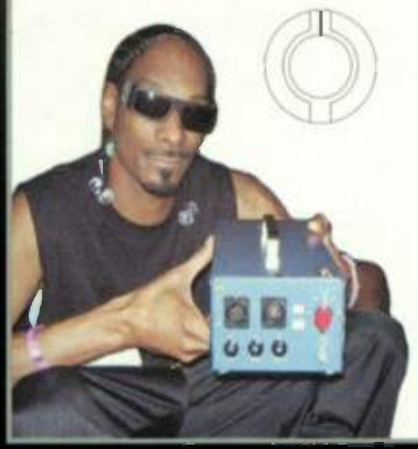

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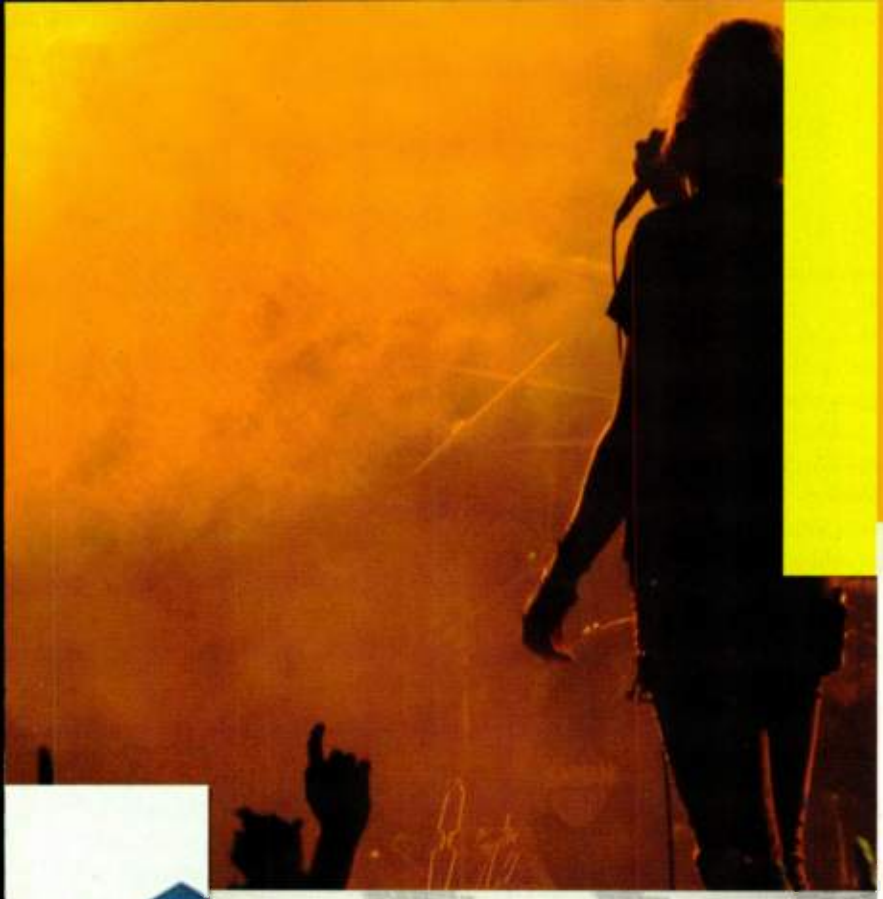

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master class

# Choose Your Own Adventure

## A practical plan for launching a modern media company

BY KAITLIN MCGAW

LIKE MANY things in the music industry that have collapsed, dissolved, emerged, and reinvented themselves, the record label is just that: a concept that can be both regarded as dated and dead, and re-birthed as innovative and collaborative. Nobody wants boxes of unsold CDs sitting in their closet or garage, collecting dust and motor oil—a situation many record label owners face now in the digital world. As a music business owner, you want your music heard, and you want to profit. Nowadays, you must look at your business as a media company, not a record label;

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you are producing music and entertainment beyond your recording.

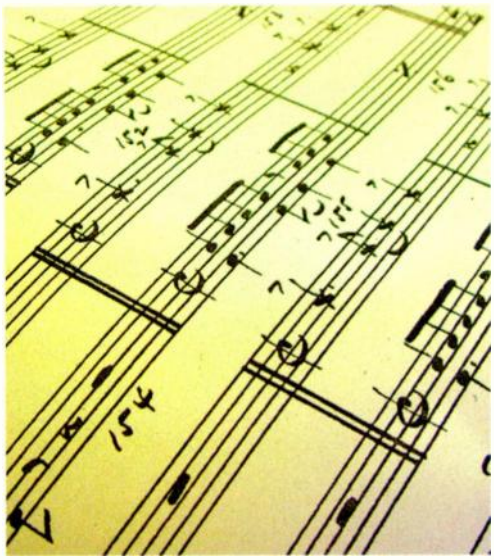
Let's frame this in today's industry. Rather than depending on unit sales, the consumption of music today is largely cloud based, and income streams are tied to products, films, or personalities. Songs are discovered in commercials. (See Jon Stewart's February duel between the Black Keys and Vampire Weekend, about who sold out more with songs placed in commercials.) Bands are discovered in film and TV placements. (Thank you, *Gray's Anatomy* and *CSI Miami*.) Artists are not just the songs they sing, they are the interaction on their sites, the behind-the-scenes videos, and the apps they provide on mobiles. Music is then played and consumed on Pandora, YouTube, and other online spheres, and occasionally purchased on iTunes, Amazon, and your local record store. (Keep them alive!)

Therefore, both your business model and your entertainment content must be multi-dimensional, or your plans will be flattened by the stampede of hundreds of thousands of songs and content at consumers' fingertips.

For the purpose of this article, I'm going to assume that most readers of *Electronic Musician* are eager to refine their craft in production, artistry, and music business, more than taking the financial risk of marketing other people's art. Therefore, I'll focus on a business model for a media company dedicated to an artist releasing his or her own music. Of course, many business models are relevant to the media company framework, so take this as a jumping-off point for refining your goals. Build on your strengths, your inspiration, and your vision for the entity: Are you singularly interested in promoting and elevating a genre of music? Lots of opportunity here, particularly as you narrow the focus of the genre and constituencies served by the genre. Are you interested in promoting up-and-coming acts in a "scene" in your city? Be a tastemaker and network with clubs, artists, studios, and sponsors to create the scene.

