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WHICH COMES FIRST: TREATMENT OR GEAR?

By Kevin Becka



I recently had a conversation with sound designer/producer Rick Allen, who has a high-end studio at home. Rick produces original audio collections for film, radio, TV, video, advertising, Web development and gaming, and he has become concerned about the lack of treatment in his studio. As our conversation developed, I asked him about his room size (22x19x8 feet) and gear. He's oriented to the 22-foot wall with Pro Tools as his main DAW; he uses a variety of virtual and analog instruments in his daily work.

Rick's room treatment is basic. There are large, flat absorption panels on three walls, and he has a cloud suspended above the listening position. He has a large main desk, a side desk to the right and a rack of keyboards on his left. It looks like a very comfortable setup. His monitors are mid-field three-way speakers on sturdy Sound Anchor platforms. In the back of the room, there are some racks for his converters and other processors. Being that he does a lot of radio work, the room doubles as a voice-over booth with a mic position in one corner.

As we got deeper into the nuts and bolts of his signal flow, I recognized some areas where I thought he could make some improvements before getting into acoustic treatment. Don't get me wrong; I'm a big believer in knowing your space acoustically and getting the problem areas under control. However, acoustic treatment will only help if your gear is giving you accuracy from the beginning to the end of your chain.

My first suggestion was for him to get his monitors closer to his head. This helps take some, but not all, of the room out of play, especially if you're listening at low volumes. His speakers were older and too large to tuck in, so I suggested the Focal CMS 65s with the CMS Sub as a good choice that wouldn't break the bank. Another choice would be the PMC DB1S-A IIs, which are capable performers in the near field though a bit more money. Next, I suggested he perch his speakers on Primacoustic Recoil Stabilizers to help his imaging and overall sound. The speakers and the stabilizers would come in just over \$3k.

The next thing back in the chain is the monitor controller. I suggested the Dangerous Source (\$899), which is perfect for his setup. It has two analog, one USB and one digital input, 24-bit/192kHz D/A converters, separate speaker and headphone outputs with their own volume control and switching for two speaker sets. He can use this both for his monitor control needs and to drive his

headphones for voice-overs, and it sounds great. Another choice would be the SPL 2381, which features volume control, source switching for three sets of monitors, talkback, and cue mixing functions (\$962).

Next, we moved on to his front end. Rick is using 96 I/Os for his Pro Tools conversion, and although they've been used to make thousands of records, the older Avid converters are long in the tooth. As an alternative I suggested Lynx Auroras or the Antelope Orion 32, which has S/PDIF I/O, 32 channels of analog I/O, word clock I/O, ADAT I/O, USB I/O and MADI I/O (\$2,995.)

Next on the list is power, which I think is greatly overlooked in small studios. Whether you buy into the concept or not, clean AC power can make a huge difference in sound quality and will lower your noise floor. The Furman P-1800 AR voltage regulator and power conditioner costs under \$900 and can take care of any fluctuations. The next step would be to have balanced power. This is where you have to pay the big bucks and it gets you into audiophile land. Furman has the P-2400 IT (\$2,499), and it goes up from there.

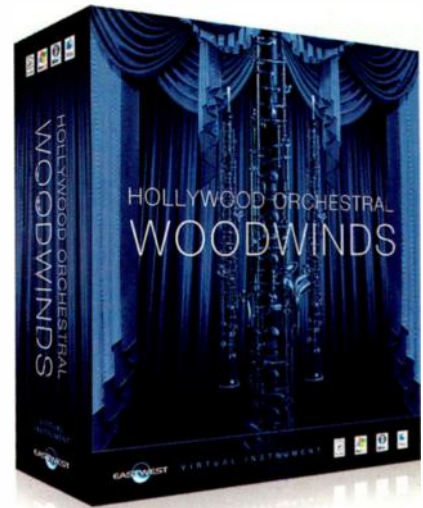
It's tough for a working audio pro to spend that amount of money on something that doesn't make sound, but in my experience, the payoff warrants the expense. Once you're in that neighborhood, you may consider higher-end AC cables (this is where the scoffers stand up). I find that quality cables do make a difference, and there is hard science to back it up. Michael Griffin from Essential Sound Products (essentialsound.com) and I have had many conversations on the topic, and he's a true evangelist. The discussion exceeds the boundaries of this column, but if you're in for balanced power, you should be in for beefier AC lines.

Another thing to consider is power junction boxes and your AC wall outlets. Belkin makes a sturdy power junction box you can buy at any home improvement store (\$25), and while you're there, get a "hospital grade" AC power outlet (\$12). It uses heavy-duty brass parts—no contractor-grade stuff here—and you can replace your old outlets as a DIY project.

Now you're ready to move on to acoustic treatment if you think you need it and have the money. Some of the "room" problems we hear in our rigs are what's coming out of the speakers themselves, and if you monitor at conservative levels, you can reduce the room's influence on the mix. Yes, room acoustics and treatment are important, but it's the gear we really hear. As you upgrade your signal path, your listening experience will improve every step along the way. ■

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SEC is the wholly-owned US subsidiary of Sennheiser Germany. SEC markets and distributes and services all Sennheiser products, including a variety of other premium pro audio lines, such as Neumann Microphones, and K-Array Speakers. SEC's headquarters are based in Old Lyme, Connecticut conveniently located between Boston and New York City, in close proximity to a variety of the company's key professional customers.

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Monkey Banana Turbo10s subwoofer

guitar parts receded into the background and became slightly masked when overwhelmed by crowded sonic production.

The biggest difference, sonically, was with Norwegian death metal. There was a noticeable shift in timbre in the guitars, but I have to say, I find this same trait in every speaker I test. The distorted timbre of the guitar seems to be "the telling," as it were, in how a speaker represents the midrange; there was much less variation with these speakers, at various SPLs, than with other, more expensive boxes I have reviewed. As we all know, there are going to be variations in speakers, and every single one will sound different. I was quite impressed with the accuracy presented by these transducers. But brought to tears during the "1812 Overture" by 6-inch boxes? I'd love to hear the Turbo8s.

The next round of testing involved the Turbo10s. This little sub certainly brings an added dimension and life to the setup. I set the crossover frequency relatively low (approximately 55 Hz), and the tonal qualities of the bass guitar were not only felt coming off the subwoofer, but with Turbo's no longer fighting to reproduce the lower octave, the speakers, and thereby instrumentation,

sounded more open and accurate. I'd say yes, get the subwoofer if your production style and room demands it. Being rear-ported, it demands accurate placement within your room, not to mention the time-alignment necessary to obtain a seamless transition.

I was equally impressed when using the digital inputs. I sent an S/PDIF signal out of my Alesis Masterlink into the subwoofer, then, using the bass management system, sent the S/PDIF signal to one Turbo6, then Thru to the next speaker. Imaging was virtually identical, and the clarity of the signal was exceptional. Monkey Banana uses Cirrus Logic CS8416 D/A converters between the digital input and the amplifiers' analog inputs.

Monkey Banana. If you can get your client to look past the unusual moniker, these speakers are definitely worthy of your consideration, especially taking into account the reasonable price, build quality and sonic integrity. By fine-tuning proven designs, Monkey Banana may well be a formidable contender in a jungle of low-cost speakers coming out of China. Give them a listen. ■

Bobby Frasier is an engineer, musician, educator and lover of all things Beatles.

stereo channels below the selected crossover frequency. The crossover is continuously variable from 40 Hz to 120 Hz via a rotary control on the back panel. Frequency response for the sub is 20 Hz to 120 Hz. A healthy 300 watts powers the low end, with .08 percent distortion at the rated output. Again, there are no heat-sink fins on the back of the cabinet; like its little brothers in the midrange, the dissipation is mounted inside. One difference in design application for the sub is in the driver. The designers chose to use a paper cone instead of the PP/ceramic/carbon fiber mixture of the Turbo4, 5, 6, and 8s.

A full complement of controls on the back of the Turbo10s should make it easy to integrate into your current environment. Along with the variable crossover, a switch for reverse polarity operation is included, as well as a volume control. Inputs and outputs include XLR, TRS, RCA unbalanced and RCA digital. There is a jack for an on/off footswitch, and a Standby Mode selector for Always On, Auto and Off.

TESTING...TESTING...

My first listening tests were without the subwoofer. Precisely matching levels with my current reference speakers, JBL LSR6328Ps, I found the Turbo6's imaging to be remarkably three-dimensional. The

PRODUCT SUMMARY

COMPANY: Monkey Banana
PRODUCT: Turbo6 and Turbo10s
PRICE: \$499 and \$999, respectively
WEBSITE: mixware.net
PROS: Smooth tweeter response. Digital input. Punchy sound with detailed reproduction. Wide sweet spot.
CONS: No VESA mounts on back, turn on/off transients. Subwoofer is pricey. Currently limited distribution.

soundstage is wide, and the phantom center is firmly placed between the speakers. The circular waveguides create a much wider sweet spot than I would have imagined.

Break-in time was minimal. Out of the box, the speakers seemed a bit bright (but not harsh), but after only few hours of running all styles of music through the boxes, they mellowed slightly. The integration of the tweeter and woofer is to be commended; they complement each other nicely, with a smooth transition between the drivers and no sense of separate location, as some speakers exhibit—

meaning, a sense of “the highs are coming from here, and the lows and midrange from another point source.” I found myself leaving these speakers on and really enjoying the sound.

Vocals are represented as articulate and accurate. All the breathiness was there, sounding much like my reference speakers, which cost three times as much. The upper end of electronic synthesizer patches on electronica tracks was smooth, with no sense of brassiness. The little 6-inchers really hold up well when pushed—plenty of punch when listening to beat-driven dance music. The snap of the kick was there, as well as the tonal body. When listening to complex opera and orchestral productions, the little boxes did tend to lose a bit of the depth, clarity and soundstage, particularly at higher SPLs. On certain songs, some midrange ambient

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MONKEY BANANA TURBO6 AND TURBO10S

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Monkey Banana speakers are designed by two engineers and studio owners, in the town of Schliengen in the southwestern part of Germany, then manufactured in China. The Turbo Series is being rolled out with a 4-, 5-, 6- and 8-inch woofer (all using the same 1-inch tweeter), and a 10-inch subwoofer. The review units were two Turbo6 monitors with the optional Turbo10s subwoofer. The speakers come in red or black.

THE SHAPE OF THINGS

The first thing you'll notice is the shape. The speaker box is in the shape of an elongated or "non-regular" hexagon. According to Monkey Banana, this shape is "most effective in minimizing standing waves inside the enclosure," thus minimizing distortion. It is definitely unique and immediately identifies the brand. Monkey Banana uses MDF as its choice of material for the cabinet structure, providing an inert, low-resonant housing for the transducers and amplifiers. The interior of the cabinet is lined with blended wool to further dampen internal reflections.

Both the woofer and tweeter are slightly recessed into the cabinet, creating circular waveguides. All cabinet edges are slightly rounded, and along with the recessed transducers, give the speaker a soft appearance. The 6-inch woofer is made up of a patented high-tech mixture of polypropylene, carbon fiber and ceramics, making it lightweight yet rigid, enabling a fast transient response and quick return time.

The published frequency response of the Turbo6 is 50 Hz to 30 kHz. Another patented design, the 1-inch, rear-chambered, silk-dome-style tweeter uses a neodymium magnet structure; it's a joy to listen to. Using "aerospace technology," the nano-magnetic materials provide excellent heat dissipation, low distortion and a lower frequency range than conventional tweeters, reproducing a great deal of detail without being edgy. Dual onboard Class-A/B amplifiers produce 30W for the HF and 60W for the LF.

The back panel has a rear port mounted at the upper portion of the cabinet. Conspicuously absent are any heat-sink fins for heat dissipation; the air movement through the rear port is used to cool the amplifiers. Inputs are on a Neutrik XLR/TRS combo jack for +4dBu levels, an RCA jack for unbalanced -10dBv levels, and an RCA co-ax for S/PDIF digital input. A Thru connector is supplied to send the S/PDIF signal on to the next speaker. A toggle switch is provided to select the channel at the speaker if you are



using the S/PDIF input along with the Thru port. Another toggle switch is included to select either analog or digital input. This is a handy feature, allowing you to have both a digital source and an analog source plugged into the speaker at the same time. Other features include a volume control and HF and LF shelf controls, offering ± 6 dB at 10 kHz and 100 Hz, respectively.

ENTER THE SUB

Sporting the now-familiar non-regular hexagonal shape, the 10-inch subwoofer weighs in at just over 49 pounds. This sub acts as a bass manager, summing the bass information of your two

TRY THIS

Don't forget to monitor your mixes at different levels. Take some time to get to know your speakers at 20 or 30dB down from where you usually mix. Sure, crank 'em up every now and then, but take notice how the elements of the mix change at different SPLs. And then, there's always the old "listen off-axis" test. You can really tell what's going on in the mix from different parts of the room. Take music you know and listen to it from the side. Then see how your mix translates in this position. You can learn a lot by listening at different levels and from different positions.



which SSL states was “the last version of the standard E Series EQ. The EQ card was called the ‘242.’” The Brown option (default) is: “The original SSL EQ fitted to all consoles prior to the summer of 1985. The EQ card was called the ‘02.’”

Although the E-Series EQ is the focus of this review (I had a pair), I also had two E-Series Dynamics units, and the pairing is lovely and worth mentioning. Both units are solid as a rock and put you in an SSL state of mind immediately. The familiar controls react as the console does and are super-clean and responsive. The pairing of the two together brings you the exact same capabilities as SSL’s high-end consoles—great EQ and dynamics in your signal path.

I used the E-Series EQ on drum overheads, toms, snare and a kick drum. My favorite application was on snare. In the LMF band, I could grab 200 to 400 Hz for the fundamental, dial in the Q, then move up to 1.5 to 2.5 kHz in the HMF and dig out the snap of the drum. Perfect! They also excelled on electric and acoustic guitars, B3 and percussion.

These EQs are addictive, as are the compressors. It was great to have the two pairs to play with across a range of tracks. The high price of entry is justified if you love that E Series sound that made so many hit records, and still does. ■

PRODUCT SUMMARY

COMPANY: Solid State Logic

PRODUCT: E-Series EQ

WEBSITE: solidstatellogic.com

PRICE: \$889

PROS: Super-clean and responsive EQ.

CONS: Brown vs. Black button results can be a challenge to hear.

TRY THIS

If you have an SSL E-Series Dynamics unit, try maxing out the threshold of the compressor (+10) and set the ratio at 1:1. Then kick the unit in/out to hear the difference. Even with zero compression, you’ll immediately get some SSL signal path love. This worked especially well on some chunky rhythm guitars, adding a nice presence in the mids that I ended up leaving in for the entire mix.

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PRODUCT SUMMARY

COMPANY: Mäg Audio

PRODUCT: EQ4

WEBSITE: maagaudio.com

PRICE: \$849

PROS: Air Band is revelatory. All bands are musical and useful.

CONS: Too pricey for some, especially if you need stereo.

the adjustment knobs for gain and frequency in the Air range, there is an In/Out button with accompanying LED, plus there are LEDs for signal present and peak, which kicks in when the output reaches 23 dBu.

Although you would think that the fixed approach of the EQ4 is limiting, it's really very usable and musical. Mäg sells it as a non-surgical EQ, which is accurate, but I found that I could get into some very fine detail work by just playing with the available bands.

I started using the unit on a mono drum overhead and immediately went for the Air Band. Wow! I reviewed the Nightpro more than a decade ago, and I immediately found the EQ4's

smooth treatment of upper frequencies comparable with the older unit. *Air* is the perfect word—cymbals were crisp without being brash, and I could dig down deeper into the tops of the snare and toms by kicking down the frequency choices notch by notch. I settled on an area where the cymbals and stick hits of the drums were evident and added the perfect amount.

Next, on the same track, I moved down to the 2.5 kHz band to bring out some upper-mid personality, then down to 40 Hz to boost the kick. That frequency choice was perfect for this kick. It brought out the thump without being tubby or too big in the sub range. Speaking of which, the sub range can be used to bring out some potentially large sub-harmonics or just as a filter to sculpt the bottom end, which is how I used it. I've got a Dangerous BAX EQ, which does that very thing for my overall mix bus output, but it's nice to have that capability on a single track to keep you out of trouble.

I also tried the EQ4 on a B3 organ, acoustic guitar and lead vocal with great results.

At \$849, the Mäg EQ4 is not inexpensive,

but it's one of those essential tools you'll grow to use and love on a regular basis.

SSL E-SERIES EQ

Back when SSL released its XRack vertical EQ and compressor units, it was a head-slapping moment for me. "Doh! Why don't they just make 500 Series units?" Having to buy into the SSL-only XRack housing unit and power supply was something I felt kept the company's signature units out of reach of the average Joe who couldn't justify XRack and 500 Series. Now with the release of the 611 Series, which comprises the E-Series Dynamics and E-Series EQ, anyone can have SSL processing right alongside other popular 500 Series units, even a single unit. But you'll probably want more.

The 4-band unit is broken into HF and LF sweepable bands and two fully parametric LMF and HMF bands. The top and bottom sections each offer a Bell/Shelf option, and there is a beefy In button at the center alongside the fabled Black button. This switches the EQ to the Black mode design developed in the 1980s,

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top, bring out the beef in the toms and dial in just enough low end to make the room mic work well with the rest of the kit. It all sounded very musical and was the perfect processor for the job. On a kick drum, the low band was too broad when using the peak setting to bring out the thump on this particular drum, and the shelving setting added too much woof in the lowest of lows. What I usually do in these cases is jump up to the LM band, but it goes down to only 65 Hz, and even if that did work, I'd lose the band for the other use mentioned above.

Everything about the AM-25 is high-class. The unit is built like a tank using 1-percent metal film resistors, high-quality potentiometers, and gold contact switches and relays. This is a great utility EQ for acoustic guitars and everyday dressing up of hand percussion, bass guitar and everything else you can throw at it. Besides the solid build and great sound, what's most amazing is the intro price of \$299. You couldn't make these yourself any cheaper—everyone should have two.

MÄAG AUDIO EQ4

Mäag Audio has been around since only 2009, but you may remember Cliff Maag as the inventor/developer of the NTI EQ3 and the Nightpro PreQ3 and EQ3D. Mäag Audio specializes in two products: the EQ4 reviewed here, and the PREQ4. Both are 500 Series modules, the latter pairing a mic preamp with an Air Band EQ. Mäag Audio also sells a software version of its EQ4 through plugin-alliance.com.

The EQ4 packs an astounding six bands of EQ into a single 500 Series unit (five fixed-frequency and one selectable). The bands are parked at Sub (10 Hz), 40 Hz, 160 Hz, 650 Hz, 2.5 kHz, and the Air Band, which is shelved and user-selectable at 2.5, 5, 10, 20, or 40 kHz. The unit is clearly labeled and easy to understand without reading the manual. Besides

TRY THIS

When using the EQ4 on complex material with a lot of different frequency content, use the Sub and 40Hz controls to sculpt the bottom end. By playing with boost and cut of the two bands, you can customize your low end, creating slopes that are effective for controlling the low end of a track.





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THREE 500 SERIES EQS

Beautiful, Portable Sonic Shapers



Hardware, especially portable hardware, is a hot category in audio manufacturing, and the 500 Series format has truly become a juggernaut. It seems every trade show cycle reveals at least a handful of new preamps, compressors, EQs and special-category problem solvers for the vertically inclined. The three EQs reviewed here each bring their own personality and enticements to the game. All are worth a listen, and as you'll find, can excel across a wide range of applications.

ALTA MODA AM-25 EQ

Alta Moda is a company that specializes in EQs and compressors, with the AM-25 being their new 500 Series EQ. The AM-25 fits a fair amount of functionality into its small space. There are sweepable high and low bands with ± 12 dB of boost/cut between 4 kHz and 20 kHz (shelf only), and ± 12 dB of boost/cut between 20 Hz and 120 Hz (shelving or bell). The LM and HM bands are fully parametric, offering ± 12 dB of boost/cut between 65 Hz to 2 kHz or 1 kHz to 7.5 kHz, respectively. The unit has a hardware bypass on a toggle with an on/off LED telling you if it's in the signal path.