Getting started might seem daunting, but divide your plan into topics, and within each topic, set up your goals, tasks, and timelines for completion. With a clear vision and completed recordings, within two weeks you can set up your business, marketing plan, and income streams, and identify partners for your

**You must look at your business as a media company, not a record label; you are producing music and entertainment beyond your recording.**



company. Here are a few ways to think about topics to get you started.

**Business 101** You'll need to set up a proper business entity. This includes, in short, setting up a business federal tax ID number (FEIN), getting a business checking account at your bank, and securing a business license and a seller's permit. If you have personal assets such as a house, consider setting up a sole-member LLC, which will keep your business and personal assets separate. Though this is easy to set up (I recommend legalzoom.com for easy paperwork processing), there may be annual taxes based on the state your business is located. (In California, for example, it's $800.) Alternatively, start as a sole-proprietor, which just means you have an FEIN and are not using your social security number in business. Next steps thereafter would be setting up bookkeeping, accountant services, and procedures for billing, invoicing, and paying taxes. Because you'll be building up various types of entertainment content, I'll assume you are making more than just studio recordings. Get W-9s, work-for-hire contracts or collaboration agreements, and invoices from each person you hire—video producers, photographers, etc. Be prepared at the end of the year to distribute 1099s to any contractors who you paid more than $600.

**Marketing 101** This is the fun part, and it will have far-reaching impact if you take the time at the start to establish a plan. Brainstorm and define the "brand" of your music: What kinds of images are associated with your songs? Which colors match your sounds? Which types of videos and artwork inspire you and you wish were on your YouTube page? Going through this exercise will prepare you to hire a website designer and logo/image designer who will help communicate just why people should check you out. In this



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DTX drums

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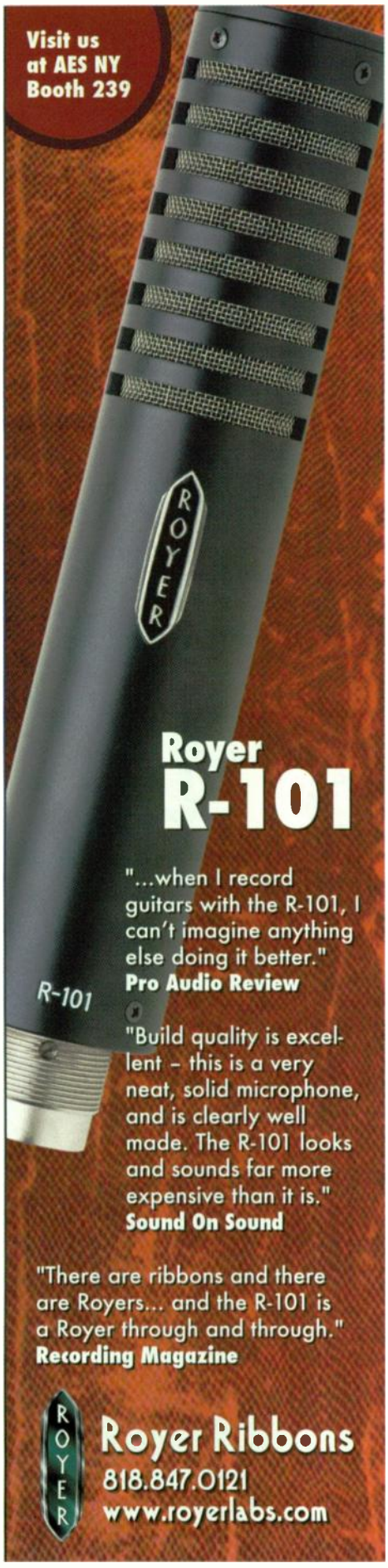

process, identify commercial products, films, and television shows that are playing music like yours, or that would be a good fit for your material. These will be targets for your business plan. (If you're anti-commercials, be sure to check out the *Flight of the Conchords* episode where they write a song for Femident Toothpaste, made just for women. It was the only time they got paid.) Match content with your brand. If you're a banjo player, perhaps you want to make videos teaching how to buy the ultimate banjo, or how to play an ultimate banjo-picking anthem. People might be interested in this unique idea, and it's likely that there isn't much existing similar content. With your brand and music at the center of your marketing story, identify five ways you can expand your media, collateral materials, and experience for your fans and the world beyond as they consume your songs.

**Income 101** After your bank account is set up, identify and list all of the income avenues in your business model. In general your list will include: CD sales, digital sales, merchandise, shows, sync placements, video hits, mobile apps, and bookings. Where else do you see yourself making money? Can the other media ideas you came up with in your marketing exercises generate income, or are they mostly promotional expenses? Think outside the box if you can, and aim to monetize. In addition, set up passive income streams online. Go to SoundExchange.com and register your recordings—you will be paid for your songs' plays online (similar to online radio, but here, performers get paid in addition to songwriters). Make sure all of your songs are registered with your performance rights organization (ASCAP, BMI, SESAC) and that you inquire about their "live" opportunities, where they pay you for performing your own songs live. Lastly, and this one's not passive income, set up a seller's page on Amazon.com, for the people who still buy CDs. If you haven't decided who will distribute your CDs, look into BandCamp.com to set up a sales page on your website so you can manage all of the shipments from your house and personalize your offers and media packages.

**Company 101** You cannot do this alone. Focus on building a multimedia team; let's call this your own personal A-Team. You need reliable, creative, smart and passionate folks who are relevant to today's commerce. Must-have team members include: attorney,

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Ryan Hewitt
On the New MA-300

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accountant, video producer, music producer, social media manager, publicist, business development manager, website manager, photographer and graphic designer, booking manager, artist manager, writer, merchandise manager, bookkeeper, media creators (applications for Facebook, iPhone, etc.). In addition, of course, are the quality musicians, songwriters, and recording engineers who make this what it is—incredible music. It's unlikely that you can supply all of these people from your personal network, but this is another way you can engage your fans and your broader community to get involved in your project. Be a magnet! And know your limits: At first you may have to fill many of these roles as you forge your own path, but you really can't do everything alone, and you should not be afraid to spend money on individuals who will do things properly. Of course, the specialized positions should be hired out (don't be your own lawyer); others you can delineate but do yourself (inventory and bookkeeping).