I always start an EQ review by using them around a drum kit, which reveals a lot about an equalizer. Is it versatile enough for surgical use and cutting out boxiness, and can it doctor up a kick drum? How does it sound when adding some top to the overheads? The AM-25 did a great job in most departments.

Adding gain at high frequencies on a mono overhead mic was smooth without being strident. Of course you can add too much, but it was easy to hear the line where things got out of hand. It was easy to take the boxiness out of a kick drum with the LM band. I quickly dialed in the correct amount of cut around 400 to 500 Hz and then set the Q to taste. Perfect.

When used across a mono room mic, the AM-25 had the goods. I could add

PRODUCT SUMMARY

COMPANY: Alta Moda
PRODUCT: AM-25
WEBSITE: altamodaaudio.com
PRICE: \$499 (\$299 intro price)
PROS: Great-sounding EQ for a great price.
CONS: LF band peak setting too broad for some applications.

TRY THIS

When encountering a boxy-sounding kick drum, nine times out of 10 the problem lies around 400 Hz. With the AM-25's fully parametric Low-Mid band, it's easy to dial in the frequency at the 10 o'clock position for starters, set the Q control at 12 o'clock, then dial back the offending frequency until just the low end and attack are dominant. Adjust to taste.

stand•ard ['stan-dərd]

noun

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



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VOCALS

For vocals, I found a precise and accurate sound: not overly bright but with sibilants heard clearly, clean and consistent. The AT5040 has a wide cardioid pickup pattern that seemed to lessen the effects of loss of clarity when singers get slightly off-axis on certain phrases and words. If I listened to the singer's loud headphone mix, I could hear a definite sweet spot for optimal sound for vocalists who can stay on-point and at a consistent distance.

For this initial test, I used no additional outboard signal processing when I recorded a high tenor male vocalist who sings ballads very quietly. He sang about six inches from the pop filter placed right on the microphone. I found more than enough level with the API 1608 console's preamp gain at minimum and no pad. To find the sweet spot, it is easy

to experiment with mic-to-source by just small changes in mic gain, and usually there is no need for the pop filter unless you want singers closer than four inches.

For a different singer at another studio, I used about 15 to 30dB gain from my RTZ 9762 preamp (Neve 1272 circuit) for medium-to-loud singing within six inches of the mic. Great results—the singer himself, listening on headphones, even commented on the noticeable improvement over the Neumann U 87 Ai they had been using. The AT5040 has a smoother sound with less upward treble tilt, and with a touch of compression from an LA-2 leveling amp and no EQ, the vocal tracks were mix-ready.

I used an Ingram MPA685 (variable-impedance) preamp for the next vocal recording test at another studio. I liked using the preamp's 2,500-ohm (high) input impedance position and the -5 to -9 gain positions (around 17dB of gain) for recording my loud rock singer. Again, the 5040 effortlessly captured everything right and wrong with his performance.

ACOUSTIC GUITAR

I recorded a Martin OMCPA-4 guitar in a large, wide-open tracking room and got the best sound for finger picking with the mic about 12 inches from the 12th fret and with about 40dB of mic gain from the studio's Duality SE console preamp. Lowering the gain 5 dB and keeping the same distance but moving over the sound hole produced a thicker tone as expected, but not with excessive bass buildup. The AT5040's pickup pattern provided wide coverage of the entire instrument in a balanced way, including the player's very light foot tapping. Like when using a small-diaphragm condenser, aiming the AT5040 where the pick hits the strings (or not) dials in the "mix" of articulation/high frequencies versus the rest of the instrument, as you require.

BASS AMP

Initially, more as a whim, I put the 5040 midway between the dust cap and surround of one of the speakers in a bass amp cabinet. It was the best clean bass amp sound I ever got. It sounded like the DI, only with slightly more "hair." The amp was set to low volume, and the recording was as present as the passive DI version—just with more personality.

The AT5040 offers the elegance and natural sound of a well-designed large-diaphragm condenser microphone with the precision, wide frequency response and high SPL handling of a small-diaphragm microphone. The AT5040 is like super high-definition video—it captures everything in truthful resolution. ■

Barry Rudolph is an L.A.-based recording engineer. Visit him at www.barryrudolph.com.

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se·lec·tion [sə'lekSHən]

noun

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2. a number of carefully chosen things
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Tech // reviews

AUDIO-TECHNICA AT5040 MICROPHONE

New Four-Diaphragm Condenser Design



The AT5040 is a cardioid-only, side-address condenser vocal microphone that uses an all-new proprietary design and technology. With a hybrid design that combines the desired qualities of large-diaphragm condensers with the many inherent advantages of small-diaphragm condensers, the AT5040 is first in a new line of 50 Series studio microphones.

ALL DIAPHRAGMS GREAT AND SMALL

Large-diaphragm capsules are noted for their natural sound, low self-noise, high sensitivity and increased presence. However, the effective square area of the diaphragms requires them to be thicker and therefore more rigid and less reactive to higher frequencies. Because of their size, they also tend to have temperature-stability issues, and their sensitivity can be affected if the backplate-to-diaphragm distance has to be increased.

Small-diaphragm condenser microphones are noted for their wider frequency range, better dynamic range and higher SPL capability. By comparison, the lower-mass small diaphragm means they can be made thinner and are better able to track fast transients. But typically they are less sensitive and have higher self-noise than large-diaphragm microphones.

The AT5040 takes the best that both have to offer by incorporating four small, carefully matched, rectangular diaphragm capsules arranged in a two-over-two array in a frame that measures 60.5x35.5 mm. These permanently polarized (electret) capsules each measure 21.2x12 mm with a sizable vibration area. Functioning as one large diaphragm but without sharing a common backplate, this four-part element has a surface area twice that of a 1-inch circular diaphragm condenser capsule.

The four capsules each use diaphragms made of polyphenylene sulfide, or PPS, a polymer resistant to the effects of premature aging and most chemicals. The diaphragms are made from 2-micron thick material that's aged, stabilized and embossed with A-T's patented double-wave honeycombs—octagonal shapes that increase the diaphragms' effective surface area while also strengthening its tensile strength.

Wires connected to the backplates of each capsule are routed to a proprietary summing matrix that uses all-discrete FET (field-effect transistor) amplifiers to combine them to a single output.

Typical 48-volt phantom power drain is 3.8 mA to power the amplifiers (for reference, a Neumann U 87 Ai draws about 0.8 mA). A-T went with electret capsules to avoid using even more phantom power current required

TRY THIS

I found new life for an old trick when recording vocal doubles or stacks of double-tracked vocals using the same singer. Have the singer move to one side of center or change distance to the microphone for recording the double-track. For the first, or primary track, the vocalist would be on-center and lined up on the AT5040; then for the first double, I'd ask the singer to move 30 to 45-degrees off-axis to the right. For the triple-track, I would ask the singer to move the same to the left side. This is an old trick, but the AT5040's high resolution makes the different mic-to-source distances and their effect more "hearable."



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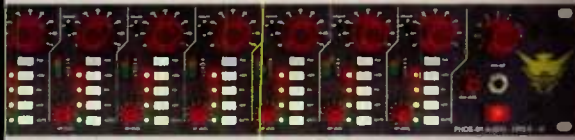
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Here's what engineers are saying about the i5:

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Paul Hager - Front of House Engineer - Miley Cyrus

"I have been using the i5 on snare (top and bottom) for for five years, and it's become one of my favorites. This microphone has an incredible SPL response with a smooth low end, and is durable enough to stand up to all the abuse from touring."

Stephen Shaw - Front of House Engineer - Buckcherry

"On the road you need three things: WD-40, gaffer tape, and an Audix i5. Use the first if it won't move, the second so it doesn't move, and use the i5 when it has to sound good. The Audix i5 is the thinking man's standard for an all-purpose snare mic."

Howard Burke - Front of House Engineer - Little Feat

"When JD Blair (Shania Twain) is out with us, I use only Audix mics on his kit. I have also used them for Derico Watson (Victor Wooten Band) for years. For full clarity, body, and accurate snare reproduction, I trust only the i5. Audix has never let me down!"

Jack Trifiro - Front of House Engineer - Shania Twain, Victor Wooten Band

"This mic is slamm'n!
If you're tired of a heavy stick hit blowing your snare mic cap to pieces, you'll love the Audix i5!"

Anthony Roberts - Monitor Engineer - Tower of Power

"The Audix i5 is a workhorse and is one of the most durable mics I own. It can adapt to most situations, but I prefer it on snare because it doesn't color the natural tone of the drum."

Joe Amato - Front of House Engineer - The Gaslight Anthem

"Thanks to the Audix i5, getting a great snare drum sound is something that I take for granted. The i5 is what style of music. It is equally outstanding on stage and in the studio. The i5 keeps everyone happy: drummers, engineers, producers, and the audience."

Charles A Martinez - Front of House Engineer - Steely Dan

"I am quite familiar with the Audix i5, because I use it on both of Travis Barker's snares. The i5 handles the high SPLs of his fast and hard playing, as well as the subtle nuances of his delicate rolls, all without coloration or distortion. This mic helps me get a great mix!"

Jason Decter - Front of House Engineer - Blink 182

Pictured with the DVICE - a patented rim mount clamp with flexible mini-gooseneck.

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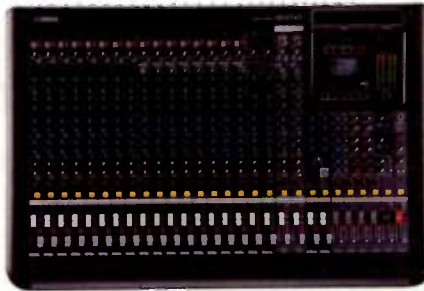


New Sound Reinforcement Products

DIGICO SD TEN THEATRE

Software Brings New Functionality

The new software package for the Digico SD Ten (DiGiCo.biz) is targeted for live theater use and includes an Auto Update, Channel Aliases and new Players update function. Auto Update provides control when making cue-to-cue changes, updating changes to channel parameters across all the cues automatically; Aliases easily takes care of correctly updating each set of channel parameters. This means that updates made to one character or costume—for example, an EQ change—only affect that Alias, leaving the other Aliases unchanged. When multiple actors are playing the same role, the Players feature takes care of populating the show with that person's unique channel settings—their EQ, filters, dynamics, etc. All of the careful programming of Aliases and cue-to-cue changes are retained, just updated with the new actor-specific settings.



YAMAHA MGP32X AND MGP24X CONSOLES

Powerful, Portable Mix Package

The latest addition to Yamaha's MGP Series consoles (yamahaproaudio.com) come in a 24-channel (\$1,699) or 32-channel frame (\$1,999) and feature USB device recording and playback, graphic EQ and a multiband compressor. Perfect for small to mid-size venues, the consoles also include newly developed discrete studio-grade Class-A D-PRE mic preamps with 48V phantom power. The compressors and EQs feature Yamaha's VCM (Virtual Circuit Modeling) technology, re-creating the frequency-response characteristics unique to classic analog gear. The Stereo Hybrid Channel features include a Ducker, Leveler and Stereo Image, with each function accessible at the touch of a button. Other features include two separate studio-grade effects processors—Yamaha's REV-X reverb with three high-resolution reverb effects and the SPX digital multi-effects processor.

AKG B48 L MICROPHONE POWER SUPPLY

Plentiful Phantom Power

The AKG B48 L (akg.com, \$TBD) features a very low noise level, a frequency response of 20Hz-24Hz and an inverse polarity protection feature against incorrect battery insertion. The B48 L Battery Power Supply provides users with more than 20 hours of use on only two AA batteries. The B48 L's mini-XLR audio output and included mini-XLR-to-mini-XLR connection cable supports a direct connection of condenser microphones to all AKG bodypack transmitters. A low-battery LED light illuminates if phantom power drops below 40V.





ROLAND R-88 FIELD RECORDER

Power-Packed Portable

The Roland R-88 (rolandsystemsgroup.com, \$2,495) offers eight discrete channels of audio recording at 24 bits/96 kHz, 4-channel recording at 24 bits/192 kHz, a full onboard mixer, various timecode modes and a built-in 10-in/8-out USB audio interface. The stereo mix output enables a stereo mix back to the camera or a stereo monitor output while simultaneously recording individual tracks. With eight discrete outputs, users can also embed the audio tracks into an SDI video feed by using a multichannel SDI audio embedder. Other features include AES/EBU digital I/O, a 3-band EQ and a large touchscreen display. Optional accessories include a custom carrying bag and remote footswitch controllers.



PMC TWOTWO.8 MONITORS

Eight-Inch Two-Way

The twotwo.8 is the largest in the twotwo range from PMC (pmc-speakers.com, \$7,999 a pair) and features an 8-inch bass driver and Advanced Transmission Line bass-loading technology with sophisticated digital signal processing. Inputs include analog phono and XLR, plus an AES3 digital accepting audio at up to 192 kHz. The twotwo.8 can be mounted vertically or horizontally without compromising tonal accuracy or stereo/surround imaging, like its smaller siblings.

RADIAL ENGINEERING PRECOMP

Two-for-One Front End

The design of the PreComp from Radial Engineering (radialeng.com, \$400) begins with a high-performance preamp equipped with Radial's Accustate gain control that simultaneously sets the output and sensitivity to maximize signal-to-noise at all levels. A full-feature compressor follows with adjustable threshold, compression ratio and make-up gain control that automatically transitions from soft-knee to hard-knee as compression increases. A simple Slow-Fast switch makes it easy to set the PreComp for either percussion instruments or smoother tracks such as vocals. Other features include polarity reverse, highpass filter, 48V phantom power and an In/Out switch for the compressor.



UA OCEAN WAY STUDIOS PLUG-IN

Advanced Room Modeling

Universal Audio (uaudio.com) has released the Ocean Way Studios plug-in for the UAD platform. Developed over a three-year period by UA and Allen Sides, Ocean Way Studios plug-in (\$349) combines elements of room, microphone and source modeling so tracks sound as if they were recorded in the legendary studios of Ocean Way Recording. Built upon UA's proprietary new Dynamic Room Modeling, Ocean Way Studios provides the unique ambience and dispersion properties of various sources in the rooms at Ocean Way, as recorded through a selection of rare vintage microphones that can be dynamically positioned in real time via a simple click-and-drag interface. Ideal mic selections and placements are provided in both Ocean Way Recording's Studio A and Studio B. The Ocean Way Studios plug-in is available as part of UAD Software Version 7, which also includes the SPL TwinTube and Sonnox Inflater Plug-Ins.



Tech // new products



JBL M2 MASTER REFERENCE MONITOR

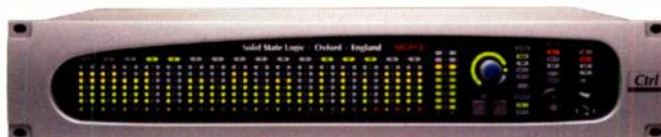
Free-Standing Two-Way

The largest speaker in JBL's studio monitor line, the M2 (jblpro.com, \$6,000 each) integrates the company's new D2 Compression Driver, which uses two annular diaphragms and two voice coils to deliver extended high-frequency response and very low distortion at very high sound-pressure levels. The D2 is mated with JBL's new 2216ND Differential Drive 15-inch woofer, also with dual voice coils, incorporating a patented wire application that reduces power compression, enabling linear output regardless of playback level. Crown I-Tech power amplifiers complete the system, providing greater than a kilowatt of clean power to the 2216ND woofer and the D2 high-frequency driver.

SOLID STATE LOGIC SIGMA

SSL DAW Mix Engine

The Sigma from SSL (solidstate-logic.com, \$4,499) is a hardware, remote-controlled analog mix engine designed for DAW users seeking the signature sound of an SSL console while working in the box. The two-rackspace unit uses proprietary MDAC control technology first featured in SSL's Duality and AWS studio consoles and features 100-percent analog summing, 16 mono or stereo input channels for up to 32 channels at mixdown, talkback, and external MIDI control via Ethernet. There is also front-panel LED metering for all channels, two stereo mix buses with dedicated outputs, individual direct outputs on each channel, and an Artist and Studio monitoring section that can accommodate two sets of monitors plus a switching matrix for source selection.



SM PRO AUDIO PRE-Z

Variable Impedance Preamp

The Pre-Z from SM Pro Audio (smproaudio.com, \$299.99) is a single-wide, 500 Series unit featuring variable input impedance, creating a variety of tonal colors. Results are nuanced or fairly dramatic, with higher settings offering greater clarity and brightness and lower settings bringing out subtle resonant frequencies in the microphone's response. The Pre-Z's highpass and lowpass filters offer additional control and signal-shaping options, and its LME49720 op amps promise low noise, wide dynamic range, and up to 68 dB of gain.

ST MODEL 240 PRODUCER'S CONSOLE

Affordable, Sophisticated Communication

The Model 240 from Studio Technologies (studiotechnologies.com, \$1,295) provides the resources of a 4-channel talent cueing (IFB) master station combined with a 2-channel party-line intercom user station. Features include a revised phantom-power supply circuit, improved filtering on inputs and outputs to increase RF rejection and ESD immunity, and new circuitry to allow the installation of optional LED backlighting of push-button switches. The security panel has been changed from steel to aluminum, which lowers unit weight and allows for laser-etched configuration instructions for improved legibility.





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RobairReport

WAVES OF INNOVATION

By Gino Robair



There's a scene in the film *All the President's Men* where Robert Redford and Dustin Hoffman, as Bob Woodward and Carl Bernstein, need to research a name they received

from their anonymous source, Deep Throat. So they immediately head for a stack of phone books and leaf through them furiously.

Listen to the Foley in this film: It's chock-full of typewriter clicks and bells. When was the last time you were in an environment that included those sounds? Can you remember that far back? How about the ring of an analog telephone? (The sample on your cell phone doesn't count.)

Technological innovation has made these sounds and activities extinct. We don't even think about using the Internet to locate information; we just do it. Like all successful innovations, search engines are nearly invisible to us largely because they work with ever-increasing reliability. As a result, they've replaced much of the printed reference material we used to rely on, just as the noise level in an office has been significantly reduced thanks to the word processor. It's as if waves of innovation sweep out the old and deliver the new, and we barely notice.

But the waves keep coming.

I just witnessed the latest one, embedded in an inexpensive electric guitar—the Peavey AT-200. In this case, AT stands for Auto-Tune. At sweet 16, the oft-derided pitch correction technology is now available in a decent, mid-priced solid-body guitar that costs less than \$500. Cool! But the revolution isn't because of the price or that the software is available inside a Peavey guitar. (Antares will offer a "luthier edition" that can be added to any electric guitar.) The innovation is the degree to which pitch correction has been implemented in a polyphonic performance instrument.

The Antares demo I attended took place in a room full of editor-guitarists who have seen and heard everything, yet everyone was impressed that Auto-Tune was virtually inaudible in the AT-200. As the instrument was being played, we heard none of the artifacts associated with poorly implemented or misused pitch-correction—no T-Pain or Cher effects here. I use the phrase "virtually inaudible" because you have to know what to listen for if you want to hear the technology working, and even then it isn't obvious. Sure, you can make the artifacts more identifiable by playing in an exaggerated manner. But if you play the guitar normally, bends and all, the AT-200 is indistinguishable from a normal guitar, except that it offers perfect intonation everywhere on the neck, among many other features.

If you're curious as to whether Peavey's Auto-Tune guitar will help untalented guitarists fake it, the answer is no. It will not play the guitar for you—yet.

The strings on the demo instrument were purposefully kept out of tune. After 30 minutes of showing off the AT-200's drop tunings, virtual capos and classic-instrument models, the Antares rep shut off the pitch correction and brought us back to reality: The instrument wasn't in tune at all! Even at a moderate amp volume, we couldn't hear the acoustic sound of the strings, nor could we feel that the strings were out of tune under our fingers. As each of us played it, we quickly forgot that Antares' algorithms were at work. The implementation of Auto-Tune is so seamless and straightforward that even a guitarist will want to use it. Therein lies the tipping point: you don't know it's there.

By now you are probably wondering why you should care that an inexpensive instrument has high-definition pitch-correction onboard. The good news is that you don't have to care because, very soon, pitch correction will be in products you didn't realize needed it. And it doesn't matter whether or not you like real-time tuning software. The technology is here to stay.

I view pitch correction as a distant cousin of CGI: It's just a tool. We don't really believe that living dinosaurs were used in the film *Jurassic Park* any more than we believe that every super model has a good enough voice to become a pop star.

Although the AT-200 has normal guitar pickups that you can use instead of the Auto-Tune feature, tone snobs will hate the instrument simply because it has a hex pickup, digital converters and an onboard computer. But they're wasting their scorn. The sound quality of digitally enhanced guitars has improved to the point that the convenience they provide often outweighs any concerns about tone.

I'm not here to evangelize for Antares. Rather, I'm pointing out that we're in the midst of a sea change that is visible from the point of view of the electric 6-string: Pitch correction is another technology that we'll take for granted once it is embedded in everyday products. Thankfully, the change doesn't require us to accept a reduction in consumer-audio sound quality the way that MP3s did at the dawn of digital distribution.

In a few years, a generation of instrumentalists will wonder how we got along without real-time pitch correction in our instruments. At that point, they'll use a standalone tuner as often as we use the Yellow Pages. ■

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STEVE KOVACS

Mixing Gospel, Rap and Rock in Chicago

BY TOM KENNY

Steve Kovacs picked Chicago. An Arizona native and Conservatory of Recording Arts & Sciences (Phoenix) graduate—with further studies in Music Theory and Composition at Berklee College of Music—he targeted Chicago, based on a longtime love of the city's blues tradition and its alternative/indie emergence with the Pumpkins, Ministry, Wilco and the like.

It took him more than a year to get an internship at Pressure Point Recording, and he's been there ever since. Nine years now. He assisted for noted local engineer Larry Sturm for years, working at night on his own real-world education, learning the SSL 9K and integrating his roots in analog (4-track cassette as a 13-year-old guitar player) with a tasty dash of plug-ins. Now he's tracking and/or mixing for the likes of Shirley Caesar, Toots & the Maytals, Jennifer Hudson, VaShawn Mitchell and emerging, locally grown, multi-talented artist Mathien.

Mix caught up with Kovacs in mid-May, and we found that with his current blend of young-Chicago rap, a dose of gospel and some tried-and-true rock, all is well and good.

How do you approach a rock record when you sit down to mix? Where do you begin? Different from hip-hop/rap?

I always start with drums, making sure I have attack, punch and thwacks. Metric Halo's channel strip on kick and snare is everything you need to get started. I love its musical gate function and auto-gain/turn-it-up compressor. Gets me pumped to tackle the rest! I'll usually approach a rap mix the same way. It has to bang! It's what you pull up after that's different. I cannot be as musical with a rap mix. It's beat and lyrics.

What's your take on low end?

Know your room and your monitors! For me it's a "feel" thing. I judge from the vibrations through the console framework, or the way the exit sign rattles, and that's usually after a trusty car-test. I use the UAD "Voice of God" plug-in to beef up lower-octave material, followed by a UAD dbx 160 to keep it tight, sometimes in reverse order.

Drums? Do you work with samples and live instruments?

I am always collecting acoustic drum samples. Not for replacement, but for enhancement. I use Slate Digital's Trigger plug-in to combine the live snare



with a "snare helper." I'm usually after overtones from the sample, not attack. A fast acting/nuking compressor helps achieve this: Distressor!

Guitar? Where do you like guitar to sit? Can you give me an example of how you get a rock guitar to stand out?

My main guitars usually hang hard left and right; free up that center for vocals, etc. I also like to take a mono guitar, pan it hard to one side, send to an effect, usually a spring reverb, and return on the opposite side. Production-wise, the original intent of a guitar part has a purpose, but if it lacks the drive, I'll try a preset from the Sansamp PSA-1 plug-in, and tweak to fit. My favorite is the MXR+ setting

Compression. When and where and why?

Definitely lead vocals! I'll run a few hardware compressors parallel to the dry vocal. Essentially it's like multiplying your vocal to compete with a dense mix—keeping your original channel safe from overloading, while adding characteristics like the warm "color" of an 1176 revision F, the harmonic edginess from a Distressor, and not to mention different ratios and attack/release times.

The mix order. The first thing I do when I sit down to mix Mathien's tracks is...

Darling Television was produced in-house, so it's familiar territory, but a song will tell you what it wants, and in some cases I had to drop the pride and pretend to mix from an outsider perspective. I'm talking about the song "Flame." Approaching the mix, I wanted to go more pop, than "rock-band." This meant stripping some big-sounding rhythmic guitars in the chorus, leaving a piano and arpeggio guitar as the main focus. Once it felt right, and less distracting, I could start the mix. Don't worry, those guitars make an appearance during the solo-section, creating a peak of excitement.

The Mathien records are different, though. I'm involved from the beginning, from offering suggestions to drum tuning. On this record we were looking for a more simplified, old-school approach, to the point that I was using mono overheads in spots. On two songs we pretty much recorded live, keeping, I think, the first or second take. On "John Madden," right after the second verse, you can hear the drummer was off for a hit or two, but we kept it. The mistake fit right into the performance. Perfect.

SESSIONS: CHICAGO



Walking Bicycles' Jocelyn Summer

ELECTRICAL AUDIO

Lo-fi rockers Fake Limbs tracked their upcoming album in the Studer A-820 MCH-equipped Studio A, with Greg Norman producing and Jon Sao Paolo engineering. Because the band tracked everything at once, lead singer Stephen Sowley's vocals were sent through a P.A. with old Traynor drivers in Center Field (the live room) with the guitar amps. In his own room (Alcatraz), Sowley's vocals went through two mics, with one overdriving the Yamaha E7010 delay...

Avant doom-pop band Walking Bicycles tracked their new album with San Paolo. Guitar and vocal ambience went through a Coles 4038 ribbon mic placed 10 feet away and an omni-directional large-diaphragm prototype mic placed 20 feet away. Singer Jocelyn Summer's vocals were tracked through a Shure SM7 and Royer R-122 mics.



Wyclef Jean and Jabari Beyford recording in Studio A.

SOUNDSCAPE STUDIOS

Soundscape Studios recently installed Carl Tatz's PhantomFocus PFS3 monitoring system in Studio A, and also added a Pro Tools HDX system. Studio owner and chief engineer Michael Kolar has been busy working on a number of projects, including two songs with Platinum-selling artist Wyclef Jean. The first track, "Bang Bang Bang," is about Chicago's status as murder capital of the U.S. The second track, "Hope N Pray," is produced by Young Chop, a Warner

Chappell composer/producer who also has produced for Chief Keef & Rick Ross. Both songs appear on Jean's latest, *April Showers*. Kolar also engineered a three-song EP with Warner Bros. artist Curren\$, entitled *3 Piece Set*; new material from rappers Action Bronson (Warner Bros./VICE Records) and Lil Durk (Island/Def Jam); and a cover of Bruce Springsteen's "Dancing in the Dark" with Warner Bros. hip-hop artist Outasight, on the studio's vintage Wurlitzer.



PIEHOOLDEN SUITE SOUND

Pieholden spent the first part of this year renovating the studio, building a large "live" drum room with a smaller, isolated "dead" room next to it. A fully recapped Amek BIG 44 was also installed, along with a new Pro Tools HD 10 rig...Chicago native and R&B artist Willis Earl Beal recorded tracks for *Nobody Knows* (Hot Charity/XL Recordings) with producers Rodaidh McDonald (The xx, Bobby

Womack, Vampire Weekend) and Matt DeWine (who also engineered)...DeWine also engineered projects from folk and blues artist Rachel Ries, with producer David Vandervelde; and alt/indie rockers Quarter Mile Thunder, with producer Ben Clarke (and co-produced by DeWine).



L to R: Gospel artist Donnie McClurkin, Hezekiah Walker and Larry Sturm

CHICAGO RECORDING COMPANY

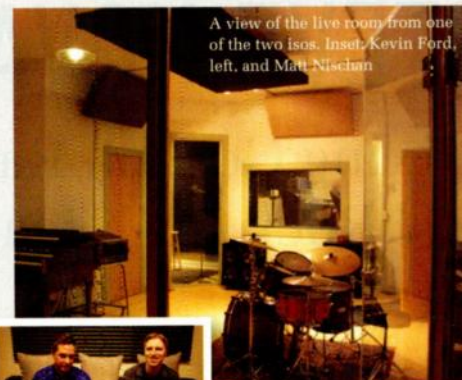
Producer Damon Ranger just finished mixing country/crossover artist Brandi Nicole's new release...Engineer/producer Larry Sturm did overdubs on Grammy Award-winning gospel artist Hezekiah Walker's new album for RCA Records, with producer Donald Lawrence...Hard-rockers Romantic Rebel are working on their debut release...Mega pop star Lady Gaga has also been privately working out of the facility for her next release.

GRAVITY STUDIOS

Indie folk trio Me You & Her recorded *A Lil More Christmas* in Gravity Studios' Studio A. The album was engineered by Doug McBride and Mike Penny, and mixed and mastered by McBride.

studio PROFILE

Fullerton Recording Studios



A view of the live room from one of the two isos. Inset: Kevin Ford, left, and Matt Nischan



Kevin Ford has followed a path that could be a model for

how to grow a studio career while keeping one foot firmly on the other side of the glass, hanging with the musicians. A Chicago native, Ford worked as a backline tech with clients such as WGN, House of Blues, The Metro and Harpo Productions. He moved on to years of freelance engineering around town, and for the past seven years he's been the owner/engineer/producer at Fullerton Recording Studios, a two-control room/one-live room facility in Chicago's artist-infused Logan Square neighborhood.

From the start, the still-active keyboard player has emphasized reaching out to musicians. He has kept his rates low, while providing a staff engineer, Matt Nischan, and a high-end backbone based around Avid Pro Tools HD Accel (Version 11 once it's available), Avid Control 24 (the Focusrite version) and a load of analog pre's and processing: API, Daking, Universal Audio and Manley mic pre's; also, several channels of 1176 compression, Empirical Labs Distressors, and two custom-built SSL stereo bus compressors with a highpass filter and frequency-shelf mod.

Clients of note in the past year include Mumford and Sons' Triple J Radio mixing session for Australia, Kevin Ford assisting; Jill Scott, tour production support; the Congregation album *Right Here Right Now*, produced by Charlie Wayne and Ford, engineered by Ford; and Graham Czach's *Lucid*, produced by Czach and Matt Nischan, engineered by Nischan.

MIX REGIONAL: CHICAGO



THE LOFT

Wilco's Chicago studio, The Loft, recently installed vintage Neve 5432 (pictured) and BCM-10 consoles, as well as API 512s, Genelec 1031As, Studer Gold Series A827, AKG BX-10 and Pro Tools HD. The studio also acquired outboard gear from Man-

ley, Electrical Audio, Universal Audio, dbx, Empirical Labs, Daking, Tube Tech, Retro and Chandler, as well as microphones by Neumann, Royer, AKG, EV, Shure, Coles and Sennheiser.

Meanwhile, Wilco's Jeff Tweedy and Pat Sansone have been busy in the studio producing Sarah Lee Guthrie (daughter of Arlo) and Johnny Irion's fourth album, *Wassaic Way* (August 6, Route 8 Records). The album features Sarah Lee and Johnny on vocals, guitars and keys, with Tweedy backing on guitar and vocals, and Sansone on bass and Mellotron. Additional players include Charlie Rose on guitar, pedal steel, banjo, and trumpet; Otto Hauser on drums; Jon Stirratt on vocals; Radoslav Lorković on piano; Spencer Tweedy (Jeff's son) on drums; and Jocie Adams on clarinet. Jeff Tweedy also co-wrote the song "Probably Gone" with Irion.

In other news at The Loft, Tweedy recorded and produced Low's *The Invisible Way* (released in March on Sub Pop), as well as new material for Kids These Days and White Denim. Mavis Staples returned to The Loft to work on *One True Vine* (Anti- due out this summer), the follow-up to her 2010 Grammy-winning *You Are Not Alone*, also recorded at The Loft and produced by Tweedy.

Engineer Steve Kovacs stands up to gain a little perspective as artist Chris Mathien (seated right) and producer Chris Schneider discuss the mix of "John Madden," off of the May release *Darling Television*.



Mathien Busting Out

Mathien has been something of a house artist at Pressure Point Recording Studios over the past few years, and he just released his sixth album, *Darling Television*, available as download, streaming and...pink vinyl. For a while he's written in-house at the studios, and he's produced by longtime PP studio manager Chris Schneider, engineered by up-and-comer Steve Kovacs (see Mix Tips, page 50).

"I was having some issues with getting the right vocal sound for one of the tracks and kept switching mics, mic pre's compressors, everything," recalls Schneider. "I'm sure Steve [Kovacs] and his assistant, Greg Stoetling, as well as Mathien, were getting sick of me. Then I found our old Drawmer 1960, which is a combination tube mic pre and compressor. We were going to sell it at one point because it had this slightly distorted thing going on, and I figured the tube was going and it would be more trouble to find a replacement. We hadn't used it in forever. We decided after one of those long not-getting-shit-to-work nights to try that on the vocal, and voila! Exactly what was needed to make the vocal sit—using the pre and comp and then, of course, into a vintage 1176. We thought it was a junky box for some reason, and now our old new toy has turned into a solution. And no, it's not for sale, nor will we fix it."

The Blues Take a Joyride

On the heels of a Grammy nomination for their first record in 2010, blues super group Chicago Blues Living History won Best Traditional Blues Album at the Blues Music Awards in Memphis for its latest release, *The (R) evolution Continues*. The album features guest artists Buddy Guy, James Cotton, Magic Slim and Ronnie Baker Brooks; it was produced by Larry Skoller and recorded, mixed and mastered at Joyride Studio by Blaise Barton.

"Part of the challenge in making the record was creating classic vintage blues sounds for the songs going back to the 1940s that sat well with the more modern-sounding cuts on the album," Barton says. "A lot of room mics were used to capture the tracks, and we tried to record with all the musicians in the same room as much as possible. We also experimented with recording vocals using a vintage Shure 55 lined up next to a modern Neumann condenser. At mix time, we could play with the balance between the two." All the tracks were recorded to tape using an MCI JH-24 recorder.

Skoller and Barton also mixed and mastered the 2013 Grammy-nominated Heritage Blues Orchestra album *And Still I Rise*. Barton just finished mixes for the soon-to-be-released debut by Jimmy Vivino and the Black Italians.



monitors. The twotwo models offer dual Class-D amplification and can operate in either vertical or horizontal orientations without compromising stereo imaging or tonal accuracy. They offer both analog and digital connectivity up to 192 kHz, and the DSP engine controls driver response, crossover and EQ. The flagship model twotwo.8 employs an 8-inch woofer and ATL cabinet to create a midfield monitor with dynamics, clarity and depth. www.pmc-speakers.com.



PRESONUS Sceptre S8

The Sceptre S8 two-way monitor, announced at NAMM in January 2013 and now shipping, incorporates what the company calls Co-

Actual technology—a blend of custom transducers, coaxial design and Fulcrum Acoustics' TQ Temporal Equalization algorithms working with a 32-bit, 96 kHz dual-core processor to manage horn reflection, linear time and amplitude anomalies correction, performance contouring, and dynamic and excursion limiting. The 8-inch low/mid driver and 1-inch, horn-loaded, high-frequency transducer are powered by 200-watt, Class-D bi-amplification, front-firing acoustic ports. Tuning controls include HF Driver Adjust (0 dB, +1 dB, -1.5 dB, -4 dB), Acoustic Space (0 dB, -1.5 dB, -3 dB, -6 dB) and a highpass filter (Off, 60 Hz, 80 Hz, and 100 Hz, -12 dB/octave slope). It also offers balanced XLR and ¼-inch TRS line-level inputs with A-taper level control, and 102 dB maximum continuous SPL. www.presonus.com.



SAMSON Resolv SE8

The Resolv SE8 2-way active studio reference monitor offers a redesign from the company's Resolv A-Series monitor. Producing 100 watts of power, Resolv SE8 includes a dedicated power amp and electronic crossover that provide accurate tonal balance. The new 8-inch woven carbon fiber woofer provides tight and controlled low frequency response, while its 1.25-inch soft dome tweeter (with neodymium magnet) is said to give the high frequencies a true, natural sound without unwanted resonance. Resolv SE8 also includes a 4-position high frequency lift control that allows the monitor to be optimized for

different mixing environments, and is A/V shielded for operation near CRT monitors and other sensitive electronics. The enclosure is constructed of solid MDF (Medium Density Fiberboard) and features an elegant finish on the front panel. Inset into the panel is a time-aligned waveguide that allows for a wide listening area with minimum diffraction. In addition, its slotted front ports with rounded inner edges help reduce port noise at high SPLs. www.samsontech.com.



SONODYNE SRP800

The SRP800, a two-way active monitor introduced at Musikmesse in April, incorporates an 8-inch Kevlar woofer in diecast aluminum chassis with a 1-inch

silk-dome neodymium tweeter with integral waveguide. The bi-amplified design feeds 175 watts to the lows and 100 watts to the highs (bass rolloff at 65 Hz, 12dB/octave). DSP-based internal processing with high quality ADC and DAC is employed for the crossover and also provides the 0.75dB step calibrated HF and LF room compensation EQ at the rear. The enclosure is pressure die cast aluminum that maximizes rigidity and lends it a unique form. The SRP800 accepts balanced XLR inputs. www.sonodyne.com.



YORKVILLE YSM8

The YSM8 incorporates an 8-inch woofer and 1-inch soft dome tweeter for precise reproduction and a large sweet spot for listening in larger spaces and at

higher volumes. A solid ¾-inch MDF cabinet with reinforced bracing reduces rumble and the contoured baffle virtually eliminates cabinet self-interference. The front facing port design solves the issue of bass coupling with back walls and corners in smaller studio environments and further enhances bottom end response at higher listening levels. Compatible with virtually any source, the Yorkville YSM8 has a widely variable input trim control for the balanced XLR/¼-inch combi-jack input. High and low frequency trim controls (at -2, -1, 0 and +1.5dB) allow user adjustable EQ contour to compensate for speaker placement, if needed. www.yorkville.com. ■

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Boali Studios
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kHz. Adjustable HF and LF acoustic controls offer the ability to tailor to individual rooms; inputs include XLR, TRS and RCA connections. www.mackie.com.



MONKEY BANANA Turbo8

Designed in Germany and manufactured in China (see the review of the Monkey Banana Turbo6 and Turbo10S on page 70), the two-way Turbo8 is available in red and black and offers an 8-inch magnetically shielded polypropylene/ceramic membrane woofer and 1-inch silk dome tweeter with a high-temperature voice coil and rare-earth neodymium magnet designed to have a low resonance (for a low crossover point) as well as high power handling. The woofer's cone geometry also ensures extreme power and heat resistance. Made from custom-shaped MDF material, the bass-reflex acoustic design combines maximum efficiency and optimal bass extension. The MDF material, comprised of

high-density RoHS compliant fiberboard, ensures proper damping of vibrations from the drivers that can create audible distortion in the enclosure, and creates a solid and inert structure for the drivers. The Turbo series enclosures were designed as a non-regular hexagon, according to the company, to minimize standing waves inside the enclosure. The Turbo8's amplifiers produce 30W for the HF and 80W for the LF. www.monkeybanana.cultbureau.de.



NEUMANN KH 310

The KH 310 three-way active tri-amplified monitor is designed for use as a near-field monitor, as a front loudspeaker in mid-sized multichannel systems, or as a rear loudspeaker in a larger multi-channel system. It has a 1-inch tweeter, 3-inch midrange driver and 8.25-inch woofer. An alloy fabric dome allows for low-distortion high-frequency reproduction. It also features an Elliptical Mathematically Modeled Dispersion (MMD) waveguide, with wide horizontal and narrow vertical disper-

sion for a smoother off-axis response; a fabric dome, neodymium magnet, midrange driver; long throw composite sandwich cone bass driver with Extremely Linear Force Factor (ELFF) and ribbed surround; compact sealed three-way cabinet design (magnetically shielded) for no standing wave resonances, fast bass transient response, and reduced intermodulation distortion in the midrange; analog Class-A/B amplifiers with large headroom for improved transient response; 4-position bass, low-midrange and treble acoustical controls; wide range input gain and output level controls; and extensive mounting hardware options. www.neumannusa.com.