**Project Management 101** You've set the stage for your media company to make an impact; it's time to roll out your plans. Now, you need to know it all *and* be able to delegate.

You can't manage and assemble a successful team without knowing at least a little bit about doing everything yourself. People will quit, move on, etc., and you'll be stuck with half-built website pages and unfinished Pro Tools sessions. Do everything yourself at least once, and know how to talk shop, delegate, and project-manage each realm of the business. Read quality books about how to set up and maintain a successful business. I recommend Michael E. Gerber's *The E-Myth*, and a combination of books

**You cannot do this alone. Focus on building a multimedia team; let's call this your own personal A-Team.**

on music and unrelated businesses, so that you incorporate ideas beyond your comfort zone. One piece that I learned from Gerber's book was the importance of learning how to do everything so that you can efficiently and effectively manage (just like they teach you at McDonald's University). Even if you are working solely with contractors, identify all of the traditional jobs of your business as if you had a staff of 20. You can then assign names and roles for each job and have clear expectations defined. If you're doing it all solo, you'll see what you're up against, juggling roles of CEO/Marketing Director/Booking Assistant, and when certain roles (*e.g.*, those bringing in the money) will need to take precedence.

**Communications: Establish proper business practices.** It's not sexy, but it is so necessary. Lining up proper contracts, correspondence patterns, invoicing, bookkeeping, and follow-up—integrated into your calendar each week—will set you up for progress. It's not like anyone got into music to be the best contract writer, but at the same time, you need to get paid on time. Track your bookkeeping (receipts, mileage, etc.), and use Quickbooks and your online banking/credit card for proper reporting. Come April, you'll likely see a refund if your business is still building. Regardless, you'll be



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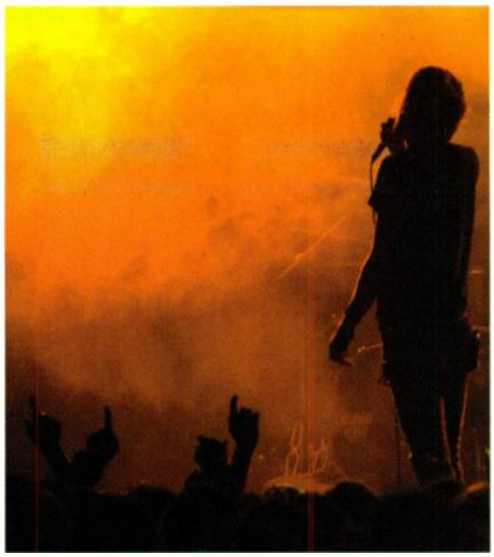
in line for growth instead of regret. If you are starting to make deals with contractors such as distributors, video producers, aggregators, and mobile media developers, set aside a healthy sum of money for a music attorney. Don't download a contract off of the Internet and assume it will work for your situation. You need to understand what you are accountable for as business owner, and your contracts will define those rules.

**Balance Creative and Business.** I fall into this category, so I'll own up to it. When things are really happening for your business, you'll generate more correspondence, paperwork, and details that need to be attended to—and the creative part gets kicked back. But that is why you got into the business, so don't let it lie dormant for long. Not to sound hokey, but consider trying a vision board with a list of the creative assets you want to make—the songs and media you want to create and record—and put a timeline to it. Want to have professional videos? Put it on your list. Every week when you host your own staff meeting to check in on your progress, run through your list of creative goals as well as your Business 101 list. Schedule both events so you are accountable to your vision and not just your to-do list. Every week, take a step toward the loftiest of goals. Nothing happens overnight, but nothing happens without you putting time into it. Like a stone sculpture, chip away at it and invest in the process.

**Problem Solving: When in doubt, Google it.** Having set up several businesses and advised others on it for the past several years, one thing I've learned is that when you don't know how to do something, and you can't ask someone, Google it. Seriously, I have trained numerous staff on this exact premise. For one business, I had the website up and running, and had great impressions and feedback on the design. But then I had to edit the site. How to do that without the website editor, at midnight when everyone was sleeping? I Googled "how to HTML images." "How to FTP." "How to Photoshop color replacement." Because of this I can maintain my websites at a rudimentary level when in a pinch. Be willing to ask questions when you get stuck, use your network. When that doesn't work, take your inquiries and willingness to learn to that vast searchable list of resources created by generous



experts. The same goes for feeling stuck on finding the right folks to join your team or develop additional media. Chances are someone has written about the companies, or they have their own marketing online.

**Persistence and vision will take you anywhere. Don't give up.** This road you have chosen is not simple, easy, or fast-tracked. Your persistence, ability to persevere after failures and re-imagine your future path, and collaborators will define your success. Many people are distracted by their fears, roadblocks, and hang-ups. If things get hard, find that one business leader who inspires you, read his or her story, or, if that person is a friend, call to find out how they keep going amid adversity. With your A-Team behind you, you're going to have a lot better luck than flying solo.

Forging your own path, building your own brand and products, and creating your own income stream from music is the only vibrant reality in the industry today. If major labels are taking tips from independents and media companies, re-hauling their staff and engaging their consumers in new ways, then media companies and entrepreneurs are trailblazing ways to do all of the above. So if you're inspired to trailblaze and forge ahead in music business, we're 100% behind you here at *Electronic Musician*. ■

*Kaitlin McGaw runs Alphabet Rockers, a children's music group. Check out AlphabetRockers.com to learn more about her music, and to see real-world implementations of the ideas outlined here.*

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Fig. 1 Gently touching the center of the drum while tapping will help you hear the harmonic more easily.

# Tuning Basics

## Techniques for getting the best tone out of your kit

BY GINO ROBAIR

TUNING A set of drums can often seem complex. However, once you grasp the basic concepts, it's surprisingly easy to find a sound that makes sense for you. Like everything else in the music biz, it just takes some practice and patience to figure it out.