PMC twotwo.8

PMC's twotwo Series of near-field monitors with Advanced Transmission Line (ATL) bass loading technology combines PMC's design pedigree with digital signal processing and active amplification to create a range of highly accurate, versatile, and compact two-way reference grade



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distance-compensating delay so the 8260A can be used with other 8200 Series DSP monitors and 7200 Series subs in the same setup. Genelec's AutoCal automated room-calibration/system alignment provides accurate response for multichannel audio systems in varying room environments. www.genelecusa.com.



KRK SYSTEMS Rokit Powered 10-3

KRK's Rokit RP10-3 is a compact 3-way system that can be used in mid-field or near-field applications. Notably, it is capable of producing SPLs up to 113dB max with full-frequency-

range response in an enclosure that fits into project studios and personal studio environments, measuring 29.3x12.8x14.4 inches. A triple amplification system provides discrete low-distortion power for each driver, while the active three-way crossover system provides smooth and accurate frequency response. It has a 10-inch glass Aramid-composite woofer (80W), a 4-inch mid-frequency driver (30W) of the same material and a 1-inch silk-dome tweeter (30W) for detailed high frequency reproduction. The glass Aramid composite creates rigid woofer and midrange cones for excellent transient response and accurate vocal reproduction. The tweeter and midrange driver are situated in a rotatable housing allowing the monitors to be placed and positioned vertically and horizontally, including wall mounting. Its curved baffle is designed to eliminate diffraction distortion, and the front-firing port is shaped to reduce turbulence and boundary coupling. A detented volume control on the rear panel set the gain range from -30 dB to +6 dB from unity gain. Two EQ controls, an LF adjust and an HF adjust, allow users to tailor the speakers to a room's acoustics. www.krksys.com.



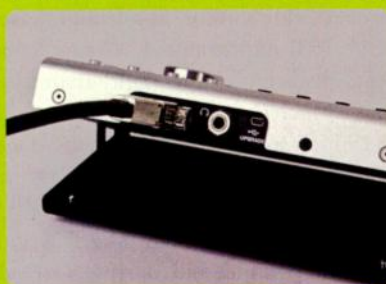
MACKIE MR8mk2

The popular low-cost, quality reference monitor from Mackie, the MR8, was updated in 2011 with all-new drivers and retuned Class-A/B amplifiers.

The neodymium magnet-driven 1-inch silk-dome tweeter features ferro-fluid cooling to help protect against power compression during wide dynamic playback; the hyperbolic curved cone woofer, inverted dust cap and long voice-coil winding work in tandem to deliver smooth, consistent output. The dual precision Class-A/B amps provide 150 watts total system power, 100 watts to the low end and 50 to the highs; a 24dB/octave active crossover operates at 3



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Acoustical Testing, Design and Consultation



"Gavin went above and beyond during every aspect of our studio design, from the initial layout to the final visit to test the rooms....We couldn't be happier with the results."
 —Brett Mulzer, Owner, 77 Recording, Evansville, IN



Haverstick Designs 317.373.0023

www.HaverstickDesigns.com | gavin@HaverstickDesigns.com



FOCAL PROFESIONAL SM9

Focal's SM9 near-field monitor houses two independent speaker systems—a 3-way monitor and a 2-way monitor—within the same speaker cabinet. The 3-way monitor is equipped with a 1-inch pure Beryllium inverted dome tweeter, a 6.5-inch midrange driver, 8-inch bass driver and an 11-inch passive radiator, while the 2-way monitor uses the same Beryllium tweeter with a 6.5-inch woofer. Introduced more than 20 years ago, Focal's Beryllium tweeter produces a high output without requiring high-energy input and without increasing directivity. A Focus mode switch on the side panel of each speaker switches the 3-way system into a 2-way system by shutting down the woofer and radiator and reconfiguring the crossover electronics. The SM9 uses low distortion Class-A/B power stages for low (400W), midrange (100W) and high frequency (100W) channels, entirely respecting the dynamics of the low-level audio signal and promising total transparency. www.focalprofessional.com.



GENELEC 8260A

Genelec's DSP-driven 8260A powered monitors are housed in a die-cast aluminum Minimum Diffraction Enclosure (MDE) with acoustically optimized rounded edges to prevent diffractions for superb imaging. The 8260A is a 3-way system (¾-inch coaxial Al-dome tweeter, 5-inch laminate cone midrange driver and 10-inch woofer) that features the company's Minimum Diffraction Coaxial (MDC) midrange/high-frequency driver technology to provide more accurate imaging and improved sound quality on the acoustical axis as well as off-axis. The coaxial driver is combined with a Directivity Control Waveguide (DCW) to ensure that the drivers couple coherently over their full operating bandwidth, as well as create a coincident mid-frequency/high frequency point source. The 8260A features Genelec DSP signal processing, which handles all loudspeaker functions, such as the crossover filters, driver equalizers, driver position alignment, room response alignment, calibration, and equalization related filters as well as distance compensating delays. Genelec Loudspeaker Manager software manages crossover filters, driver EQ, driver alignment, room-response correction, calibration filters and

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1-inch silk-dome tweeter (150 watts total). Inputs include USB and two servo-balanced analog (XLR, TRS and RCA) that can be used simultaneously. With an eye toward flexibility and control, Klawitter also developed an iOS App that provides not only for remote control adjustments of acoustic characteristics, but allows for downloads of models of iconic monitors and select artist/producer settings. www.behringer.com.



EMOTIVA STEALTH 8

Emotiva's Stealth 8, bi-amplified (200-watt) speakers feature the company's airmotiv folded-ribbon high-frequency transducer, an 8-inch woven polypropylene low-frequency transducer, and cabinet with a 3-axis CNC-milled MDF front panel, extensive internal bracing, and Three-Phase internal damping. In addition, Stealth monitors offer Emotiva's exclusive airmotiv high- and low-frequency drivers. The airmotiv high-frequency driver moves air by compression—by literally squeezing it in-between the pleats in its folded diaphragm, which reduces distortion because smaller excursions are needed for the same output. The airmotiv low-frequency driver provides the perfect complement to round out bass response. Curved woven polypropylene, combined with a rigid cast basket, copper pole, and aluminum shorting ring deliver the needed control and bass extension; in the case of the Stealth 8, down to a reported 30 Hz. The Stealth 8 offers two 200W amplifiers in each monitor, for a total power of 400W RMS per monitor, or 800W per pair, which allows the monitors to deliver 120dB near-field peaks. www.emotivapro.com.



EQUATOR AUDIO D8

The new D8 (Direct 8) from Equator Audio, expected to be shipping this month, features an 8-inch woofer and center-mounted 1-inch silk dome tweeter in an all-wood cabinet with a tuned 2.5-inch port. The digital amplifier boasts extremely low distortion specs and delivers 60 watts to the woofer and 40 watts to the tweeter. SPL is rated at +106 dB combined @1m. Frequency response is 40Hz-20 kHz. Like its smaller sibling, the D5, it features a Zero-Point Reference coaxial design with internal DSP handling multiple tasks, including matching the Digitally-Controlled Transducer's output and providing the ability to apply accurate voicing. Much of the technology employed is adapted from the company's high-end Q Series line. www.equatoraudio.com.

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THE NEW “BIG” NEAR-FIELDS

8-Inch Studio Monitors That Deliver Power

By the Mix Staff

A lot of attention has been focused on the recording desktop these past couple of years, whether talking about controllers and DAWs or plug-ins and new 500 Series units. It's also been true for studio monitors. The recent flood of professional speakers in the 6-, 5- and 4-inch range reflects both the never-ending desire for low-cost quality and the changing nature of audio production. Rooms got smaller; engineers worked at home and on the road. It made sense.

But the near-field monitor (a nod to Ed Long for coining/trademarking the term) with an 8-inch or greater woofer has been a mainstay of critical listening environments, big and small, since the early 1980s. With the emergence of higher-end professional personal studios these past few years, a step up from the project studios of yore, the demand for 8-inch woofers parallels the boom in modular acoustic treatments and the rush for 500 Series processing. Power up close; clarity across the spectrum. The ability to monitor at high and low volume.

The thing about professional monitors is that they last. New designs don't emerge every year like a software update. A JBL LSR4328 system, introduced in 2006, is as fresh and feature-packed today. Same for a Genelec 1038 or an ATC SCM150. They don't need an update or new DSP; they sound good. At the same time, other manufacturers have entered or re-entered the market. And more will be coming—including JBL, Genelec and ATC—in years to come. You can count on it.

Here, in alphabetical order, *Mix* takes a look at recent introductions in the 8- to 10-inch near-field market, going back to 2011. While some might stretch the limit, all can be brought in over or slightly behind the meter bridge, moving in from the mid-field. We intentionally did not include price, as they vary radically, from \$10k apiece on the high end to \$250 apiece on the entry-level. Monitors, like microphones, bring out our highly subjective, personal natures. If it sounds good to you, it is professional. As always, don't buy without listening.

ADAM AUDIO A8X

With its power and radiation characteristics, ADAM Audio's two-way A8X powered monitor is suitable for both near-field and mid-field monitoring. The A8X is equipped with an 8.5-inch carbon/Rohacell/glass-fiber woofer and the company's proprietary 56mm X-ART (eXtended Accelerat-

ing Ribbon Technology) tweeter. As noted in *Mix*'s July 2011 review of the A8X, “the woofer gets 150W RMS, with the ribbon receiving 50W RMS from the onboard amplifiers. The conventional woofer reproduces all information below the crossover frequency of 2.3 kHz, with the tweeter extending the upper range out to 50 kHz.” Like the company's other AX-Series models, the upper corners of the A8X are slanted to minimize reflections. The large, double bass reflex tubes on the front have been specifically designed to perfectly match the woofer with its large voice coil. The A8X's rear panel offers a gain control for the high frequencies (± 4 dB) and two shelf filters for the high and low frequencies. XLR (balanced) and RCA (unbalanced) connectors on the rear panel allow the A8X to be used in almost any application. www.adam-audio.com.



BAREFOOT SOUND MiniMain12

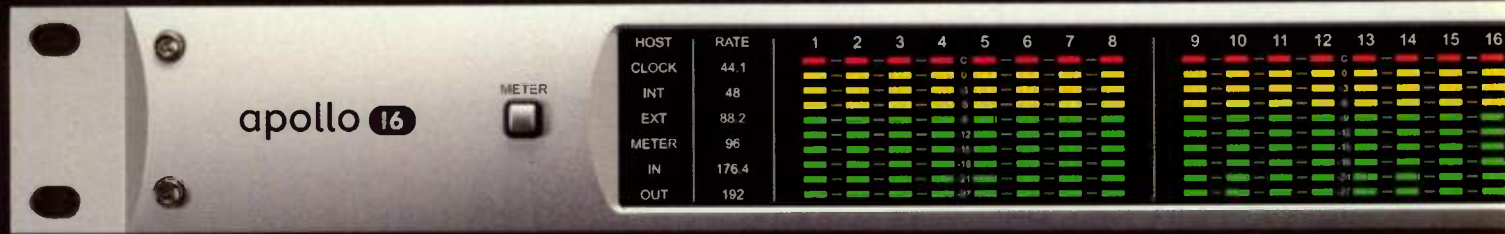
Though seemingly designed for the mid-field, the linearity and transparency of the Barefoot MiniMain12, not to mention its speaker emulation, makes it suitable for close-field listening. The MM12 is a 4-way active system with seven drive units (1-inch tweeter; 2x 2.5-inch mids; 2x 7-inch woofers; 2x 12-inch subs) housed in sealed enclosures; DSP crossovers are at 80, 800 and 4000 Hz. Barefoot has teamed up with Bruno Putzeys of Hypex to develop the amplifier stage (250, 250, 250 and 1000 watts, respectively). The MiniMain12 also adds Speaker Emulation, where a user can switch from the revealing Flat response to the warmer and sweeter Hi-Fi setting. More specifically, the Old School setting closely emulates the sound of the NS10M near-field, while the Cube setting emulates the mid-centric sound of classic mix cubes. www.barefootsound.com.



BEHRINGER NEKKST K8

As part of Behringer's NAMM 2013 announcement of 10 new products, the company introduced its newest partnership, with speaker designer Keith Klawitter, the man who founded the hugely successful KRK Systems in the 1990s. The first products from the collaboration, which should be shipping soon, are the Nekkst K5 and K8. The K8 includes a long-throw 8-inch woofer with glass-fiber cone and a



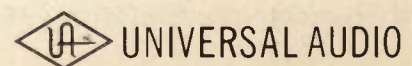


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Prestonwood Baptist Church Studio B, Plano, Texas

This first ZR prefab Virtuoso control room was designed by Hanson Hsu of Delta H Design (deltahdesign.com) in L.A., manufactured by Clair Brothers Systems in Pennsylvania and then assembled on-site in Texas. The parallel manufacturing and design process made it possible to complete this project in 11 weeks, with the studio going online in September 2012. New Lipinski 707A Signature Series main monitors, ADAM S3XH near-fields and a Digidesign ICON console upgrade, combined with Pro Tools 10 and pre's from API and Avalon, make this a desirable new studio location.

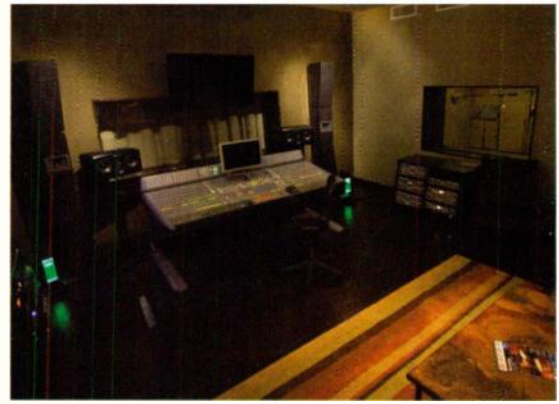


Photo: Larry Brubaker



Photo: Dan Ransom

Coast Recorders, San Francisco, California

Tom Richardson and Desmond Shea redesigned and rebuilt the control room run by chief engineer Sean Beresford at the venerable Coast Recorders, owned by Michael Romanowski. The tracking room retains its original acoustical design by Bill Putnam but received needed upgrades to the electrical system and lighting. Reopened in October 2012, the studio is centered around a 36-input Rupert Neve 5088 console and ATC SCM150ASL monitors. There is also an extensive amount of outboard gear along with a Studer A827 and Pro Tools. The rebuild of the control room allowed the walls to be repositioned and properly treated so that no EQ room correction is required.

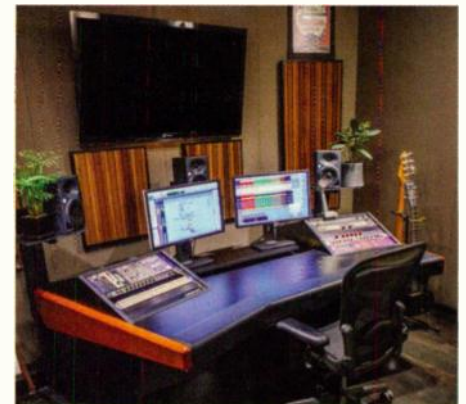


Photo: Courtney Chavanel

Everywhere Audio, Austin, Texas

Owner Marty Lester left his longtime position as chief engineer at Tequila Mockingbird Studios to open his own room within a new production collective called Black Market Digital. Focused mainly on sound for ads and TV, as well as music clients (Apple, BMW, Nissan, Ani DiFranco, Jack Black), the studio features acoustics/custom treatments designed by Mark Genfan of Acoustic Spaces (acousticspaces.com). The control room pictured adjoins an iso booth and has tielines to the other facilities in the complex. Equipment: Avid Pro Tools HD, Metric Halo Labs ULN-8, Alesis HD24XR, MOTU Traveler, Tascam DR-40 recorder and 5.1 Neumann KH120 monitors with a Rythmik Audio F15HP subwoofer.



Photo: Alex Morgan

77 Recording, Evansville, Indiana

Transplanted Nashville producer/engineer Jimmy Dulin works out of this 2,700-square-foot facility, designed by Gavin Haverstick of Haverstick Designs (haverstickdesigns.com), which comprises a control room, live room, drum and vocal booths, amp room, lounge and lobby. Isolation issues were addressed with a concrete slab cut between rooms to reduce vibration transfer. In addition, QuietRock 545 was used in the wall-layering scheme for noise-sensitive areas. Custom wood diffusers were designed for the live room, and custom bass trapping was implemented on the rear wall and ceiling of the control room, which is equipped with a 48-channel API 1608 console with 32 channels of automation.

Red Lounge Studio, Tampa, Florida

Studio owner Andres Orjuela and his chief engineer, Alex Romero, designed this music-recording/mixing studio, where they employed bamboo flooring and a range of Auralex's prefabricated absorptive panels and bass trapping in the 29x20-foot control room and 17x23-foot tracking room. Owner and engineer also hand-built custom oak diffusers, which are installed behind the Avid Control 24 console and on side walls. Opened in April 2012, Red Lounge also features Pro Tools HD10, Apogee interface and converters, and UREI 811C main monitors. Engineers at Red Lounge include Romero, James Wood and Chad Norman.



Photo: Alex Romero and Kevin Roahrig

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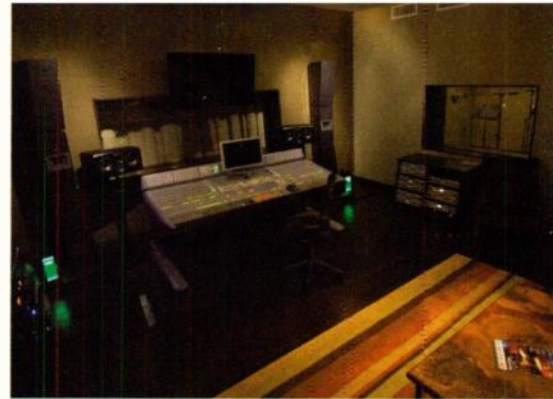


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Photo: Alex Romero and Kevin Roahrig

NAUGHTY DOG STUDIOS



PELONIS SOUND AND ACOUSTICS, INC.

ACOUSTICAL ARCHITECTURE
CONTACT CHRIS PELONIS - WWW.PELONISSOUND.COM

BrokenWorks Productions, Ashland, Oregon

Purpose-built with live tracking in mind, this 1,100-square-foot home addition was designed by Chris Pelonis of Pelonis Sound and Acoustics (pelonissound.com). The studio comprises a live room and two isolation booths with line-of-sight between each space and the control room; ergonomic workflow and lifestyle were important considerations, and Pelonis developed a design that provides isolation as well as accuracy and musicality. Rick Ruzzamenti of Sound Waves provided finish carpentry on the project. Key equipment includes Pelonis' Model 42 monitors with 42LF subwoofer; mic pre's from Neve, API, UA and Focusrite; and a variety of microphones from Neumann, AEA, Mojave, Shure, Audix and Heil Sound.



Photo: Jim Chamberlin



Photo: Mark Benigno

Volant Studios, New York City

This spacious Tribeca studio, which opened in March 2013, includes a 25x28-foot control room and 30x35-foot tracking room with 13-foot ceilings and variable acoustics. Horacio Malvicino of Malvicino Design Group (malvicinodesigngroup.com) provided acoustical design, with help from his firm's system integrator, Inaki Prades. Equipment, supplied by Guitar Center Pro of New York City, includes an SSL AWS 948 console, a Studer A80 machine, GLASP, UREI 813 and ADAM SX-V monitors, and Pro Tools HD-X2. Processing is via outboard gear and plug-ins from Bricasti, Lexicon, API, Neve, GML, Manley and Empirical Labs.

Middle Tennessee State University Studios D and E, Murfreesboro, Tennessee

The highly regarded Recording Industry Department at MTSU hired Carl Tatz Design (carltatzdesign.com) to revamp two studios/classrooms. The rooms feature a custom application of the new Carl Tatz Signature Series control room acoustic modules by Auralex. They also received new monitoring via Tatz's proprietary PhantomFocus system, utilizing Genelec 1037C active monitors. Other equipment in these two identical rooms includes SSL AWS 924 consoles, Pro Tools 10 HDX systems, API Lunchbox with several 500 Series modules, and more processing from Empirical Labs, Drawmer, Eventide, TC Electronic, Lexicon and Yamaha.



Photo: Lou Johnson



Photo: Frederick Alexis

Baoli Records, Port-au-Prince, Haiti

This 350-square-foot control room redesigned by Jeff Hedback (hdacoustics.net), reopened in August 2012. New treatments include a teak-finished membrane bass trap across the front of the room and modular treatments from RPG Acoustics, Primacoustic and Ready Acoustics. The room offers clear sight lines into the tracking room and is equipped with an SSL AWS 924 console, a Pro Tools HDX system, custom-built AudioKinesis mains, and Barefoot MM127 monitors. The studio also features a selection of vintage and modern microphones, and processing from Avalon, Shadow Hills, Universal Audio, API, Pultec and Neve.

MBK Entertainment OZ Studios, New York City

This 7,800-square-foot complex on a high floor offers sightlines from both control rooms through two live rooms and views of the river and city beyond. Designed by Walters Storyk Design Group, the rooms have floating floors and are treated with FlutterFree diffusers and low-frequency absorbers. The 190-square-foot control room A, connected to the 230-square-foot control room shown here, is equipped with a 24-input SSL Duality SE console, Logic Pro, Pro Tools HD3 and Augspurger custom mains. Studio B, attached to a 60-square-foot sound booth, offers an SSL Matrix board and ADAM S5X-V monitors.



Photo: Cheryl Fleming

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If you aren't completely blown away, return them for a full refund.

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Lucky Post Audio Suite, Dallas, Texas

This audio suite, with control room and iso booth, is part of the 7,100-square-foot Lucky Post facility designed by the Russ Berger Design Group (rbdg.com). The studio went online in May 2012 and is integrated with three video-edit rooms. Featured equipment includes a Pro Tools HDX system with a 32-fader Icon D-Control console. Monitoring is via a Genelec 5.1 DSP system offering multiple calibration setups. Also on hand is a full complement of plug-ins from Waves, Sonnox, iZotope, Avid and Audio Ease.



Photo: Russ Berger Design Group

Easy Eye Sound, Nashville

The acoustics in Easy Eye Sound, the personal studio of Black Keys frontman and the Recording Academy's reigning Producer of the Year, Dan Auerbach, were redesigned by Steven Durr (stevendurr.com) to be warm and natural-sounding, allowing for performances to be captured with little or no baffling. Excellent sight lines allow for good communication and flow during sessions. Constructed by Dave Mattingly of Sound Construction, Easy Eye Sound reopened in June 2012, retaining its previous equipment complement including a Spectra Sonics 1020 16-bus console, Scully 280A 16 track 2-inch and 8-track 1-inch recorders, Pro Tools HDX with Lynx converters, RADAR, and monitors by Equator Audio, Dynaudio and Altec.



Photo: Bill Lafavor

MG Sound, Vienna, Austria

This studio complex designed by Andy Munro and Chris Walls of Munro Acoustics Ltd. (munro.co.uk) comprises three main studios, several live rooms, editing facilities and a mastering room, as well as reception and office areas. Architect Roland Gasperel designed the interiors and provided project management. The acoustic design was based on a fully modular concept, with proprietary modeling and design programs used to produce custom bass absorbers and diffusers. Spread out over three floors of a former bank in the heart of Vienna's old city, the studios opened in several phases throughout 2012 and 2013. Rooms are equipped with SSL 9000 consoles, Pro Tools systems and Studer A800 tape machines, and monitoring is by Dynaudio Acoustics, Genelec and ATC.



Photo: Martin Moravek

The Vault Mastering Studio, Phoenix, Arizona

Engineer/studio owner Nathan James, who has mastered recordings for The Fray, Louis C.K. and others, has moved his business from Manhattan back to his hometown, Phoenix. James' new 300-square-foot facility, designed by Walters Storyk Design Group (wsdg.com), went online in February. Acoustical features include a front wall treatment comprising three overlapping, curved, fabric-wrapped absorptive panels, and a corresponding ceiling cloud and rear-wall panel. WSDG also devised a hinged, 6-foot-wide, absorptive acoustic window treatment built with Clearorbiter Deamp perforated transparent panels. James brought his full NYC equipment setup to the new Vault: custom DM console, Duntech Sovereign/Cello amp monitoring, and processing from Lavry, Prism, Sontec and Manley.



Photo: John Brinkman

Strange Weather, New York City

Wes Lachot (weslacho.com) designed this facility to be used for owner/engineer Marc Goodman's music tracking and mixing projects. The studio was completed in December 2012 and was built by Brett Acoustics, with wiring by Canova Audio. The control room features a sidewall treatment that helps to extend a wide reflection-free zone to the back of the room. Tracking room treatments include variable-depth absorptive and diffusive modules. The control room features a 48-channel API 1608 console, Dynaudio M3A main monitors powered by Bryston amps, Pro Tools 10 and two Studer A820 tape machines. Also available are processing options from Neve, Pultec, ADL, Gates, RCA, Bricasti, Lexicon, Eventide and more; there is also an EMT 140 plate reverb and a Yamaha C3 grand.



Photo: Wes Lachot



variety of local musicians while they get to know the new studio, including the centerpiece of the control room: a brand-new Neve 5088 Portico console integrated by Burt Price. “Rupert Neve put the best aspects of his design history into the 5088—its EQs, compressors and processing modules—so you can take advantage of what people love on one modern system,” Hearst says. “The Portico makes an excellent tracking board to go into Pro Tools, optimizing my workflow.” Hearst’s main monitors are Barefoot MicroMain27s; they listen in 5.1 from BeoLab 3s using Dave Moulton’s acoustic lens. The studio offers an array of outboard gear set in custom racks built by Adam Zois, who also built the cherry conical control room diffusers.

“We also have an amazing instrument selection,” points out Thompson, who’s known in New England as an

in-demand guitarist, university instructor, and former New England sales manager for Fender Musical Instrument Corp. “You can see only the Yamaha C7 concert grand in these pictures, but we also have a B-3 with two Leslies, a Rhodes 88 and a Wurly; plus, there’s what Jason calls the ‘Guitarsenal.’ We have several dozen incredible guitars, vintage and contemporary amps, and many other types of instruments. There isn’t any style of music that can’t be created with authenticity here.”

For Hearst, this latest incarnation of Hearstudios (the third that Clark has designed with him) isn’t just a superb, loaded new workspace; it’s also a place to put down roots. “I grew up one town over from Camden,” he says. “So this was moving back home for me. We were looking back and forth between properties in Boston and here, and this was the place that had the yard for the kids, the house for our family, and a barn to fulfill my dream of creating a versatile studio with a great vibe.”

● DreamWorks Animation SKG, Glendale, California

Peter Grueneisen, FAIA, of nonzero\architecture and studio bau:ton (nonzeroarch.com) designed this TEC Award-winning recording studio and premix stage for DreamWorks Animation. The facility’s location in the basement of an office building posed spatial problems that the designer solved with a three-dimensional arrangement of single- and double-height spaces; space planning and isolation were key issues in the design. The 850-square-foot recording room with 18-foot ceilings includes suspended clouds that conceal air ducts and lighting, as well as function acoustically and aesthetically. The control room pictured is connected to the recording space via a large window and through a sound lock. An additional producer’s booth in the back of the room provides an extra quiet and private space. The extensive equipment list features Euphonix S5 Fusion digital mixing consoles/S5 MC systems, Pro Tools systems, Genelec 8040 main monitors and PMC surrounds.



Photo: Juergen Nogai

● Laboratoire Audionum rique de Recherche et de Cr ation (LARC), Quebec City, Canada

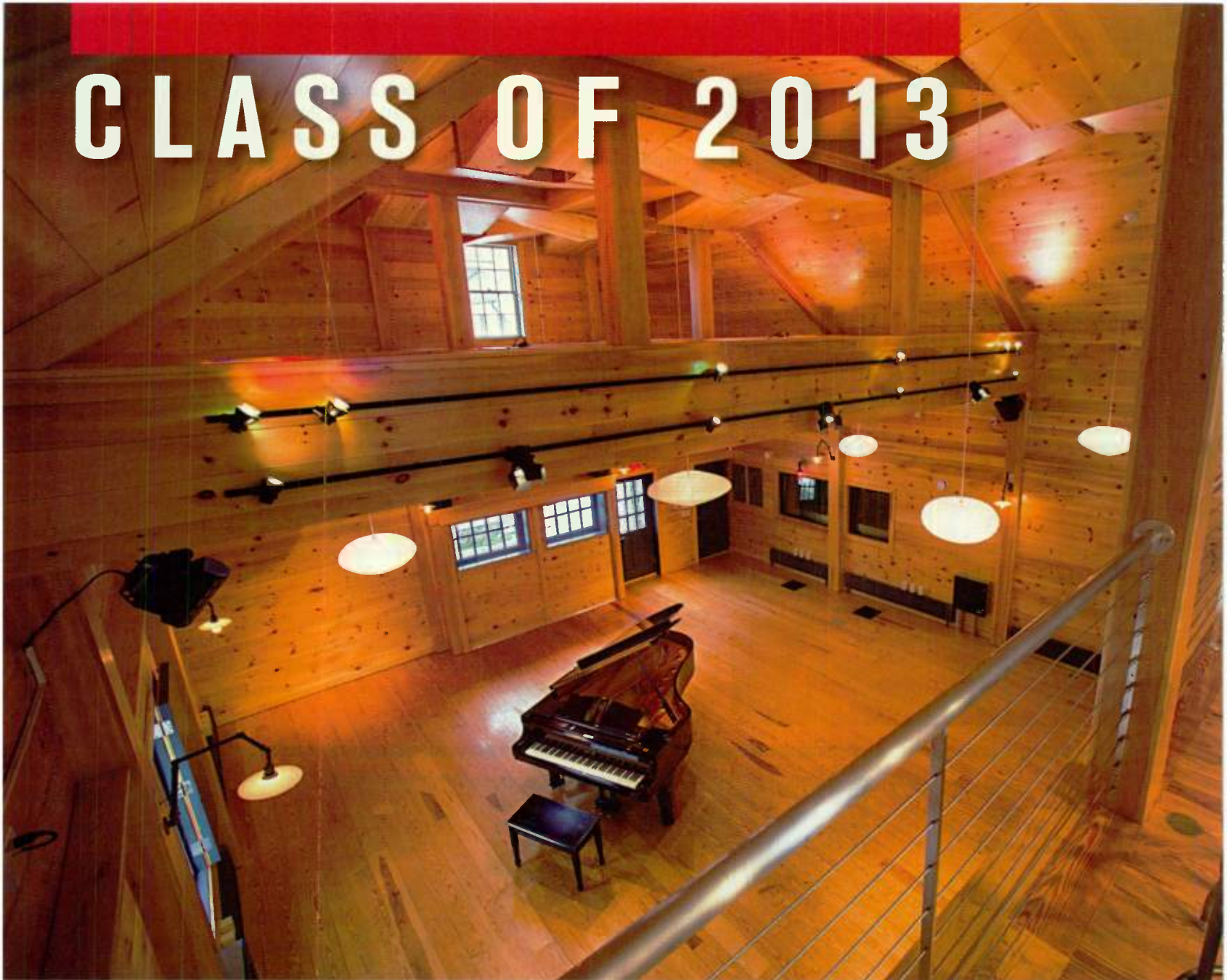


Photo: Dragos Chiriac



Pilchner Schoustal International (pilchner-schoustal.com) designed this multistudio complex for the Université Laval. Four control rooms face onto a large tracking room that includes two fixed iso booths and a collapsible booth with moving wall assemblies. The control rooms employ controlled-reflection geometry to provide uniform response characteristics, while the live room features low-frequency trapping and specular absorbers for a smooth decay and even performance. Key equipment in this facility, which opened in April 2013, includes SSL 4000 G+ and Soundcraft 2400 consoles, Studer tape machines and Pro Tools systems, with a wide palette of processing options and microphones.

CLASS OF 2013



Photos: Tim Gaudreau

On the Cover: Hearstudios, Camden, Maine

Owner/chief engineer Jason Hearst relocated from Boston to this airy, beautiful new facility in a restored 19th-century grain barn. Despite the rural image that conjures, the facility is situated in downtown Camden, so isolation was an important consideration in the acoustical design by Lou Clark of Sonic-Space (sonic-space.com).

"We tore it down to the studs," Clark says. "We spray-foamed the entire structure, which made the building more rigid. Then we added batt-insulation and isolation clips, then two layers of drywall. This was done to every surface, including the ceiling."

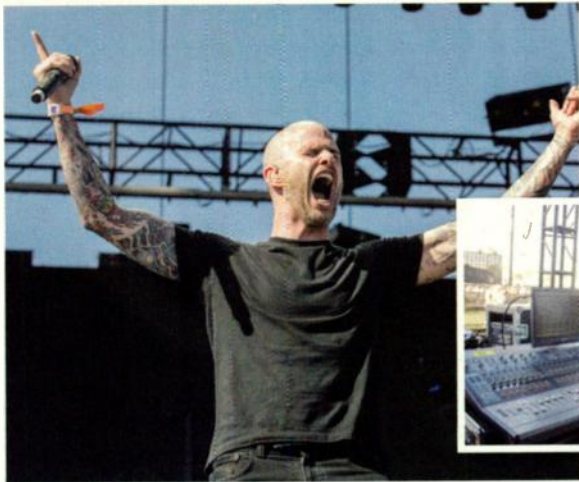
The knotty pine that covers the interior of the main tracking room makes for a very live tracking space, but acoustics can be adjusted with variable gobos that Clark and Hearst designed as an alternative to constructing multiple fixed iso booths. "Only

one of the three booths is permanent," explains Clark. "That's the vocal booth farthest from the control room. To the left of that, he can arrange these gobos on wheels to create a fairly neutral booth environment—a little live, a little dead—and then to the left of that, there's a very dead space with a lot of trapping. The idea is that he can have different environments to work in, but it also balances out the big live space."

The gobos were built to fit on-site by Taylor-Made Builders' Norm Dahlolt, who also came up with the clever idea of jacking up the panels once they're in place to create a seal between the booth(s) and the balcony area above, which provides another potential recording space.

Hearst and studio manager Bob Thompson have been up and running for only a few months, hosting sessions with a

Dropkick Murphys lead singer Al Barr and the band brought their high-energy American Celtic punk rock to the Coachella stage on Saturday, April 13.

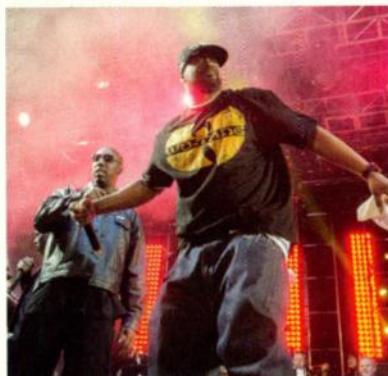


"Mixing a large festival like Coachella is about attention to detail," says Dropkick Murphys FOH engineer Andrew Crow (pictured inset), noting that Scorpio Sound of Boston provides the band's audio control groups and monitor package. "The only adjustments I make before the show are rerouting outputs to match what the system needs and matching the output of the desk to the input of the P.A., and making sure unity is unity and that there is nothing awkward happening between our gear and theirs. Around 33 of our 38 inputs are all 'midrange' instruments. The band always wants to maintain that punk rock feel with punchy drums and loud guitars, which leaves me a smaller spectrum to fit all the accessory inputs we have. I try to balance out those accessory instruments—banjo, accordion, piano, mandolin, acoustic guitars, and more—first and EQ in as much space I can per channel and get rid of any overtones or harmonics from the room or P.A. depending on the scenario we are in. Those inputs are what the fans expect to hear."

New Order included a tribute to Joy Division in the Mojave tent on Saturday, April 13.



New Order FOH engineer Dian Barton (pictured inset) says, "I used the festival desk at FOH, which was a 48-channel [Avid] Profile going into a Midas XL88 Matrix mixer where each element of the sound can be individually controlled. I also use some outboard equipment provided by Rat Sound: a BSS 31-band graphic EQ inserted over Left and Right main outputs, an SPX 990, and a TC [Electronic] D2 Digital Delay both for vocal effects. The Profile is one of the standard desks at festivals all over the world so I have a file for it and know my way around it very well. I believe a good sound is achieved by constantly checking and adjusting EQ to get the maximum out of the P.A. The coverage all over the tent was consistent, which is important at a festival because you don't get much chance to walk about during the performance."



Wu Tang Clan reunited at the Outdoor Theatre on Sunday, April 14, 2013.



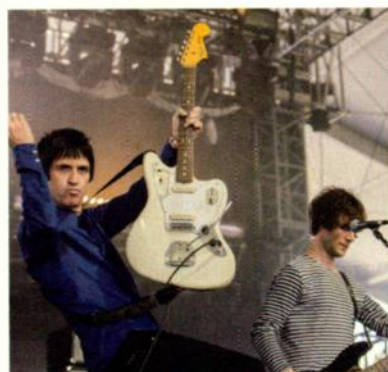
French alternative band Phoenix headlined the Coachella stage on Saturday, April 13.



Janelle Monáe and her band played a late set in the Gobi tent on Saturday, April 13.



Nick Cave & The Bad Seeds took to the Coachella stage on Sunday, April 14.



Johnny Marr, co-songwriter of The Smiths, helped kick off the festival on Friday, April 12.



Denver-based folk-rock band The Lumineers appeared on the Coachella stage the afternoon of Sunday, April 14.



On Friday, April 12, crowds were treated to "There's No Other Way" and "Girls & Boys" from English alt-rock band Blur.



Punk rock band Social Distortion sang "Machine Gun Blues" from their album *Hard Times and Nursery Rhymes* on Sunday, April 14.

COACHELLA 2013

PHOTOS BY DAVE VANN // TEXT BY MATT GALLAGHER



The 13th Coachella Valley Music and Arts Festival took place over two weekends: from April 12-15, and April 19-22. An estimated 90,000 fans trekked to the Empire Polo Club in the Southern California desert town of Indio, Calif., to check out an assortment of rock, pop, hip-hop and electronic dance music from acts including the Red Hot Chili Peppers, Phoenix, Wu-Tang Clan, Vampire Weekend, Dropkick Murphys, Rodriguez, Dinosaur Jr., the Yeah Yeah Yeahs, Nick Cave & The Bad Seeds, New Order, Dead Can Dance, Janelle Monae, El-P, Bassnectar, and many more.

Rat Sound Systems of Camarillo, Calif., once again designed and supplied the audio systems for all six Coachella stages, including Avid Profile, Avid SC48, Midas Heritage 3000, Midas Venice 24F, Midas XL88, Soundcraft EPM8, Soundcraft FX-8, and Yamaha PM5D-RH consoles and mixers. The P.A. systems featured L-Acoustics dV-DOSC, K1, Kara, Kudo, and 108P, as well as SB28 subwoofers and Rat Sound Systems' proprietary subwoofers.

Photographer Dave Vann was there to capture the action for *Mix*. To view more photos of Coachella 2013, read a review of the festival and additional comments from the engineers we spoke with, go to mixonline.com.

Bassnectar's production manager and front-of-house engineer Brendan Hoffman (pictured inset) has been with the artist, also known as Lorin Ashton, for 16 months: "Rat Sound had everything set up in advance by the time I got there. The system had been time aligned and tuned, so from my end it was a matter of walking in and having a listen to what I was working with. I don't view [mixing Bassnectar] as mixing a band. What I'm doing in fact is live mastering, and that's quite a different mindset. The material has already been premastered [by mastering engineer Seth Drake] and sent to me, and then I'm just adjusting the tonality for the consistency that I'm looking for. [Drake and I] talk at length about the P.A.s I'm using, and I'm making the adjustments that are needed as it's coming out of the speaker. It provides a compositional tonality to the set from beginning to end, because the set is dynamic and I want to keep those dynamics there, working at high volumes, as well."