Before we begin tuning, let's see what's involved in changing the heads.

**Check Your Head** The basic parts of a drum are the shell, the head, and the hardware that connects the two (counterhoops, lugs, and tension rods). When you change the heads, you want to make sure each part is in good working order. For example, if the lugs are difficult to turn with a drum key because of rust or grime, it'll be hard to tune the instrument. It's a good idea to clean or replace any damaged hardware before you re-assemble the drum.

The head rests on the bearing edge, which couples it to the drum like the bridge couples a string to a guitar's body. If the bearing edge has irregularities, or if the shell is out of round, the drum will be a challenge to tune and the tone will be compromised. These are two things to check if you have had difficulty getting the drum to sound good.

After removing the old head, wipe away any grease or dirt that has built up on the inside of the hoops and on the bearing edge, and dust out the shell. Place the new head on the bearing edge so that it's evenly seated, then add the hoop, being sure to line up its holes with the lugs. Place the tension rods through the hoop and into the lugs, and then tighten them down with your fingers until they touch the hoop.

Next, tighten each tension rod a quarter-turn, using a drum key. The order that you tighten up the rods at this stage is important, because you want to tension the head evenly as you're seating it. Always move to the rod that is across the head, not the one to the immediate left or right. For example, think of an 8-lug drum like a clock: Give the rod in the 12 o'clock position a quarter-turn, then turn the one at 6 o'clock, followed by the one at 3 o'clock, then 9 o'clock, and so on. If you hear crackling noises as you do this, don't worry: It's just the sound of the head materials and glue being stretched. Continue around the drum in this manner until the head becomes resonant.

At this point, use smaller turns of the drum key, being consistent as you move around the drum. Don't get impatient and turn the rods too far, or you might ruin the head by over-tensioning it or mounting it cockeyed. If you see one side of the head wrinkle, adjust the rods near the creases to even them out. If that doesn't work, try adjusting the rods at the opposite side of the head.



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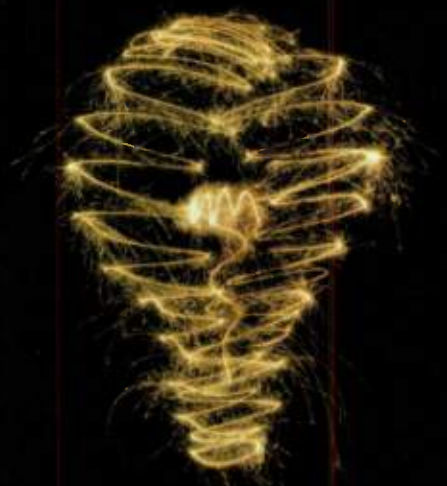

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Head manufacturer Evans suggests you tune the head slightly above the tone you want, being careful not to overdo it. Then, lower the tension to the desired pitch. By momentarily tuning higher, you pre-stretch the head, which gives you greater pitch stability.

Now it's time to fine-tune the drum and make sure it's tensioned evenly. To do this, test the pitch next to each lug by gently tapping the head about one inch away from it with a drumstick. (If you have trouble hearing the tone clearly, gently dampen the center of the head using the fingertips of your other hand; see Figure 1.) At first, you'll hear a different pitch at each lug. Your goal is get the same pitch no matter which lug you tap next to. This indicates that the head tension is spread out equally around the drum.

As you're turning the drum key at this stage, quickly go counter-clockwise and loosen the head slightly before tightening it past the previous tension. Lowering the tension before raising it helps with tuning stability.

**The Pitch** There are no rules about tuning the relative pitch of each drum. The tone you'll strive for depends on the demands of the player and the music, so you'll need to rely on your ear to know that you've nailed it. With that in mind, let's look at a few starting points.

For the toms, start by matching the tones of the top and bottom heads. Some drummers tune the bottom head higher or lower than the top head to hear a slight pitch change during the decay of the drum.

On the snare, the bottom head is usually thinner than the top, and many drummers tune them differently. Commonly, the batter head is tighter than the bottom head by as much as an interval of a fifth. If you're new to tuning, start there, but don't be afraid to loosen the top head if it doesn't fit what you need musically.

For the bass drum, tune it to the lowest tone you can get without the head becoming flappy. Old-school methods of getting a punchy kick include tightly stretching a strip of felt across the batter head, putting a pillow in the drum, or both. A number of manufacturers sell products for use inside the kick, as well as heads that have built-in muffling systems. It's worth a trip to your local music store to see and hear the options available. ■



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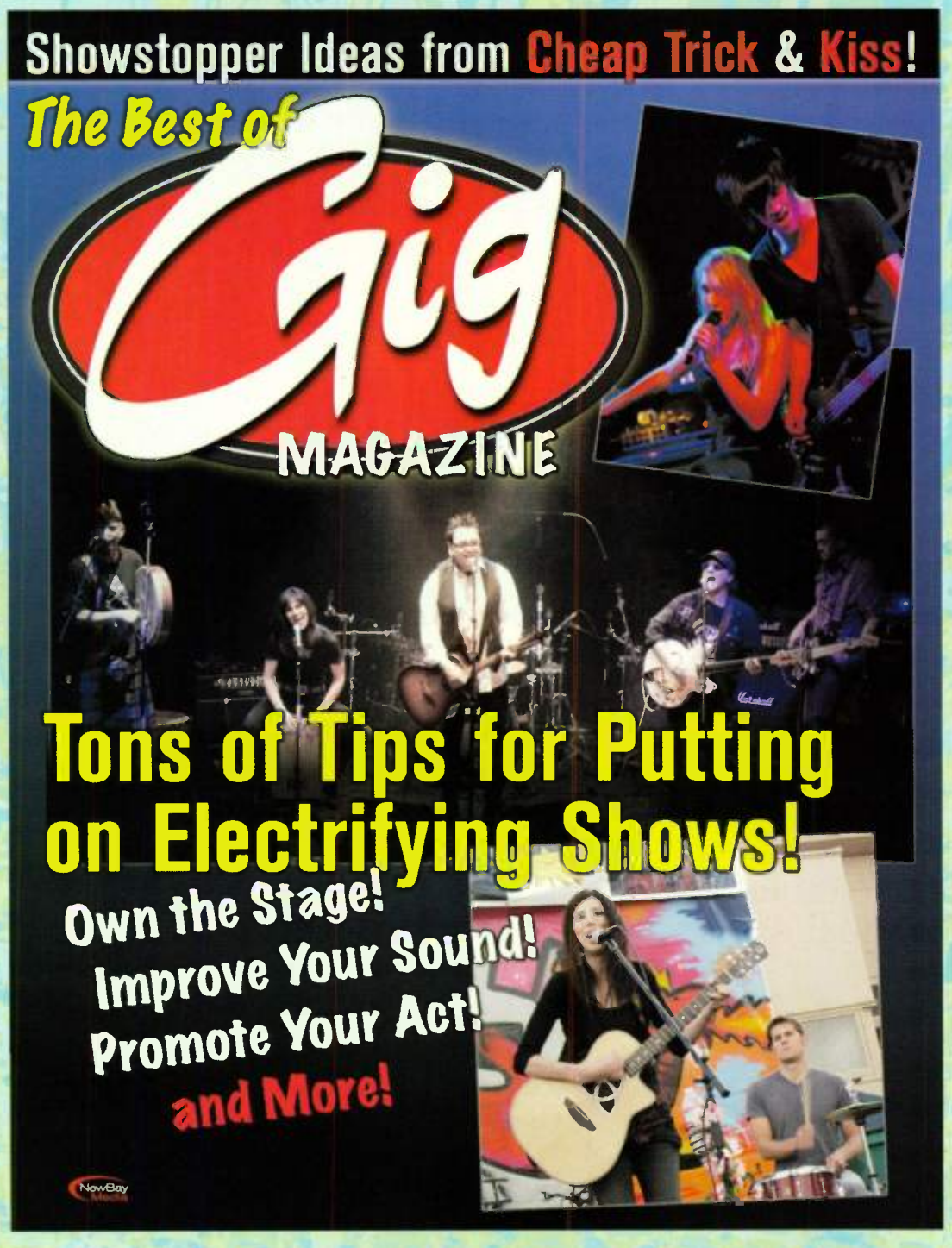


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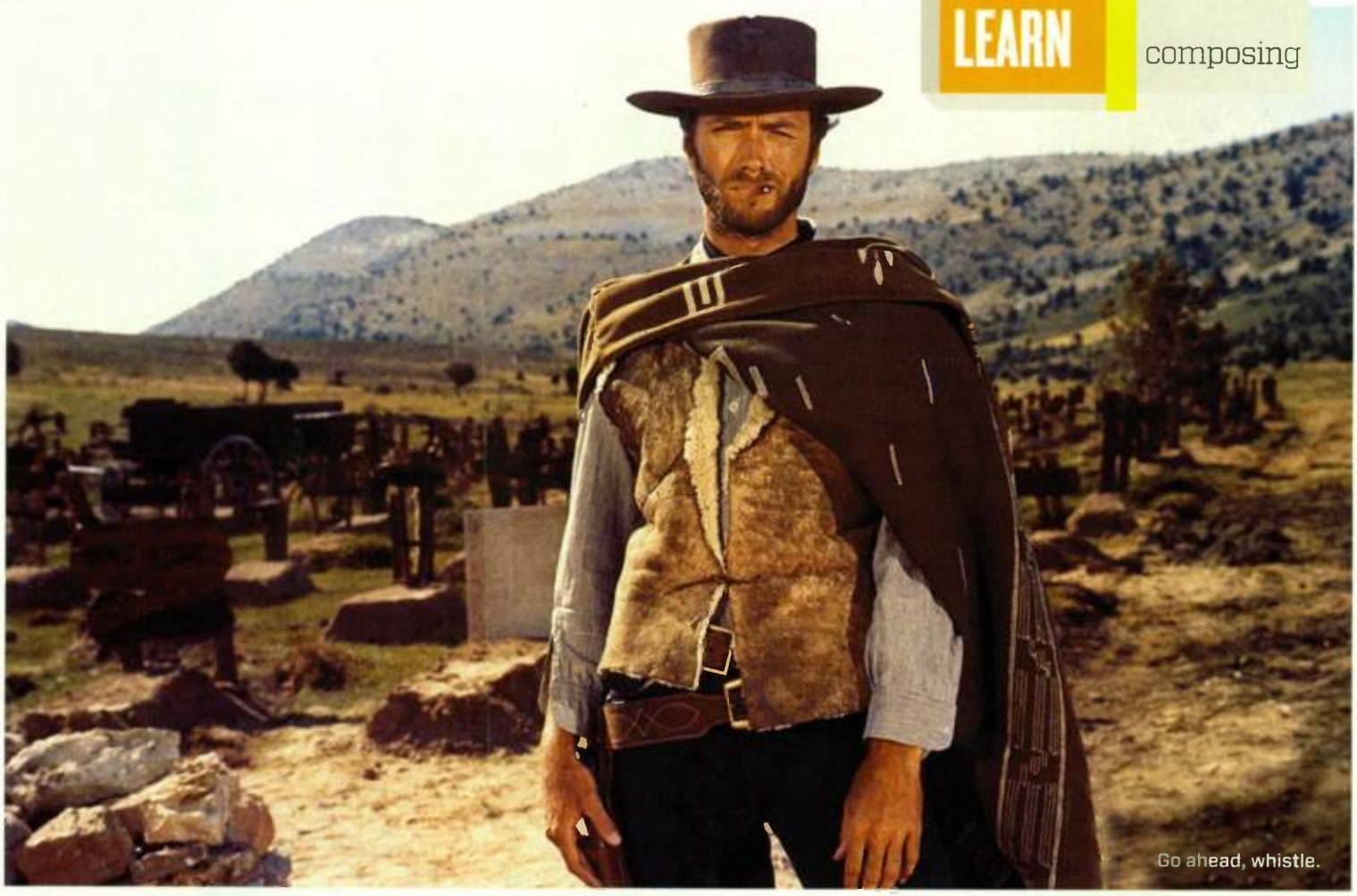

Go ahead, whistle.