Bassnectar supercharged and closed out the EDM-oriented Sahara tent on Friday, April 12.

ideal, so you have to utilize a bunch of different devices and some tricks to keep all those mono elements out of your center channel and steer them toward your left front, right front, left rear surround and right rear surround. You want to give the viewer the full experience, but you also want to be able to hear the announcers calling the action. So that's one of the challenges: While you're managing 40 effects microphones in conjunction with three different in-house booths and all the ancillary bells and whistles that go into mixing a TV show—music and features and playbacks and graphics noises and whatnot—you have to make sure you keep that center channel pristine.”

Cleary says he is constantly checking the 5.1 and stereo downmix, “and also checking it in mono, just to make sure it's not collapsing, and you're still putting out a great show for our viewers who are watching in stereo. A lot of countries aren't 5.1-ready yet, so they'll get a stereo or sometimes even a mono mix. Our 5.1 is encoded on-site and sent back to Bristol as an ASI [asynchronous serial interface] stream, decoded in Bristol and then distributed as 5.1 discrete, through our audio control room there, with commercial insertions, back out, and sent to our viewers. It becomes an AC-3 [Dolby Digital] stream for our distribution domestically. One of the beauties of the discrete mix is you don't have anything that's lost in the sauce, so to speak.”

The summer X Games have more events and present different obstacles than the winter Games. In the recent Foz Do Iguaçu X Games, for instance, the site had to be built from scratch in what is practically a Brazilian rain forest overlooking the breathtaking Iguaçu Falls, and all the equipment was



rented locally and trucked in. At the Barcelona and Munich events, the X Games are using facilities left over from those cities' respective Olympic Games, so there is at least some foundation in place in advance.

Cleary says they have established certain parameters for the audio equipment in the OB vans, no matter what the locale, but the console or mics they use in one place might be considerably different than what they use in another. And, of course, what might work in the snows of Tignes might not be right for the humid 100-degree heat that scorched the Iguaçu games. The summer skateboard and BMX bike courses also tend to be noisier than the winter slopes, with plenty of loud music and non-stop commentary through the on-site P.A.s—more challenges for whomever is mixing in the truck.

Nevertheless, the ultimate goal is always the same, Cleary says: “We want to put the viewer in the best seat in the house, right in the sweet spot.” ■



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Kevin Cleary

it sound like some huge event, with people cheering and all that. That's not difficult. The important part to me is telling the story so our viewers are immersed in the action through those nuanced sounds, and giving them more information that way."

In Tignes, Cleary did his mixing work in an OB (outside broadcasting) van situated at the bottom of the super-pipe and slope-style courses for the winter events. "The uniqueness of Tignes," he says, "is there's one venue, so we have one truck to cover both venues and then we have a smaller mobile unit—almost like an ENG van—that utilizes our host set, and in that case our host, Ramona [Bruland], was directed and produced from Bristol. The actual venue is produced locally, so it tosses back and forth and requires quite a bit of coordination. It's like having two trucks, but one is in Connecticut," he chuckles.

As the on-site mixer in Tignes, Cleary was juggling all of the mic inputs from the fixed Xducers and multiple camera mics through a Studer Vista 8 console in the OB van, plus dealing with the announcers' microphones (and not just the English-language ones), all the while worrying about commercial and network inserts added in Bristol, and always keeping in mind both the 5.1 and stereo mixes being uplinked to master control in the U.S.

"In order to create a 5.1 mix that remains true and pristine to the viewer," Cleary notes, "most microphones are in mono, and usually a mono element in a 5.1 mix will go to the center channel. Well, the center channel has our announcers in it—that's kind of the most important channel—so having a bunch of microphones stepping on your announcers is not

Cleary's road to the top audio supervisory role at ESPN has included many interesting stops. In his early 20s, the New York native worked in touring live sound, then got a gig as technical production manager for Roseland Ballroom in Manhattan. After that, he did live sound for Broadway musicals, while also transitioning into sound tech for television. His next move brought him into "sports entertainment" with the World Wrestling Federation, which was broadcasting both bands and wrestling shows in conjunction with MTV from a large space in Times Square (which later became the Hard Rock Café). During his tenure with the WWF, he also helped design and build a studio complex at the company's headquarters in Stamford, Conn.

"I was also starting to do support on some sports shows," he says, "at the same time as the transition from analog to digital and to 5.1. So I found myself in a niche position where I had the mixing skills and the knowledge of digital audio, in conjunction with the live sound background and an understanding of how 5.1 was being implemented for television."

In the mid-2000s, Cleary was increasingly plying his skills for ESPN, and by 2005, "I started working with them almost exclusively, with [ESPN senior audio producer and 14-time Emmy winner] Ron Scalise, who had some really interesting ideas and was a pioneer in so many of the things we do [in sports sound]. We worked on some cool projects together, not the least of which was when ESPN got NASCAR back in 2007. We spent a lot of 2006 designing and implementing a digital audio system that would incorporate fiber-optic cable that surrounded the rings of all these tracks, and basically changed the workflow in the TV compound from an old copper workflow to a MAD1 workflow; trying to go as digital as we could."

Tragically, Scalise was killed in an automobile accident in December 2007, "and it was a challenge to pick up the torch from where he left off," Cleary says. "But I think he'd be proud of us and the work we've done. In 2008, we did virtually no shows in 5.1 discrete; they were all matrixed. And today, with college basketball just concluding, we're doing almost all of the 2,700 events we do a year in 5.1 discrete."

Much of ESPN's approach to audio for the X Games was developed under Scalise's direction, but Cleary has made it one of his top priorities, as well, and, as mentioned, the Games themselves are constantly evolving, always requiring new approaches on the audio end.

"When you see a guy coming down a 90-foot ramp on a skateboard, you think, 'How do I mike this thing? How can I capture that sound?'" he asks. "One of the things Ron came up with is the Xducer, which is basically like a contact microphone, or a pickup. It doesn't work the way a diaphragm mic would—a push-pull with air. Instead, it takes the vibration and translates that to energy. In France, when those [snowboard] guys

would get up on the rails on the slope-style course and grind, you'd really hear it. We worked in conjunction with our French crew, and those guys did a great job of placing the mics. I remember in Year One [four years ago], I was literally on the mountain teaching these guys how to attach contact mics to the rails. But good audio people are good audio people no matter where you are. Wherever you go, you find people who are just as passionate and excited about a new innovative technology and a new innovative sport as you are." In addition to multiple Xducers, sound for the events comes from microphones mounted on each of the many fixed and roaming cameras providing video coverage—Cleary says the Sennheiser 816 is probably the most commonly employed camera mic.

Because the X Games are produced by ESPN, the network is deeply

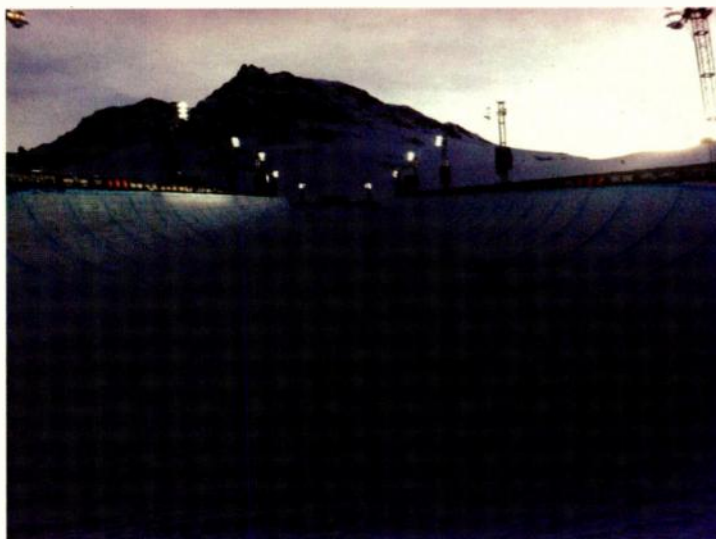
involved in choosing the events and has tremendous input into the design of the courses where they take place. As Cleary notes, "They'll send us a course map showing all the different tricks and features, and we will custom-design what we need for microphones that will go on these features and determine how many mics we need per feature. At the end of the day, for instance, on the slope-style course [in Tignes] we used 27 Xducers on the rails, and add that in with 12 camera mics, so you're looking at maybe 40 effects mics just for that course." In Tignes, there was a three-day blizzard that covered the contact mics each night, but, as Cleary

says, "the contact mics are much more adaptive to the elements than a shotgun mic with a diaphragm."

For the summer skateboard big air competition, however, "it's not uncommon for a big air ramp to have 80 different inputs on it—contact mics that go all the way down the ramp and pick up the skater. One of the interesting parts of the ramp is, after they do their jump and they go onto the other side, there's a piece of coping on the back end of that and the guys go so fast that they get some board wobble, and when they land, the tail end of the board will hit that coping as they go off it, and it gives out a really unique ring to it. That's one of the ways you can tell if the guy's going really fast—you'll get that 'ping.' That's the type of nuanced sounds we really want to capture, so we'll have a mic there."

Another example: "For the rally car racing last year in L.A., we actually buried a tube in the landing and put microphones in it to capture the cars as they came to the other side of the jump.

"Anyone can make the show sound big," he continues. "The excitement comes from the little nuanced sounds, like a guy strapping his boot down, or when a guy comes off a rail jump and he lands and he grunts that 'uhhh' sound. Or if he hurts himself and you hear him groan. Our mics picked up one guy [in Tignes] who landed badly and said, 'Man, my ankle is definitely not stoked right now,'" Cleary laughs. "Those are the little moments that tell the story. The important thing is not to just make



STOKED!

SOUND OF THE X GAMES IS NEARLY AS CHALLENGING AS THE SPORTS THEMSELVES

BY BLAIR JACKSON



Photo: Matt Morning/ESPN Images

When the first Extreme Games were staged by ESPN at the end of June 1995 at various sites in Rhode Island and Vermont, no one could have predicted that it would evolve into a worldwide phenomenon. There were 27 events spread across nine thoroughly unorthodox sporting categories, such as inline skating, street luge, skateboarding, bungee jumping, biking and others. The event was so successful on every level that ESPN immediately scrapped its initial plan to stage the Games every two years and made it an annual event with a shortened name: X Games. The first winter competition took place in 1997 at Big Bear Lake in California and inspired new interest and respect for snowboarding, freestyle skiing and other daredevil winter sports.

The X Games have grown steadily since the late '90s, adding many new events and disposing of others, as it changes to reflect the latest currents in the extreme sports universe. Since 2003, the main summer games have been staged around Los Angeles and the winter competition in Aspen, Colo. But since 1998, there have also been (summer-style) X Games in Asia—Thailand, Malaysia, Korea and China—and for the past four years, winter Games in the Alps in Tignes, France. Beginning this year, there are six X Games sites—As-

pen was in January 2013; Tignes in March; Foz do Iguaçu, Brazil, was the stunning backdrop for summer-style games in April; in May, the action shifted to Barcelona; in late June it's on to Munich; and the first week of August, the X Games season wraps up in L.A. ESPN's coverage has expanded greatly through the years, and with it, its ratings for what were once considered "fringe" sports.

As you can imagine, putting on and televising the X Games is a mammoth undertaking that involves hundreds of people, both on-site and back at ESPN headquarters in Bristol, Conn. From the outset, sound has always been a critical component in the network's coverage, but even more so the last several years with the move into a hi-def, 5.1 surround sound world for all sports. Spearheading that side for ESPN—for all its remote events—is Senior Audio Producer Kevin Cleary. When we spoke in mid-April, he had recently returned from the winter X Games in Tignes—which he calls "the only show out of the 2,700 shows a year that I oversee, that I still mix"—and was consulting on the Brazilian X Games coming up that weekend, and, of course, a zillion other telecasts in the short- and long-term. He is one busy dude.

"The X Games is one of my favorite sporting events ever," Cleary says. "It's unique, it's innovative. Some of the things these athletes are doing are so over-the-top and incredible, they are constantly pushing the limits; it's as cutting-edge as you can get. From a sound point of view it's tremendously challenging, and we're always looking for new ways to bring the fan to the experience, put them right there. These days, most people understand the importance of audio—sound really does change how you see television. It's not as compelling or immersive without good sound."



Composer Mark Isham



Peter Cobbin, Mark Isham and orchestrator Brad Dechter

Photos: Ben Ealovega

to achieve a sound. You ask the musicians to change their level, instead of reaching for a fader. So, in a sense, you're mixing as you record. And the goal, for an all-up live recording, is to try and get it to sound as if you were listening in a great spot in the room itself."

Key decisions for a live recording are therefore made during the sessions, making it crucial to have the composer, as well as the director, on hand, as was the case with *42*. "I'm fortunate to work with composers like Mark who have the experience to be able to work with live orchestras, which is fantastic," Cobbin says. "And having the filmmaker there, in this case Brian, means he can actually hear and understand, in a listening, what's going on."

Live recording, while preferable for many composers, isn't always possible, requiring overdubs of separates and individual soloists. The side benefit, though, is that it can give the music editor more flexibility during the dub.

The key soloist for this film was Philip Cobb, a principal trumpet player for the London Symphony Orchestra, whose abilities were important enough that Isham worked with contractor Isobel Griffiths to schedule the sessions around his availability. Notes Cobbin, "We have a brass band tradition in Britain called Colliery Bands. Phil has a sound, as a trumpeter, not dissimilar to what you would really love in those bands, particularly his use of vibrato. It gave it a slightly old-world feel, which was a perfect fit.

"Besides watching the film, I often like to research what mics would have been in use at the time a period film like this takes place," the engineer continues, something he also employed for the score recording for *The King's Speech*. "In this case, I used a lot of U 47s, because it has a warm, generous sound, which would weave well in and out of the period source music. So there are plenty of mics used from that period—1940, 1949, 1950. It just adds another dimension to the storytelling, to make the music sound more of the era we're watching."

Balancing the orchestra for soloists, again, takes a keen ear. "We might want to hear a player like Phil, who can play with expression, above the orchestra in certain cues. So for those, we might ask the orchestra to bear that in mind and maybe play down a little bit. Or if it's more a point of ex-

hilaration, then the orchestra might maintain their lovely dynamic, and we ask Phil to play up, to coast over the orchestra. And that's all direction really coming from the control room."

For those instances where the project dictates the soloist to be recorded as an overdub, Cobbin will record the soloist with the entire roomful of mics up, to capture not only the live performance, but also the same ambience recorded when the full orchestra was present. "It takes quite a few tracks, and hence data storage," he explains. "But I still record one person as if it's the whole orchestra. That way it's seamless."

Once completed, Sands receives the files (both via Internet transfer and hard disk backup) at his studio in Santa Barbara. Originally built by director Andy Davis (*The Fugitive*, *Under Siege*) as a dub stage, and designed by Tom Holman, Sands began renting the facility from Davis when he made the switch from analog mixing to Pro Tools. "I realized I could pretty much work anywhere, and I live up here, as well," Sands says. "It's a large open space—40 feet by 35 feet with 16-foot ceilings."

Sands uses three Pro Tools rigs, one outfitted as Pro Tools 10 HDX for the orchestra (allowing for high track counts), a second containing Isham's prelay and his favorite plug-ins, and a third to mix to. "The second rig has HD6 Pro Tools 9; I haven't upgraded yet, because I know I'll lose some of my plug-ins, which I'm not ready to do. It's also perfect for hybrid projects like this because I mix inside the box. Even the biggest digital console doesn't have enough inputs to handle this kind of score."

Sands likes to mix at 96k, regardless of what the dub will employ because the orchestra will have been recorded at 96k, and the prelay at 44.1k. Most dubs are done at 48k, so he simply does a Save As to 48k. He uses reverb—his favorite, Lexicon 960—sparingly for film score work.

"In a live orchestral recording, so much of the balance is done while you're recording," he concludes. "It's a really nice, open sound, but you still have some presence. But so much of the balance is done in the room. I don't use a lot of reverb. For my taste, I like to use the room, the room mics, to capture that. I might use a little, but for the most part it's there because Pete captured it for us." ■

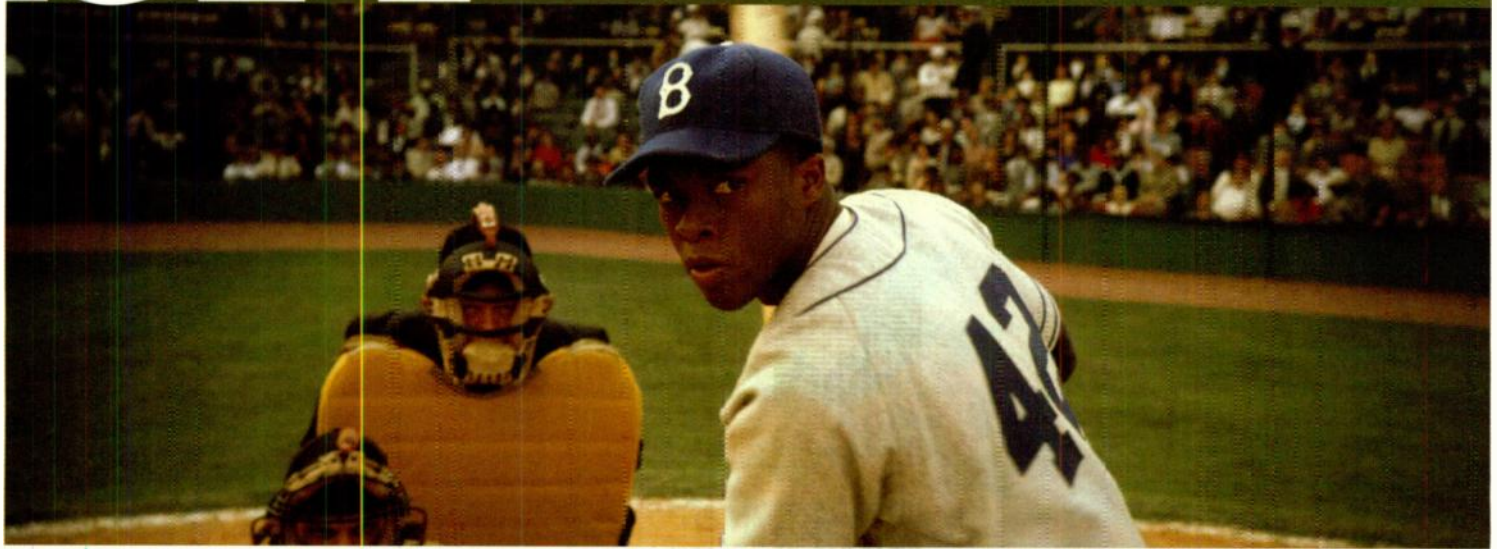


Photo: Courtesy of Warner Bros. Pictures

ISHAM, ABBEY & JACKIE

THE OLD-SCHOOL SCORE FOR '42'

By Matt Hurwitz

When Jackie Robinson took the field as the first African-American baseball player in the major leagues in 1947, it was a momentous event in baseball—and American—history. Moviegoers reliving that moment in director Brian Helgeland's April release, *42* (Warner Bros.), will get a little extra push from composer Mark Isham into how they perceive Robinson's experience.

"I never like to overplay anything or manipulate an audience with music," the composer tells *Mix*. "I like to feel the audience is with me, maybe ahead of me. I'm just supporting what they're feeling, goosing them just a touch, so that they never even realize it."

For the film, Isham created a near-minimal score (appropriately, 42 minutes' worth) based on, and recorded with, an old-school approach. "I was looking for an old-fashioned score, certainly orchestral, with a recur-

ring theme," Helgeland says. "I've always found Mark's music both masculine and very romantic, in the larger sense of the word. We punctuate the action and play the suspense here and there, but I wanted a score that followed Jack Roosevelt Robinson's journey in the larger sense, and Mark absolutely achieved this."

"It became very clear that the score needed to be old-time filmmaking," Isham adds. "One that could be very small and very intimate, but then, at the end, rise up to the momentous quality of the way Brian shot the ending."

Themes for Robinson feature French horns, accented for special moments by a solo trumpet, while those for his wife, Rachel, are based around piano, sometimes augmented by clarinets. The score was recorded in late January by veteran engineer Peter Cobbin at Abbey Road Studios' Studio One in London. Five sessions were held over two-and-a-half days, mostly with a 50-piece orchestra but sometimes with a 65-piece group brought in for bigger cues. It was mixed shortly thereafter at Studio Santa Barbara in Southern California by mixer Dennis Sands, a longtime Isham collaborator.