# Home-Brew Film Scoring, Part 2

## Five tips for implementing your musical ideas

BY BUDDY SALEMAN

IN SEPTEMBER, I talked about prepping your studio for scoring. Now we are ready for the real deal, so to speak. Remember that it takes years and years of training to learn the craft of film scoring, but it only takes seconds to have a brilliant idea. Here, I'll show you some ways to implement that idea.

**Understand the intent of the film.** It's important to understand what the nature of the film is, as whole, but also know that you need to work in small chunks to get it done. Unlike a CD project, which you usually create by writing smaller chunks (songs) and assembling them into a whole, for a film, you need to start from the macro and move into the micro. Know where your story line is going, conceptually, and then fill in the blanks. I know this seems incredibly obvious, but when you have to put together 90 minutes of music, it can get daunting. Bite-size is good and tasty!

**Know the difference between character and concept.** A character is an individual person or thing that appears on the screen many times throughout the film. A concept is more abstract—it can represent the mood of a scene or it can be an idea designed to push action along. These ideas can be expressed the same way, musically, or be treated quite differently.

A good example of music that illustrates both a concept and character of a film is the motif in *Jaws*. It is a two-note figure that expresses the mood of the whole movie while acting as a theme for one of the main characters (the shark). On the other hand, *Star Wars* has a very bombastic fanfare theme, but the characters all have different motifs; the storm troopers sound different from Luke's theme.



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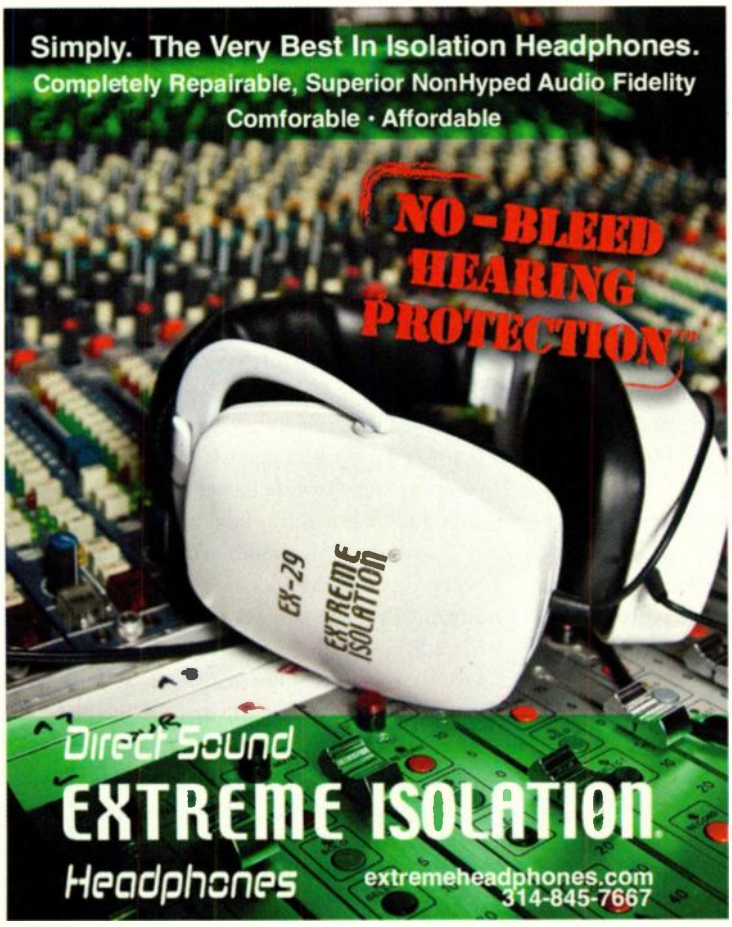
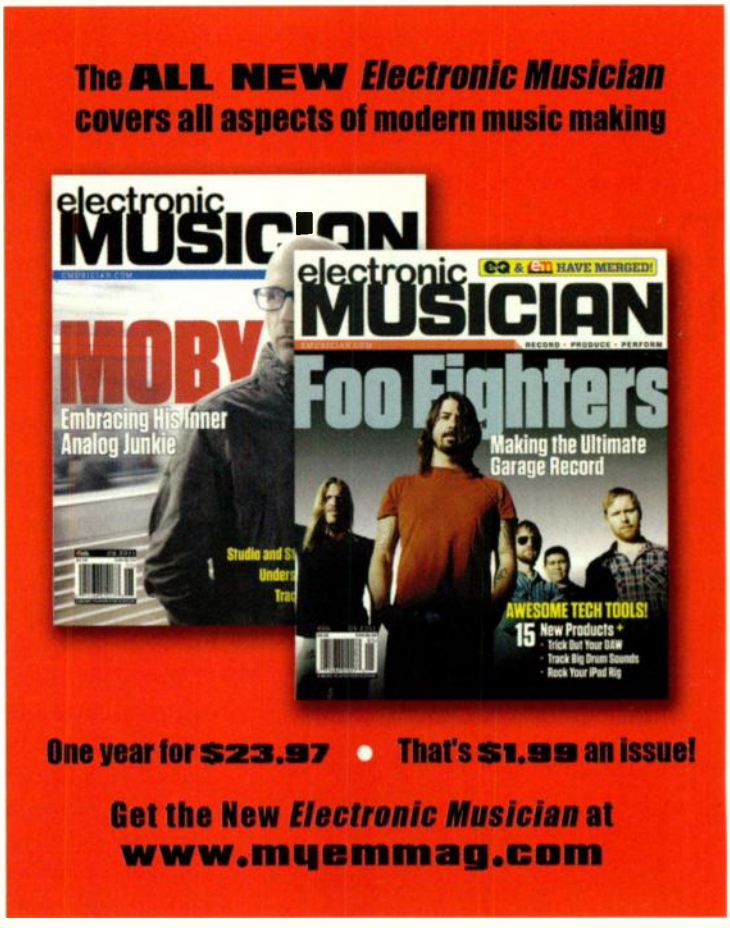
**Keep your thematic ideas simple.** Usually, you only have somewhere between three and 15 seconds to get your musical point across, so get to that point fast. Simplicity allows the audience to easily identify between the visual and the aural. A great example of simplicity in thematic development is the whistling theme from Ennio Morricone's brilliant score for *The Good, the Bad and the Ugly*. Here, a simple whistle lets us know what is going on and whom it's going on with. One voice disseminates a monumental amount of information.

**Think about theme and variation.** This is a great way to keep motifs fresh and exciting throughout the film, while embedding a great hook into the listener's ear. Try moving the motif around from a violin to a bass and then over to a bagpipe. Then go back and restate it on the violin. The music becomes an "old friend" that we welcome back to our world. If we go back to our *The Good, the Bad and the Ugly* example, we ultimately hear the theme expressed on various instruments. Sometimes only parts of the whole motif are played, but we can still identify it.

**It's the small things that count.** This is my favorite part of the whole process. I find it more challenging to write between or under film moments than to be given a full measure to have my say. (Not that I don't love to have my say!) When I think of movies that have inspired me musically, I always go to *Thelma and Louise*: Composer Hans Zimmer weaves in and out of majestic scenes with small legato lines that underscore the characters' chase through the deserts. Generally speaking, you will not have very many large moments in the score to really show your most powerful passages, because strong musical moments can get in the way of dialog movement. So most of what we write lives in the small moments of films—the walks down the street, the pensive moments on the beach. Make these moments count, because they give the viewer a chance to identify with the character. Be personal. Make a solo instrument speak volumes about a character. Whisper (so to speak) in the audience's ear and tell them something about the character that they didn't already know. ■

Most of what we write lives in the small moments of films—the walks down the street, the pensive moments on the beach.



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Don't leave home without them: road essentials for drummers.

# Drums on the Road

## The show must go on when you're miles from home

**BY GINO ROBAIR**

LIVE SHOWS and touring test your gear—and your patience—like nothing else. Whether you're performing a series of one-night stands or just the occasional gig across town, the routine of packing and unpacking, loading and unloading will eventually take its toll on your instruments. And the last thing you want is a snare drum or bass drum pedal to crap out when you're not prepared for it.

Most of us can't afford to keep a completely redundant set waiting in the wings, so it's a good idea to pack a few essentials that will get us through the common technical issues that are bound to happen. While it might seem like common sense to pack extras of the items we use most, I'm always surprised at the number of drummers who don't even carry a drum key.

Let's begin with the bits that every drummer should have and that are easy to carry, so it won't matter whether you're playing locally or flying internationally. From there, I'll suggest extras that make sense when you have additional storage capacity.

**The Carry-on Bag** These essentials are TSA-friendly and worth carrying on a plane, because you never know if your checked luggage will arrive at the airport when you do. If your gear doesn't make it to the gig, at least you have the absolute basics if you need to quickly repair a dodgy backline kit.

Obviously, you should bring a drum key to every gig. If you're like me and keep losing it, buy one that you can put on your keychain. In addition, I bring a plastic bag that contains several strands of snare cable (the string used to attach the snares to the drum), as well as extra cymbal felts and sleeves. Even if you're playing borrowed kits, you want to be ready if a snare cable is frayed or breaks, or if the cymbal stands are missing the soft bits. I also pack an extra hi-hat clutch, whether I've got my own stand or if I'm using backline.



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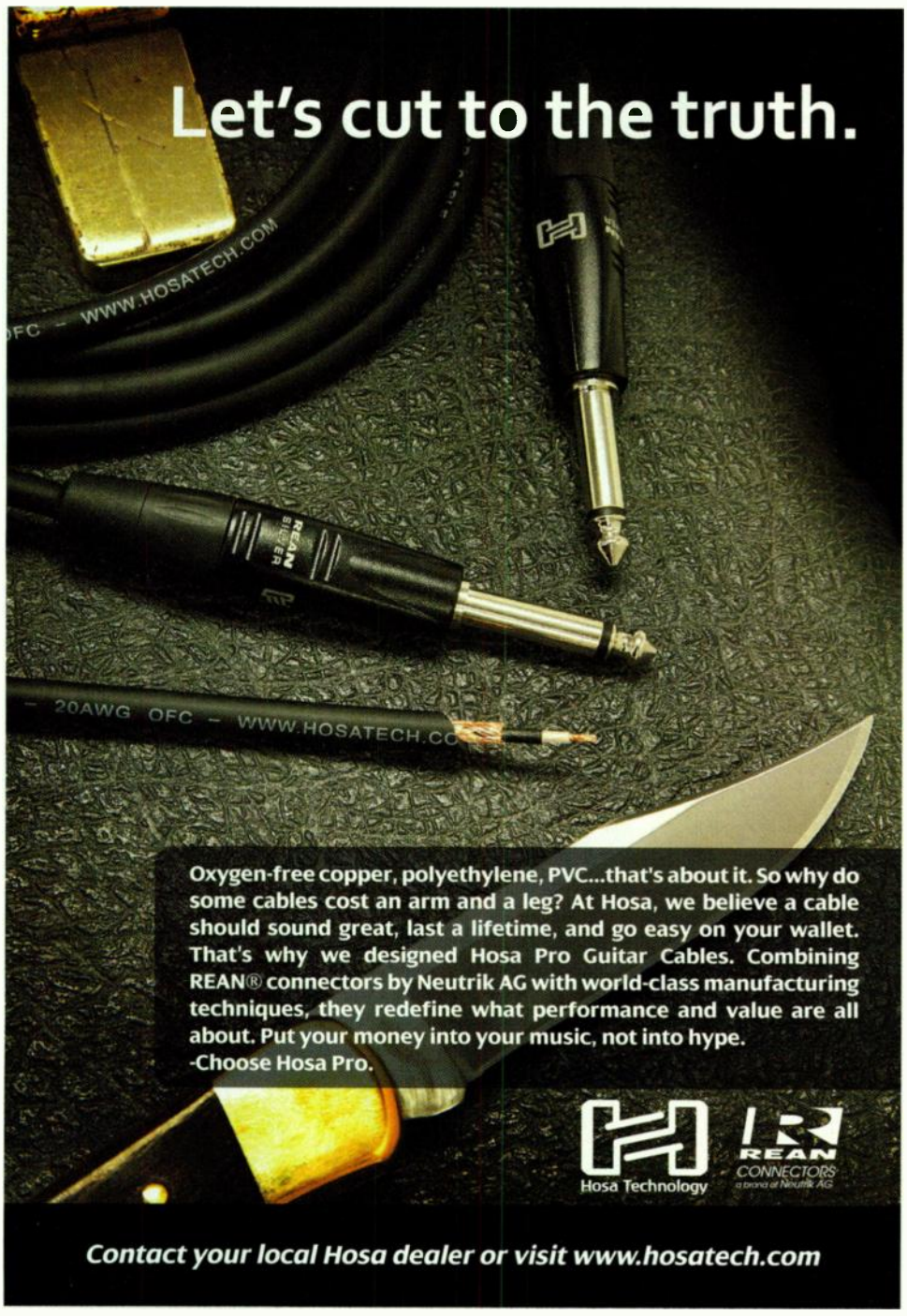
And, of course, packing several extra pairs of sticks is a no-brainer. If you use brushes and mallets, always have an additional pair of each. Check these in your regular luggage at your peril.