While Isham had recorded scores for *The Black Dahlia* and *Rules of Engagement* at Abbey Road, he had never worked with Cobbin prior to *42*. Isham established early on that he wanted to stick with a traditional live recording, instead of recording in separate groups—something Cobbin welcomed and Sands endorsed.

"If you want that really beautiful orchestral sound that gives you size and dimension, you need to record the room," Sands says. "And in order to do that, you have to be really cognizant of the dynamics of the room. Pete's been working in Studio One for a very long time—he knows that room. He did a beautiful job."

Studio One has two qualities that are unique to the studio and help give the space its signature sound. Cobbin says. "There is an immediate sound that feels very generous, along with an after-sound which is incredibly warm. It's a sound that works well for both a solo instrument, as well as a large ensemble, like an orchestra. Even though it's not the biggest stage in the world, it gives the music a unique, cinematic quality."

Recording live requires particular skill in balancing the orchestra during the recording. "Once upon a time, at Abbey Road, we were called 'balance engineers,'" Cobbin explains. "Before technology got too involved, balancing was really what happened in the room—you balanced the musicians



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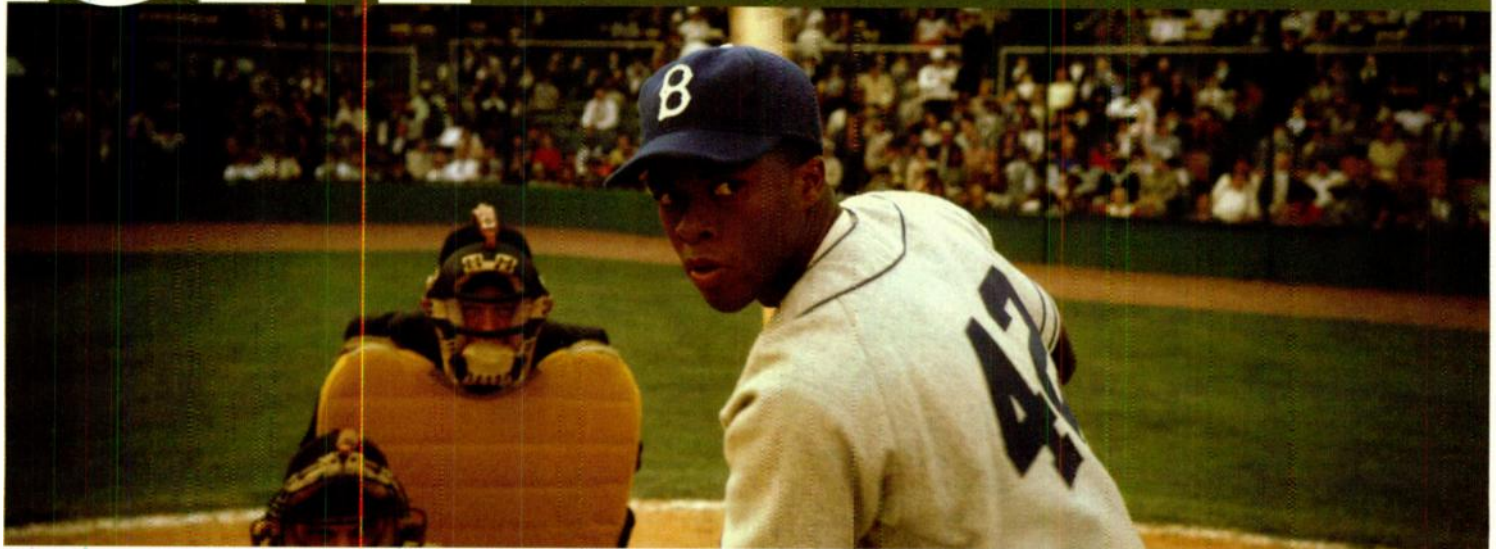


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"Rick's vocal was to an AKG 414 that I still own," Olsen says. "And of course, that went into a Neve mic pre, in the console. From there, it was split and I used 75 percent of that and 25 percent of my vocal expander made by Dolby Labs. Then it went to one channel of a 33609 [Neve compressor], and then to the Studer tape machine which would have been either an A80 16-track or an early A800 24-track. But I know we mixed it down to an A80 2-track half-inch machine at 30 ips. That was my go-to [vocal chain], and that's what I've used on every single artist before and since."

Minto says, "I think that vocal chain—bringing the return from the Dolby back on the second fader and busing the two of those through a compressor to tape—was a trick that Keith learned from George Martin and Ray Dolby. It added a very nice emphasis to the vocal, especially if the vocalist was soft and might have had the danger of getting lost in the

track. It created a nice texture.

"One of the main things on the sound overall, though, was that fabulous-sounding console," Minto continues. "It had all those fabulous Neve mic pre's in there that people have been cannibalizing consoles for, for years. To have a console full of those things is magic. It had that wonderful, clear, warm Neve sound."

Both Olsen and Minto joke that the secret ingredient on "Jessie's Girl" was actually the "Hit Train": "Sound City had a railroad track 100 yards away," Olsen says. "When I first cut the Fleetwood Mac album, you hear some rumbling every once in a while. I went on to do Grateful Dead there, and the train went by. And on *Foreigner*—that sold, what, 8 or 10 million copies?—I was doing the vocals on 'Hot Blooded' and the train went by. So, I started saying, 'Oh, don't worry about it. It's on all my records.' I started calling it the Hit Train."

It probably wasn't the Hit Train that drove "Jessie's Girl" to Number One, and earned Rick Springfield a Grammy for Best Male Rock Vocal Performance, and made the song an enduring favorite for three decades. So what was it? "It was the story," Olsen says. "Making pop records, or rock records, is always about nailing the story to the point where the listeners claim it. They hear 'You're a real tough cookie with a long history of breaking every heart like the one in me,' and they think, 'Oh God, that happened to me!'"

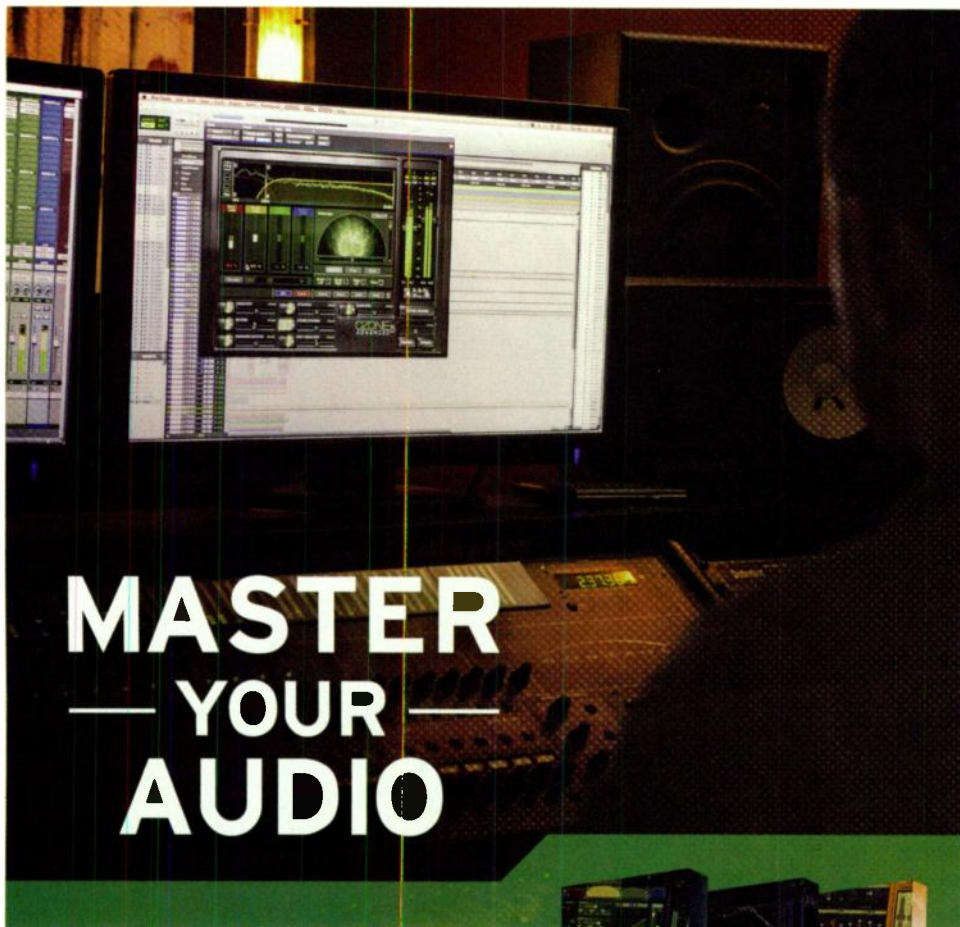
"The things that make a hit are always: It's about the song first, the melody and the lyrics," he continues. "Second, the performance and how that song is put together. Rick had that part down. He has stage presence to end all stage presence. And thirdly, and definitely last on the list, is the sound. Song, performance, sound—in that order."

Springfield's Platinum *Working Class Dog* album has sold more than 3 million copies worldwide, mostly on the strength of "Jessie's Girl." After 30-plus years and dozens of other Top 40 hits, it's still the song that Springfield is always asked to perform, and he doesn't seem to mind.

Engineer Minto left full-time engineering several years ago to work on the technology side; he serves as vice president of Miller and Kreisel Sound USA.

Meanwhile, Olsen, whose resume reads like a who's who of classic rock, continues to engineer and produce in his personal studio/production company, Pogoloco Corporation. Just before the interview for this story, he had finished tracking another Australian act, the young band the Monks of Mellonwah.

"They have this song called 'Escaping Alcatraz' that's full of symbolism about how we all have our own Alcatraz, our own prison that we're trying to get out of," he concludes. "I love that they're writing these unique stories. So, you see? There it is again. The story is most important." ■



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impression that Rick was egotistical at all. He was always very easy to work with. He just wanted whatever would benefit the record.”

Also on the session was drummer Mike Baird. “Because of Rick’s shooting schedule, we had to work quickly; that’s why I brought in Mike,” Olsen says. “His time was like a metronome. If you never want the time to drift, and you don’t want to play to a click like everyone does now, you hire a good drummer. I hired a great drummer.”

Minto says rhythm tracks were laid down first: “Every piece was done in the ‘A’ room,” he says. “Drums were typically on a riser, three-quarters of the way toward the back wall, away from the glass, with the drummer looking into the control room. And there were large gobos behind the drums to control leakage. Those gobos at Sound City were really huge, because the ceiling was very high—18 or 20 feet.

Guitars and vocals were then recorded and layered on: “For Neil’s guitars, we typically used AKG 451s with the 10dB pad and an SM57,” Minto recalls. “Neil had custom 100-watt Marshalls and Countrymans, and we recorded his guitars in stereo. He had a rack of digital effects; one amp would be just a clean sound from his guitar, and the other had the effects. We typically used his sound the way he recorded it because it was extraordinary. We recorded his guitars to two tracks, and punch-ins were never a problem because his timing was exquisite.”

After Baird’s count-off, Giraldo sets the tempo of the first bars from that first, unmistakable riff that blew Grohl away—those few moments just before Springfield sings, “Jessie is a friend...”

Heider and then at The Automatt, where he originally met Olsen.

“Keith asked me to join him in L.A. to work on his projects,” Minto says. “As a fan of his work, I jumped at the opportunity and moved to L.A. in 1980. When Keith got the call to work with Rick Springfield [in 1981], we had been doing Pat Benatar’s *Crimes of Passion* together, and Keith pulled Neil Giraldo [Benatar’s guitarist and husband] in to play guitars and bass on Springfield’s session.”

In the *Sound City* documentary, Springfield feigns having been miffed that Olsen hired a lead guitarist, but Minto says, “I never got the

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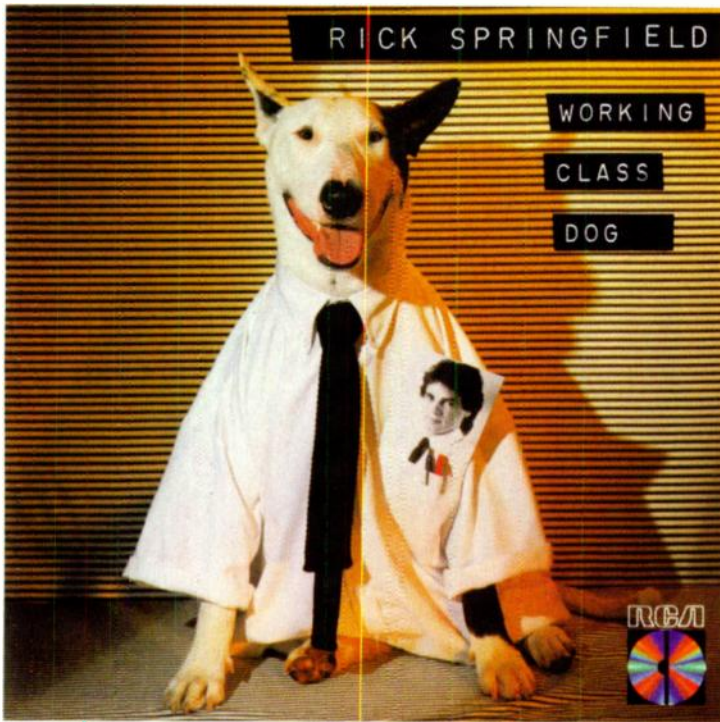
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Classic Tracks

By Barbara Schultz



"JESSIE'S GIRL"

Onstage at the Hollywood Palladium last winter, Dave Grohl and his Sound City Players performed with a handful of the artists who appear on the soundtrack to Grohl's *Sound City* documentary. Rick Springfield had barely started his last number when the crowd began to roar and Grohl interrupted the proceedings to make a point: "Three f—king chords, and you already know! Congratulations, Rick Springfield for writing a song that they only need to hear one f—king second of to know what it is! How do the other four minutes go?" Cue the sing-along: "Jessie is a friend..."

Springfield—an Australian-born musician/songwriter/actor whose given name is Richard Springthorpe—has been singing "Jessie's Girl" to adoring fans since he recorded the hit at Sound City Studios in 1981. His signature song exploded at the height of his music and acting career, making it seem like the performer was an overnight success—a by-product of effective marketing and the fact that the then-new MTV format rewarded beauty at least as much as talent.

But Springfield had been playing in struggling bands in Australia since the '60s. Between 1969 and 1971, he put out a few singles on Australian labels with a band called Zoot and as a solo artist. His debut album, *Beginnings*, was released in Australia just before he moved to the U.S. in 1972. A single off of *Beginnings*, "Speak to the Sky," was picked up by Capi-

tol Records and became a Number 14 hit for Springfield, who sang lead and played guitar, keyboards and banjo on the bouncy, folky arrangement. *Beginnings* then cracked the U.S. Top 40 as well.

Springfield is a strong writer and a multi-instrumentalist—not just a pretty face. But he definitely had that really pretty face. Beginning with his second album, *Comic Book Heroes* (Columbia, 1973), he was promoted as a teen heartthrob, which proved to be a blessing and a curse to him. On the downside, few critics took his recordings very seriously, and many in the industry believed it when rumors circulated that his label paid fans to buy up his records to jack up his sales numbers.

On the upside? Springfield became massively popular, playing to hordes of screaming girls and garnering him an acting role as the 1980s version of "Dr. McDreamy": Dr. Noah Drake on the ABC daytime soap opera *General Hospital*.

By the time Springfield joined the cast of *GH*, he had signed with manager/promoter Joe Gottfried, a partner in Sound City Studios. Springfield began his third album, *Working Class Dog*, in Sound City with staff engineer/producer Bill Drescher. Sessions were productive and going well, but Gottfried also asked Keith Olsen—a frequent presence at Sound City whose credits include massive hits with Fleetwood Mac, Pat Benatar, Santana, Foreigner and others—to produce a couple of tracks for the album.

"Rick and I got together and I picked a couple of songs," Olsen recalls. "I said I would pick one of his and I'd like to bring one in. I probably didn't need to do it, but there was this song that I had in my back pocket that I wanted to cut with somebody really soon, and that was Sammy Hagar's 'I've Done Everything for You (You've Done Nothing for Me).' And then I said I really want to do 'Jessie's Girl.' The story just nailed me. Because being a guy, we've all been through this: Every guy everywhere has a friend, and he meets his friend's girlfriend, and we fall, for a moment, in love with that girlfriend. If you ever run into a guy who says, 'Nope, that never happened to me,' he's lying."

In a 2008 interview on the *Oprah* show, Springfield said that "Jessie's Girl" was written about a girl he barely knew. He said he was taking a stained glass-making class with a friend (named Gary, not Jessie) and the friend's girlfriend, and found himself attracted to the girlfriend. They didn't interact much, but the experience suggested the scenario in the song. Springfield said that he doesn't even remember the girlfriend's name. He changed "Gary" to "Jessie" after seeing that name on the back of another girl's softball jersey; the name just sounded right to him.

Olsen and Springfield fit the sessions for "Jessie's Girl" and "I've Done Everything for You" into gaps in Springfield's *GH* shooting schedule. Manning the famed Neve 8028 console at Sound City was engineer Chris Minto (Kiss, Santana, Pat Benatar, Red Hot Chili Peppers, Quiet Riot, and more), an independent engineer who came up in San Francisco, working for Wally



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JON HOPKINS RELEASES 'IMMUNITY'

What does East London sound like at 4 in the morning? Producer/musician Jon Hopkins decided to record that very idea outside his studio door on the final night (er, morning) of recording his fourth full-length album, *Immunity* (June 4, Domino), to both capture the moment and breathe a little life into a particular section of the album's title track. "The final thing I had to finish was the transition section between 'Sun Harmonics' and 'Immunity,'" Hopkins says. "This section needed a bit of life—it was sounding too flat. I had the idea to record what was going on outside at that minute, preserving that moment on record. I went outside with my Zoom field recorder and just recorded for about 20 minutes."

The results were edited and laid over the existing drones and vocals. "[You can hear] footsteps, a car passing, nocturnal city sounds. I find things like that bring electronic sound to life and immerse the listener in a physical world." The rhythmic creaking, wooden noises further into the track are the sounds of Hopkins' piano pedals. "I recorded them with two Maplin tie-clip mics—which are great for capturing things where there is no space for a full-size mic—and cut the results into that drum part."

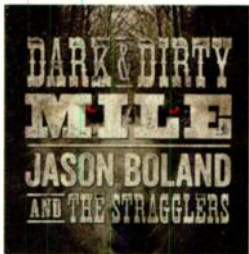
"Immunity" also features Scottish singer-songwriter King Creosote, whose dreamlike vocals were recorded with a Røde NT2-A going into a TL Audio dual-valve preamp. "The vocal chain in Logic was based around

Waves PuigTec EQ and REQ6, with a send to an aux running [SoundToys] EchoBoy going into [Audio Ease] Altiverb 7, [Waves] MondoMod and Si Stereo Imager. Once the vocal was comped, I put it through Magneto on [Sony] Sound Forge. I always do this. I haven't found a saturator I like as much as this for vocals, even though it's about 10 years old."

A classically trained pianist, Hopkins always reaches for the real deal when recording. "I have never used a fake piano. I use a Yamaha upright that I've had since I was about eight," he says. "I record it with two Oktava [MK-012] mics and a Heritage Audio DMA-73, going into an Apogee Ensemble, then into Logic. All the sound sources used on the record are external; there are no soft synths. I have nothing against them, but I just don't find them interesting, and I'm way too impatient to learn them."—Lori Kennedy



JASON BOLAND'S RETURN TO ANALOG



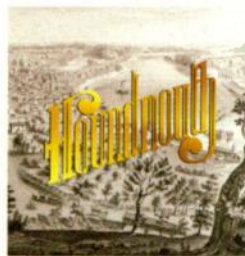
With his deep and beautiful vocal backed by a tight longtime band, The Stragglers, Jason Boland rocks classic country, and for his new album *Dark & Dirty Mile*, he and his producer, Shooter Jennings, insisted on keeping things "classic" on the technical side, too.