Finally, I pack a small flashlight, usually an extra-bright LED version, in my carry-on stick bag. If you drop something on a darkened stage, you'll be glad you have it.




**Tools of the Trade** The next level of essentials includes two screwdrivers (one flathead and one Phillips-head), a pair of pliers, and a pair of scissors. I've used these to fix bass drum pedals, replace snare cables, and tighten up parts that have loosened and become noisy. Put these tools in your checked baggage if you're flying, so that the TSA won't hassle you.

If I'm driving or able to ship a trap case, I'll pack a small rug (with a rubberized bottom) that's big enough to put my bass drum and hi-hat on, a roll of gaffers tape, a roll of duct tape, and extra heads for the top and bottom of the snare. The harder you play, the more important the extra heads are.

If there's room in the trap case and weight isn't an issue, pack a second bass drum pedal, even if it's a cheapie. I've had my pedal go out twice onstage in my career, and having a lightweight pedal as a substitute was better than having none at all.

**Mark Your Territory** Gear has a habit of disappearing after a gig, and a drum set has so many parts that it's surprisingly easy to leave something behind, whether onstage during a frantic set change or backstage after you pack. Consequently, you need to be able to identify your own gear quickly, and marking your stuff will help.

The simplest and cheapest way is to use strips of colored tape, which you can wrap around essential components in an inconspicuous place. Then if something goes missing, you can call the club or the other bands and easily identify your property. For example, my touring hardware has a strip of yellow tape around the bottom of one leg on each stand. Onstage, I place the tagged legs closest to me, so they don't distract the audience. These convenient little tags also help me locate my gear in the forest of stands backstage at the end of the night. I also tag my sticks and mallets. And a bit of tape will help you identify your cymbal felts and sleeves so you won't accidentally leave them behind.

It's also wise to put your name on your cases. Using stencils from the hardware store, I spray painted mine on the lid and side of each hard-shell case. And because I occasionally check my cymbal case as regular baggage on planes, I painted my name, phone number, *and* email address on it so that I can be contacted easily if it gets misdirected. ■



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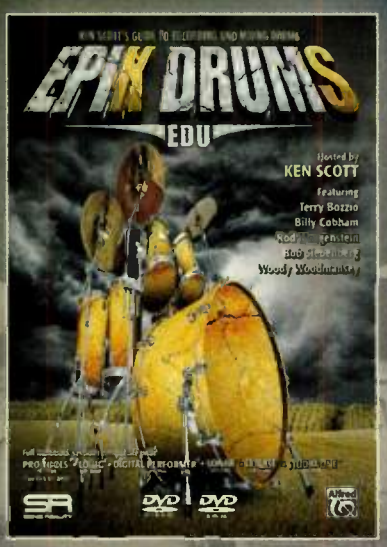


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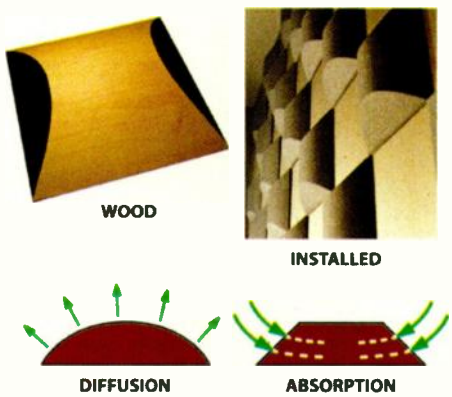


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# Five Marketing Slogans That Must Die

BY CRAIG ANDERTON

## 1

"Limited only by your imagination." I have a pretty good imagination, so until a product can transport me through space accompanied by super-intelligent knockout female aliens (preferably with lots of arms) and an infinite supply of world-class sushi, it ain't true.

## 2

"Turns your dreams into reality." Depending on which of my dreams they're talking about, I'm not sure if that's a threat or a promise. But I'd rather not take the chance, if it means running in molasses while being pursued by giant, fire-breathing blue armadillos playing a cover version of "You Light Up My Life" on out-of-tune ukuleles. Through Marshall stacks.

## 3

"Future-proof." I'll make an exception for non-tech thingies, like stone tablets you hit with animal thigh bones, but here's a reality alert: Either the technology will change, the company will stop supporting it, or there will be an extinction-level event and no one will care.

## 4

"The most unique [fill in the blank]." How can something be "most unique?" Unique means there's nothing like it. So is something that's *most* unique different from other things that are just like it, but also unique but just not quite as unique? I'm so confused . . .

## 5

"Destined to be a classic." Hey, if you can foretell the future, why didn't you buy Apple stock when it was $30 a share? Or tell me Mine That Bird (50-1 odds, dude!) was going to win the 2009 Kentucky Derby? ■

*Note: This unique column is limited only by Craig's imagination, and destined to be a classic. But wait—there's more! Buy the next issue of* Electronic Musician, *and you'll receive another, brand-new "Craig's List" at absolutely no extra charge!*



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