"I worked with Jason on several of his records. He actually recorded his very first record here," says John Ross Silva, the chief engineer at Cedar Creek Recording (Austin, Texas), where they made *Dark & Dirty Mile*. "Jason asked me, 'Would you be up for making an all-analog, no-computers-involved record?' I said, 'I'm completely onboard doing something like that, but are you?' I wanted to make sure they understood the limitations. But Jason said, 'That's how I did my first record, and I still think it's the best-sounding one I've ever done.'"

Silva tracked Boland and band live to a Studer A827 24-track machine, using the pre's in the studio's 1973 custom 32-input Neve console, as well as some outboard 1073s.

To keep the track count down, Silva minimized drum inputs: "We made a subkick—a reverse NS10 speaker on the kick drum with a D112 [AKG mic] on the inside," he says. "We used just a top snare mic, and I put a mono [Neumann] U 87 up as an overhead, but a little higher up, and then two Coles ribbon mics as close, mono, kit/tom mics. They weren't necessarily tom mics because they weren't that close, they were more in front of the rack a little farther back, with one underneath the floor tom to get some low rumble."—Barbara Schultz

HOUNDMOUTH ON THE VERGE



Indie rockers Houndmouth have been preaching to the choir: They've recently toured with Drive-by Truckers, Alabama Shakes, and Grace Potter and the Nocturnals, playing their soulful, roots-influenced originals for friendly crowds. Their SXSW appearance was featured on NBC-TV *Rock Center* program. And now, buzz is building around their debut album, *From the Hills*

Below the City (out June 4 on Rough Trade), which was tracked near their southern Indiana home, in a parsonage in Louisville, Kentucky.

"It's a turn-of-the-century three-story home that priests used to live in," says the band's engineer, Kevin Ratterman. "I had a 1971 API console and a Studer 827 set up in the living room downstairs. The band was on the second floor with everyone crammed into a 14x16 bedroom around the drums."

Amps were placed in other bedrooms, or the kitchen, and each band-member had his/her own headphones and personal mixer. Guide vocals went down with the band tracks, but final vocals and solos were overdubbed.

"The API did most of the work," says Ratterman. "That thing just sounds gorgeous—the widest, most beautiful midrange and tight, thick low end. I was hitting tape quite hard as well with the drums and bass."

"I think the thing I was digging most on this project was running the console pre's really hot and pulling the faders back to not overload the next signal in the chain, and hitting the tape fairly hard with the kick, snare, overheads and bass to just make them glue as much as possible without making them seem overly 'gained out'—still open and musical."

—Barbara Schultz

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Photo: Abbey Drucker

the 2010 album, *High Violet*, the Dessners have taken a greater role in the recording process. On *Trouble Will Find Me*, Katis mixed just one tune, with Aaron and Bryce working on the demos and early recording and pre-mixing in the garage studio, then bringing in Montreal-based engineer Marcus Paquin (Arcade Fire, Stars, Local Natives) to be the principal tracking engineer for sessions at The Clubhouse, a Neve 8058-equipped room in Rhinebeck, N.Y. (up the Hudson River from Manhattan). Overdubs were at the garage, and except for two songs, it was mixed by Craig Silvey (Yeah Yeah Yeahs, Arcade Fire, Arctic Monkeys) on the Neve 8078 in Studio A at Electric Lady in NYC.

Aaron says they decided to record upstate because “we wanted to isolate ourselves and also try to capture more spontaneity and more interactivity in the underlying performances. We have families, and it’s easier to focus if you distance yourself from your normal life. The living arrangements were really nice, and the land around the studio is so beautiful. We stayed up there for six weeks. It was something we’d never done before, and it ended up being a really special experience for the band.” The band also cut one song and recorded string overdubs at nearby Dreamland Studios in West Hurley, N.Y.

The group’s songs start as wordless demos created in the garage. “We’ll write music that usually has some form and sense of melody and send them to Matt,” Dessner says. “And we’ll send a lot of them—well over 50, for sure—as templates for him to experiment over. Over time he’ll zero in on the ones that are inspiring him, and then we focus on those. As a band

we’ll try to arrange the song, work on beats and come up with ideas for textures. But the music develops somewhat separately from the vocals, and then at some point, we’ll start recording vocals.”

more online



Check out the extended interview at mixonline.com/062013/

“In this case,” adds engineer Paquin, “by the time we were talking about where to record, there were already some scratch vocals, and several songs had been developed.” And though the band’s long stint at the Clubhouse found the entire band (plus keyboardist Nick Lloyd) laying down solid basics and other parts, they didn’t hesitate to carry through parts from the Brooklyn demos if they felt they were right for a song—indeed, nearly half of the songs on the album kept the demo as a base.

“We were open to using whatever created the most interesting colors and which played into the emotions of the songs as they intended it,” Paquin comments. “There were a number of songs where we really liked the demo, we re-recorded it to get a better performance or a sonic improvement—and then we came back later and realized the original had a better feeling to it, or sonically there was an interesting quality we preferred.”



Clubhouse turned out to be a great room for Bryan Devendorf’s drums. Besides miking the kit pieces individually, Paquin used a pair of RCA 44 ribbons on the room and a U 47 in front of the drums, through a compressor, “going for a round fatness that, when you blended them with the drums, gave them a center.” The Dessners brought “cases and cases of guitars, and we cycled through many guitars and amps to find the right sonics for each song,” Paquin notes. His main guitar mics were a Beyer 201 and a Royer R-121. Berninger’s lead vocals at Clubhouse were recorded using a Shure SM7B through a Neve 1073 preamp and a bit of 1176 compression, with more captured using a Telefunken U47 tube at a private studio called Kickstand, near the singer’s L.A. home. For harmonies and doubling, Paquin used a Neumann U 87.

After the Clubhouse sessions, action shifted back to the garage and the long process of overdubbing and layering. “It was all about finding the right textures and color shifts and determining what the aesthetic would be,” Dessner says. “We never really talk about it. We just inch closer and closer toward some place that feels like a place we can live with.” ■

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Photo: Deirdre O'Callaghan

CAPTURING THE DARK BEAUTY OF THE NATIONAL

By Blair Jackson

For a lot of people, it takes awhile for our records to really sink in," says Aaron Dessner of the moody Brooklyn rock band The National. "We try to make our records interesting in terms of how the songs unfold and develop—the dynamics—and, of course, Matt's lyrics usually aren't that obvious, even when they're fairly direct."

That would be Matt Berninger, possessor of the haunting, resonant baritone at the center of The National's sound, and author—with his wife, Carin Besser—of the at-times opaque

lyrics on the band's latest album, *Trouble Will Find Me* (on the 4AD label). The music that surrounds that voice is often a hypnotic weave of intricately layered guitars, keyboards, bass and drums, with strings and horns thrown in occasionally for textural effect. The National are masters of the slow build—their nuanced songs often simmer and grow organically, elegantly flowering with a dark, mysterious beauty and propelled by subtle drones. Besides Berninger and guitarist/keyboardist/producer/engineer

instrumentalist twin brother Bryce Dessner (also co-producer/engineer), and another set of brothers, bassist Scott Devendorf and the group's not-so-secret weapon—the phenomenal drummer Bryan Devendorf.

Since their second album (they've made six), the band has worked with producer/engineer/mixer Peter Katis and either recorded or mixed parts of their albums at his Tarquin Studios in Bridgeport, Conn. In 2008, however, Aaron Dessner built a studio in the two-car garage behind his Brooklyn home, and starting with



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The Blackbird Academy to Open in Nashville



John and Martina McBride's Blackbird Studio in Nashville is launching its own audio engineering school, The Blackbird Academy (theblackbirdacademy.com), whose mission is to "challenge and educate students by presenting them with real-life scenarios that an engineer would encounter on a regular basis."

Students will learn in a hands-on environment in Blackbird's professionally designed studios and labs, using the best equipment available anywhere. Staff instructors include Mark Rubel and *Mix* magazine technical editor Kevin Becka. The Studio Engineering Program (24 weeks, 700 hours) begins September 30, 2013, while the 24-week, 720-hour Live Sound Engineering Program will commence on January 6, 2014. But first up, a High School Summer Studio Recording Program will take place July 22-24, 2013.

"This has been a dream of mine for a long time," says McBride, a veteran live sound and recording engineer. "Mentoring is a responsibility I don't take lightly, and judging from interviews with Blackbird Studio interns over the years, a better education should be available for people who want to make a career of audio recording and live sound engineering."



Joe LaPorta Joins Sterling Sound as Senior Engineer

Sterling Sound (sterling-sound.com) in New York City announced that mastering engineer Joe LaPorta (pictured), a Grammy Award nominee and TEC Award winner, recently joined the staff as a Senior Engineer. A graduate of New York University's music technology program, LaPorta began his mastering career at The Lodge in New York City, and over the past eight years has amassed a discography that includes such artists as Foo Fighters, Vampire Weekend, Tiësto, The Killers, Beach House, Imagine Dragons, Postal Service, Garbage and Jimmy Cliff, among others. LaPorta also works as a consultant for one of the world's leading forensic musicologists and has worked on many high-profile cases, ranging from The Beatles to Michael Jackson.

2013 Recording Industry Golf Tournament

2013 RECORDING INDUSTRY GOLF TOURNAMENT

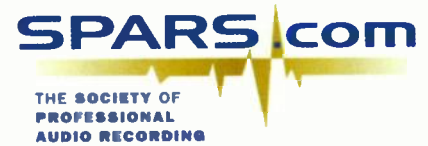
The 2013 Recording Industry Golf Tournament (RIGT) will be held Monday, June 24, at Malibu Country Club, to benefit the music program at A Place Called Home, a community center and safe haven in South Central Los Angeles that offers educational programs for underserved youth between 8 and 21 years of age. Ed Cherney and Al Schmitt will serve as the tournament's Co-Honorary Chairs, and sponsors to date include GC Pro, Sterling Audio, Record Plant, SAE Los Angeles, Shure, Sound Design Corporation, TransAudio Group, Vintage King Audio and Westlake Recording Studios, among many others. The event is produced by Karen Dunn of KMD Productions.

For more information about the tournament, visit recordingindustrygolftournament.webs.com or call 925-708-0307.

SPARS Sound Bite

Active EARS

By Blaise Barton & Reid Hyams



So much of professional audio takes place on a regional level that we in Chicago have always thought that it's good to know your neighbors. That's one of the reasons the Engineering And Recording Society of Chicago (EARS) was formed 27 years ago as a not-for-profit group dedicated to the advancement of excellence in audio production. Our members include more than 180 recording engineers, producers, live mixers, and studio owners, as well as musicians, students, enthusiasts and pro-audio representatives. We meet once a month at a variety of recording studios, radio stations, live sound venues, and manufacturer facilities. The past year has been very busy.

- In January, EARS staged "The Big Playback," a listening party where members get to show their stuff and play tracks they have been working on. The tracks are played blind; the producer/engineer is encouraged to step forward after it's over and describe how he or she produced the track and then receive critique from the group.

- Recently our members were treated to a tour and lecture at John Hardy's manufacturing facility in nearby Evanston. Hardy meticulously handcrafts his world famous mic preamps, and as it turns out, Hardy's facility just happens to be an ideal spot for a BBQ.

- As part of the recent CIMM FEST, EARS celebrated its first Mix Off, a competition where members downloaded stem tracks for the same song in five different musical categories: Rock, Pop, Hip-Hop, R&B and Jazz. More than 150 members downloaded the various tracks and had three weeks to mix them. At the event, the contestant's mixes were played back to a room full of their peers, then judged and voted on with elimination rounds.

EARS has also been working closely with the City of Chicago and the Mayor's Office of Special Events, helping graduates from Columbia College and continuing with our popular EAR-DRUM newsletter. So much audio takes place in towns big and small across the country; here in Chicago, we've learned that if you get to know your competition, everybody benefits!

Blaise Barton and Reid Hyams are co-directors of Engineering And Recording Society of Chicago.

Audnoyz + Clemistry = Audistry



Steve Thomas (left) and Shawn Clement

Steve Thomas, a composer and longtime recording industry veteran, is Audnoyz out of Boston. Shawn Clement, an A-list composer for film and television, is Clemistry Music out of Los Angeles. On April 16 on the Paramount lot, the two released *Audistry*, an original CD that combines Thomas' genre-mashing, found-sound approach with Clement's cinematic, guitar-driven, and orchestral aesthetic.

"We started with each of us combing through previous projects, scores, alternative takes, and unreleased material," Thomas explains. "That was thrown into a pot with new material that includes guitars, harmonica, orchestral elements, sound design, programmed synths and libraries. All the new material was recorded at Clemistry Ranch and [in] my personal studio, where the final slicing, dicing, mixing and mangling was done last December.

"A track might start out as a sketch based on a couple of orchestrated motifs Shawn came up with, and then I might lay that on top of an Audnoyz beat from my library," he continues. "Or in the case of the song 'WTF,' Shawn came up with a tuba and bass clarinet pairing as part of a larger orchestration, and I stripped it down to just the tuba and bass clarinet, and added a trombone to the voicing, and then laid that on top of a drum track played by Frank Basile of LiveStudioDrums. Shawn's original stems were in 7/4, so I basically sliced, diced and aligned the voicing on top of Frank's solid 4/4 beat. Then the track was bounced back to Clemistry Ranch where Shawn recorded the stacked guitars, Kelly Rucker's harmonica solo and added more layers. After that, the track came back East, where I added the textural synths and the final assembly by the two of us sitting at the mix desk. Complete with Zappa moments."

For more, visit www.audnoyz.com and www.clemistry.com.

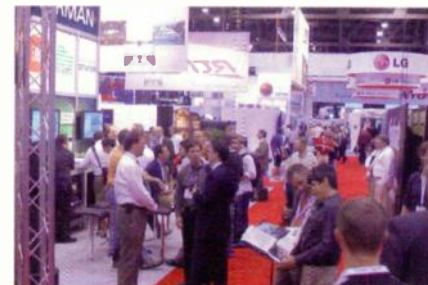
InfoComm 2013: Collaborate, Communicate, Connect

More than 10,000 A/V technology products from more than 925 companies will be featured at InfoComm 2013 in Orlando, June 8-14, at the Orange County Convention Center. InfoComm caters to a broad spectrum of markets, including business, government, military, education, worship, healthcare, hospitality, retail and entertainment. Upward of 35,000 professionals are expected to attend.

The Technologies for Worship Pavilion will feature the latest A/V technology applied for House of Worship staff and volunteers, while new technology zones will highlight emerging trends. This year, InfoComm is partnering with audio education company SynAudCon to bring expert training to the show, including "Sound Reinforcement for Technicians," a three-day multimedia seminar with hands-on exercises for audio technicians, using an iPod Touch controlling an audio instrumentation interface; a second course is titled "The Acoustical Site Survey."

"The \$78 billion A/V industry continues to grow each year," says Executive Director and CEO David Labuskes, CTS, RCDD. "Demand for A/V technology—including control systems, conferencing, digital signage and networked audio—has increased dramatically in the built environment. Audiences expect increasingly spectacular live events. This interest has resulted in a thriving show, and I am confident that InfoComm 2013 attendees will experience the most dynamic InfoComm ever."

For more news on InfoComm 2013 before, during and after the show, visit infocommshow.org.



Musikmesse 2013

By Mike Lawson

Held in a convention center that dwarfs the annual Winter NAMM Show's home in Anaheim, the annual Musikmesse international trade fair and its show-within-a-show, Prolight + Sound, took place in Frankfurt, Germany, from April 10-13. Over the course of four days, more than 2,000 exhibitors demonstrated products in multiple halls throughout each day. Each year I've attended, I've learned to make a direct dash to Halls 5 and 8, which contain the products I'm most interested in seeing from music production, live sound and recording studio equipment manufacturers.

This report highlights the top items I saw during Musikmesse/Prolight + Sound 2013; a few are mentioned here.

Solid State Logic's booth was one of the most exciting, where the company announced the launch of 'Live,' the first SSL console for live sound production. Genelec announced its new M Series studio monitors, which are designed to be energy-efficient. The folks at Universal Audio announced the Apollo 16 FireWire/Thunderbolt-ready audio interface, with 16x16 analog I/O...

To read the full-length report, head to mixonline.com.



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DON'T CALL IT PROJECT STUDIO 2.0

I've never been a fan of the term "project studio," and I'm the perfect demographic. In the late 1980s/early 1990s, when New England Digital had passed its zenith, Fairlight was transitioning into a DAW company, and Silicon Valley upstart Opcode ruled the roost with only a hint of Digidesign to come, I was a young assistant editor at *Mix*. We were in the Bay Area, and despite the long tail of large-format consoles and soffit-mounted mains, even then we could see the coming merger of the audio and computer industries. The transformation was under way. Artists, engineers and producers could record 24-track digital at home for pennies, maintaining quality, at their leisure with time to be creative. But in a project studio?

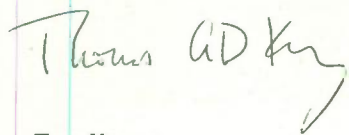
It just seemed so derogatory, as if work done in a project studio was for practice, not really professional. It wasn't the case, of course, though most agree in hindsight that the technical quality coming out of early memory- and processing-starved project studios was often lacking. Not necessarily artistically, but technically. And the popular image, unfair or not, was of a slapped-together spare bedroom or garage with near-field monitors and an ADAT. "Music and recording has been democratized through technology! Anybody can be a star!" It didn't work out that way, of course.

Twenty years later, it dawns on me: What was missing from the early "project studio" was the room! The physical space. The acoustically accurate, trusted recording/mixing environment. New digital technologies and a creative mind can take an artist or an engineer a long way, but without a proper room...?

Today we are witnessing the resurrection of the project studio, albeit under a more professional guise, with more advanced digital technologies and much, much better rooms. The boom in acoustic treatments and DSP-corrected, high-end monitoring is testament to the demand out of new rooms, professional rooms, whether in a producer's home or an engineer's leased facility. Studio designers are building modular treatments for personal clients and striking collaborative deals with manufacturers/distributors; DAW manufacturers are designing features and workflows around the single-operator/engineer approach; and speakers now come with automated room-correction algorithms. The high-end professional, with a private space, is the new demographic.

I often banter back and forth with longtime industry vet Tom Menrath, telling him, "We need a new name! These rooms going in at Keb Mo's house, at Rick Rubin's Hollywood home, on Pharrell's bus, are not project studios!" The best we've come up with so far is Personal Professional Studio. But that doesn't sound right. It feels stilted. And we can't go back to project studio, no matter how easily it rolls off the tongue. So what should we call it? This private space, with quality analog and digital gear, accurate monitoring and a true acoustic environment? What do we call it?

Meanwhile, the recording studio is not dead, nor is it moving solely into private producer homes. The business-savvy and artistically unique studio owners prevail, and the newcomers open their doors. In our annual "Class of..." feature, we profile 18 of the past year's hottest new studios big and small, and we found great geographic and genre diversity, proving again that the recording industry is alive and well. Sometimes it's commercial, sometimes it's private. But it's always vital.



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On the Cover: Hearstudios of Camden, Maine, owned by Jason Hearst and designed by Lou Clark of Sonic-Space, is the winning entry in this year's Class of 2013. Photo: Tim Gaudreau.

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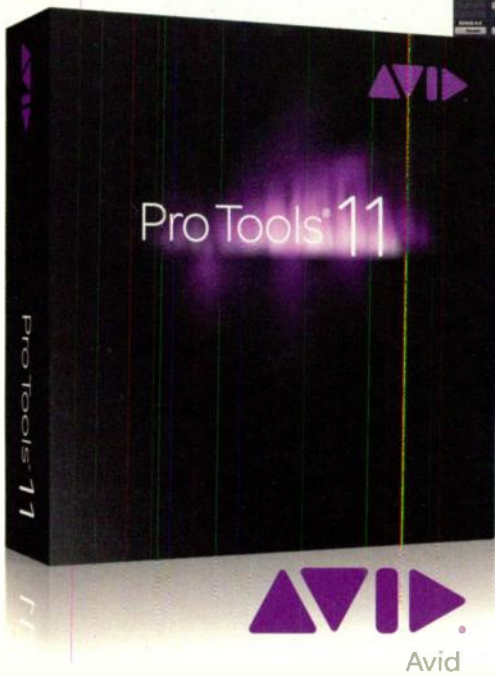
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